



## Second Opinion

Tokyo Metropolitan Government.

September 2, 2024

### Tokyo Green and Blue Bonds Framework (September 2024)

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Rating and Investment Information, Inc. (R&I) has confirmed the alignment of the Tokyo Green and Blue Bonds Framework of the Tokyo Metropolitan Government (Tokyo Metropolitan Govt. or TMG) formulated in September 2024 with the following principles and guidelines. R&I has confirmed that a part of the use of proceeds falls under the category of Blue Projects as described in the “Bonds to Finance the Sustainable Blue Economy - A Practitioner’s Guide (SBE Guidance).

Green Bond Principles (2021, ICMA)  
Green Bond Guidelines (2022, Ministry of the Environment)  
SBE Guidance (ICMA, etc.)

#### ■ Use of Proceeds (Green Projects)

Project Category (GBP2021)	Eligible Project
Adaptation to climate change	Heat island countermeasures (improving heat reflection and water retention of roads)
Renewable energy	Renovation and repair of metropolitan facilities (installation of PV systems)
Energy saving	Installation of LED lighting in metropolitan facilities and on roads
Renewable energy	Installation of PV systems in metropolitan housing
Renewable energy/Energy saving	Environmental improvements at Tokyo metropolitan schools (promotion of zero-emissions initiatives)
Renewable energy	Installation of storage batteries for the use of renewable energy
Clean transportation	Development of cycling routes and bicycle lanes
Management of sustainable water resources/Adaptation to climate change	Development of small and medium-sized rivers
Adaptation to climate change	Development of storm surge protection structures
Adaptation to climate change	Development of structures to protect against sediment disasters and protect shorelines
Adaptation to climate change	Development of coastal protection structures for the Port of Tokyo and the Tokyo islands

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Clean transportation	Adoption of zero emission vehicles (ZEVs)
Energy saving	Measures to turn metropolitan facilities into zero emission buildings (ZEBs)
Renewable energy/Energy saving	Decarbonization of water supply facilities
Energy saving	Energy conservation and global warming mitigation in sewerage services
Management of sustainable water resources/Pollution prevention and control	Improvement of combined sewer system
Management of sustainable water resources/Adaptation to climate change	Flood countermeasures
Conservation of biodiversity	Renovation and repair of metropolitan facilities (greening projects)
Conservation of biodiversity	Development of metropolitan parks
Conservation of biodiversity	Greening of waterfront areas
Conservation of biodiversity	Marine park development (Umi-no-Mori park)
Conservation of biodiversity	Restoration of water quality in sections of the outer moat
Clean transportation	Introduction of eco-friendly buses to the Toei bus fleet

#### ■ Use of Proceeds (Blue Projects)

Blue finance/ Eligible green project category	Eligible Project
Restoration of marine ecosystem restoration/Conservation of biodiversity	Development of a blue carbon ecosystem at the Port of Tokyo

## 1. Outline of the Issuer/Borrower



[Symbol of Tokyo Metropolitan Govt.]

- Tokyo Metropolis is the capital of Japan with a population of about 14 million and a world-leading megalopolis.
- In March 2021, Future Tokyo: Tokyo's Long-Term Strategy was formulated as a new compass to guide the Tokyo Metropolitan Government in paving the way to Tokyo's bright future. Setting forth "agile" response to changes in the times and conditions as its basic strategy, this Future Tokyo: Tokyo's Long-Term Strategy is to be revised when better and more efficient methods are found as initiatives progress and the social environment changes. In keeping with this basic strategy, in February 2022, an updated version, Future Tokyo: Tokyo's Long-Term Strategy Version Up 2022 was formulated to address the changes and transformations brought about by the Tokyo 2020 Games and COVID-19. And, in January 2023, Version Up 2023 was prepared to take preemptive action against issues such as the rapid decline in birthrates and global issues that cannot be addressed by conventional practices. In this post-COVID era, in order to step up progress toward a sustainable future by taking on challenges that Japan has put off addressing and by unlocking Tokyo's potential, the TMG again upgraded Future Tokyo in January 2024.
- With the upgraded version, in order to realize a bright future Tokyo where each and every individual shines, the TMG will aggressively take on challenges and implement bold policies, with priority placed on interdisciplinary engagement from four perspectives: People shine; Strengthen Global Competitiveness; Safety and Security; and Structural Reform for Japan's Future. The measure aims to accelerate decarbonization, by strengthening global competitiveness through green urban development, and pursuing safety and security by facing climate crisis.
- The TMG will continue to issue the Tokyo Green and Blue Bonds and through such efforts realize a bright future Tokyo where people shine, achieve a sustainable recovery, and contribute to achievement of the SDGs.

### ■ Future Tokyo: Tokyo's Long-Term Strategy Version Up 2024



[Source: Future Tokyo: Long-term Strategy]

## 2. Use of Proceeds

The eligible projects identified for the use of proceeds will deliver clear environmental impacts. The use of proceeds is appropriate.

### (1) Eligible Projects

- For the Tokyo Green and Blue Bonds, Environmental Project Category, Eligible Projects, and Impact Assessment Indicators are summarized in the table below for new projects and refinance, separately.

#### ■ New Projects (Green Projects)

No.	Environmental Project Category (TMG)	Eligible Projects	Impact Reporting Metrics
1	Realization of zero emissions through decarbonization of energy systems and the sustainable use of resources	Heat island countermeasures (improving heat reflection and water retention of roads)	Length of cool pavement installed (km)
2		Renovation and repair of metropolitan facilities (installation of PV systems)	Anticipated annual power generation by installed PV systems (kWh)
3		Installation of LED lighting in metropolitan facilities and on roads	Reduction in energy consumption (kWh)
4		Installation of PV systems in metropolitan housing	Anticipated annual power generation by installed PV systems (kWh)
5		Environmental improvements at Tokyo metropolitan schools (promotion of zero-emissions initiatives)	Anticipated annual power generation by installed PV systems (kWh), Reduction in energy consumption (kWh)
6		Installation of storage batteries for the use of renewable energy	Storage battery output (kW)
7		Development of cycling routes and bicycle lanes	Length completed (km)
8		Development of small and medium-sized rivers	Completion of river development (%), Storage capacity of regulating reservoirs (m3)
9		Development of storm surge protection structures	Length completed (km)
10		Development of structures to protect against sediment disasters and protect shorelines	Number of structures developed

11		Development of coastal protection structures for the Port of Tokyo and the Tokyo islands	Scale of development (km), Number of structures developed
12		Adoption of zero emission vehicles (ZEVs)	Reduction in CO2 emissions, etc. (%)
13		Measures to turn metropolitan facilities into zero emission buildings (ZEBs)	Reduction in energy consumption (kWh)
14		Decarbonization of water supply facilities	Anticipated annual power generation by installed renewable energy systems (kWh)
15		Energy conservation and global warming mitigation in sewerage services	Reduction of GHG emissions (capacity) (t-CO2 / 5 years)
16		Improvement of combined sewer system	Capacity of storage facilities, etc. (m3)
17		Flood countermeasures	Sewer system flooding resolution rate in 50 mm/h rain (%)
18	Realization of a prosperous society in harmony with nature that continues to benefit from ecosystem services	Renovation and repair of metropolitan facilities (greening projects)	Area of developed green spaces (m2)
19		Development of metropolitan parks	Developed land area (m2)
20		Greening of waterfront areas	Developed land area (m2)
21		Marine park development (Umi-no-Mori park)	Developed land area (ha)
22	Realization of a better urban environment that ensures the safety and health of Tokyo residents	Restoration of water quality in sections of the outer moat	Surface area of restored water
23		Introduction of eco-friendly buses to the Toei bus fleet	Reduction in emissions of regulated substances (%)

#### ■ New Projects (Blue Projects)

No.	Environmental Project Category (TMG)	Eligible Projects	Impact Reporting Metrics
1	Realization of a prosperous society in harmony with nature that continues to benefit from ecosystem services	Development of a blue carbon ecosystem at the Port of Tokyo	Area of created seaweed and seagrass beds (m2)

## ■ Refinancing of existing expenditures (Refinancing of FY2019 Tokyo Green Bond)

No.	Environmental Project Category (TMG)	Eligible Projects	Impact Reporting Metrics
1	Realization of zero emissions through decarbonization of energy systems and the sustainable use of resources	Heat island countermeasures (improving heat reflection and water retention of roads)	Length of cool pavement installed (km)
2		Renovation and repair of metropolitan facilities (installation of PV systems)	Anticipated annual power generation by installed PV systems (kWh)
3		Installation of LED lighting in metropolitan facilities and on roads	Reduction in energy consumption (kWh)
4		Development of cycling routes and bicycle lanes	Length completed (km)
5		Development of small and medium-sized rivers	Completion of river development (%), Storage capacity of regulating reservoirs (m3)
6		Development of storm surge protection structures	Length completed (km)
7		Development of coastal protection structures for the Port of Tokyo and the Tokyo islands	Scale of development (km), Number of structures developed
8		Decarbonization of water supply facilities	Reduction in energy consumption (kWh)
9	Realization of a prosperous society in harmony with nature that continues to benefit from ecosystem services	Renovation and repair of metropolitan facilities (greening projects)	Area of developed green spaces (m2)
10		Development of metropolitan parks	Developed land area (m2)
11		Greening of waterfront areas	Developed land area (m2)




## Outline of Projects and Environmental Benefits

### ■ Green Projects



#### <Heat island countermeasures (improving heat reflection and water retention of roads)>

- In Tokyo, as one of the countermeasures to alleviate the heat island phenomenon, heat shield pavements and water retentive pavements, which suppress the rise in road surface temperature, have been installed in the project area centering on the central core area of central Tokyo in conjunction with road maintenance work, and a cumulative total of approximately 190 km of these pavements have been installed as of the end of FY2023.
- Heat shield pavement prevents heat from being stored in the pavement by reflecting infrared rays from the heat shielding material applied to the road surface, thereby suppressing the rise in road surface temperature by up to 8 degrees and ensuring the noise reduction function of low-noise pavement.
- Water retentive pavement can suppress the rise in road surface temperature by up to 10 degrees due to the heat of vaporization when rainwater, etc. soaked into the water-retaining material installed in the lower layer of the road surface evaporates.
- The use of proceeds includes refinancing.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	13.2 Integrate climate change measures into national policies, strategies, and planning



#### <Renovation and repair of metropolitan facilities (installation of PV systems)>

- In January 2021, the TMG announced that it would reduce its greenhouse gas emissions by 50% by 2030 (compared to 2000 levels) and increase the percentage of electricity use from renewable energy sources to about 50%. Furthermore, in March 2021, the TMG formulated “Zero Emission TMG Action Plan” (five years from FY2020 to FY2024) to accelerate further actions toward a 2030 Carbon Half of the TMG.
- TMG has set a goal of 100% renewable energy for electricity used in TMG-owned facilities (Governor’s offices, etc.) by 2030. To that end, in FY2024, TMG aims to achieve 40% of its electricity consumption from renewable energy only, and also promote to source electricity from renewable sources at other facilities, aiming to achieve 50% renewable energy. Since the figures of greenhouse gas emissions are affected by the reduction rate of energy consumption, the percentage of renewables in electricity use, and other factors, a 40% reduction is targeted based on those targets. TMG aims to achieve 74,000 kW capacity of solar power generation equipment installed at TMG-owned facilities (including Governor’s offices, three public bureaus, and Tokyo public housing) in 2030. To that end, TMG aims to achieve 20,000 kW renewable energy for Governor's offices, etc. in FY2024.
- Installation of solar power generation panels on the roofs, etc. of TMG-owned facilities including Tokyo metropolitan schools, police stations, and fire stations is promoted.
- The use of proceeds includes refinancing.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
	13.2 Integrate climate change measures into national policies, strategies, and planning



#### <Installation of LED lighting in metropolitan facilities and on roads>

- Since LEDs consume less power than general energy-saving lamps (ceramic metal halide lamps and high-pressure sodium lamps) and have a longer service life, the TMG is working to convert to LEDs from a street lighting that is due for replacement for management efficiency.
- The target lighting systems are those used in buildings, structures, roads, etc. owned by the TMG. The systems include lighting LEDs at the edge of a mat using electricity generated by the vibrations that pedestrians give to the floor as they walk on the mat.
- The use of proceeds includes refinancing.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	7.3 By 2030, double the global rate of improvement in energy efficiency
	13.2 Integrate climate change measures into national policies, strategies, and planning

#### <Installation of PV systems in metropolitan housing>



- Newly install solar power systems for existing public housing.
- The use of proceeds will be allocated to new investments only.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	7.2 By 2030, increase substantially the share of renewable energy* in the global energy mix
	13.2 Integrate climate change measures into national policies, strategies, and planning




### <Environmental improvements at Tokyo metropolitan schools (promotion of zero-emissions initiatives) >

- When renovating Tokyo metropolitan schools, the TMG will also install solar power systems on the roofs of school buildings, and will also accelerate the installation of such equipment for existing school buildings in cooperation with the Bureau of Finance and the Bureau of Environment, which are involved in construction. In addition, when renovating Tokyo metropolitan schools, the TMG will install LED lighting in principle, and convert lightings of existing school buildings to LEDs.
- The use of proceeds will be allocated to new investments only.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix 7.3 By 2030, double the global rate of improvement in energy efficiency
	13.2 Integrate climate change measures into national policies, strategies, and planning

### <Installation of storage batteries for the use of renewable energy >



- New storage batteries will be installed to store electricity from the existing solar power systems, etc., for use in times of electricity supply and demand crunch. The storage batteries will be installed at Higashimurayama Water Purification Plant in this project.
- The use of proceeds will be allocated to new investments only.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix

### <Development of cycling routes and bicycle lanes >

- In May 2021, the TMG formulated "Tokyo Bicycle Traveling Space Development Promotion Plan." The plan presents a new vision for the future of road spaces for cyclists (bicycle network) toward the 2040s and outlines priority areas to be developed over the next 10 years, with the aim of creating safe and secure road spaces for all cyclists in Tokyo.
- The funds will be allocated to the Tokyo Waterfront City so that anyone can safely and comfortably get around the area by bicycle. The purpose of this project is to promote the use of bicycles not only by residents but also by visitors to the Waterfront area from central Tokyo and other areas, and even as a tourism resource, so that many visitors from Japan and abroad can enjoy the dynamic scenery and leisure activities of the Port of Tokyo.
- A bicycle is a clean and zero emission form of transport which contributes to carbon neutrality, and does not affect the surrounding residential environment in terms of noise and vibration.

- The use of proceeds includes refinancing.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.



SDGs	
	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
	13.2 Integrate climate change measures into national policies, strategies, and planning

#### <Development of small and medium-sized rivers >

- In recent years, torrential rains exceeding the planned scale have caused extensive damage throughout Japan, and the incidence of rainfall of 50 mm or more per hour has been increasing in Tokyo. Under these circumstances, there is concern about the increased risk of wind and flood damage due to increased rainfall and rising sea levels associated with the effects of future climate change.
- In December 2023, the TMG formulated “River Facilities in Light of Climate Change” and raise the target maintenance level for small and medium-sized rivers to an annual exceedance probability of 5 percent\* of rainfall in light of climate change, to strengthen flood countermeasures while considering priority.

\*“An annual exceedance probability of 5 percent” indicates a 5% chance of rainfall exceeding certain magnitude occurring each year.



- Specifically, the TMG will develop the river revetment, while using flood control reservoirs, etc. to protect an area where rainfall can exceed 50 mm per hour.
- The use of proceeds includes refinancing.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the *Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels
	13.1 Strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries 13.2 Integrate climate change measures into national policies, strategies, and planning

\*It was adopted as a disaster prevention framework at the Third United Nations World Conference on Disaster Risk Reduction held in Sendai, Miyagi Prefecture in 2015.

### <Development of storm surge protection structures>

- The lowlands of Tokyo, known as the Tokyo East Lowland, are an area of thick deposits of soft sediment called alluvium, through which large rivers such as the Sumidagawa river, Arakawa river, and Nakagawa river, as well as their tributaries, flow in all directions.
- The area was originally low-lying, and as a result of the land subsidence caused by pumping up of groundwater during the industrial development phase from the Meiji Period to around the 1960s, the area is at high risk of natural disasters such as storm surges, floods, and major earthquakes due to ground subsidence.
- To protect against such flood damage, various projects are being implemented, including the development of facilities to protect from storm surges, the redevelopment of rivers in the Koto Triangle area, and the construction of Super Embankment and other facilities.
- The use of proceeds includes refinancing.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.



SDGs	
	11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, particularly for women and children, older persons and persons with disabilities 11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels
	13.1 Strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries 13.2 Integrate climate change measures into national policies, strategies, and planning

### <Development of structures to protect against sediment disasters and protect shorelines >

- In terms of countermeasures against sediment disasters, the TMG has systematically developed erosion control-related facilities, taking into consideration the location of disaster, as well as the importance of the conservation target (evacuation centers, facilities for people requiring special care, etc.) and the risk of disaster occurrence (whether in a landslide disaster warning area or a special warning area). Hard measures include erosion control projects (to prevent mudslides), landslide control projects, and steep slope collapse control projects (to prevent landslides).
- To mitigate the sediment deposition and sediment discharge that can cause disasters in designated erosion control areas where mudslides may occur, erosion control measures include construction of erosion control weirs and stream protection works, while imposing restrictions on land excavation, embankment, and cutting of trees.
- Landslide control projects focus on areas with particularly high risk or important conservation facilities designated as landslide control zones, and landslide control facilities such as deterrent piles and water catchment facilities are constructed.
- In TMG, steep slopes (cliffs) are distributed in the forests of the Nishitama region and along the Musashino Plateau terrace, and there are areas throughout the TMG that are vulnerable to damage from the collapse of steep slopes. To protect residents' lives from a collapse of steep slopes (landslides) caused by typhoons and torrential rains, the TMG executes collapse prevention works and implements other measures to prevent slope collapses.
- To protect the national land and coastal environment from waves of typhoons and monsoons, areas



with a high risk of wave damage and 26 coasts with significant coastal erosion (about 46 km in total) are designated as coastal protection areas, where coastal protection facilities such as seawalls and artificial reefs have been constructed.

- The use of proceeds will be allocated to new investments only.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels
	13.1 Strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries 13.2 Integrate climate change measures into national policies, strategies, and planning

#### <Development of coastal protection structures for the Port of Tokyo and the Tokyo islands>



- In March 2023, the TMG revised the “Tokyo Bay Coastal Protection Master Plan [for the Tokyo Metropolis section]” in line with the national policy for dealing with the effects of climate change.
- In consideration of storm surges caused by typhoons comparable to the Isewan typhoon, as well as a sea level rise when assuming a 2 degree rise in future temperatures due to climate change, seawalls will be raised in stages. In addition, assuming a 1.1-fold increase in rainfall due to climate change, drainage pump stations will be expanded to prevent flooding of canals when sluice gates are closed.
- The coasts of the Izu and Ogasawara Islands are affected by waves due to their location facing the open ocean, proximity to typhoon passage courses, and strong winter monsoons, etc. The coast is divided into zones characterized by “protection,” “environment,” and “use,” and medium- to long-term coastal development is carried out in consideration of the characteristics of each area.
- The use of proceeds includes refinancing.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels
	13.1 Strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries

#### < Adoption of zero emission vehicles (ZEVs)>



- In accordance with the zero-emission strategy of the “Future Tokyo” strategy, PHVs and EV motorcycles will be introduced in time for the renewal of vehicles of fire stations, etc. in order to accelerate actions to combat climate change and realize a zero-emission Tokyo.

- The use of proceeds will be allocated to new investments only.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
	13.2 Integrate climate change measures into national policies, strategies, and planning

#### <Measures to turn metropolitan facilities into zero emission buildings (ZEBs)>

- ZEB (Net Zero Energy Building) is a building in which energy consumption in the building is reduced with the help of energy-saving performance, the use of renewable energy, etc., so that the annual energy consumption is net or almost zero.
- ZEBs will introduce high heat insulation by double-layered roofs and exterior walls of TMG-owned facilities, and achieve energy conservation through the introduction of high-efficiency air conditioning and optimal control technology for air conditioning and lighting.
- The Miyakejima Police Station, a planned use of proceeds, will be relocated and reconstructed since it was built in March 1972 and has been extremely aged and small.
- The use of proceeds will be allocated to new investments only.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.




SDGs	
	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
	13.2 Integrate climate change measures into national policies, strategies, and planning

#### <Decarbonization of water supply facilities>

- The Bureau of Waterworks of the TMG consumes about 800 million kWh of electricity annually, equivalent to about 1% of the electricity consumed in the entire Tokyo. Most of the CO<sub>2</sub> emitted by the Bureau of Waterworks comes from the pump operation that is essential for delivering tap water. TMG considers that climate change significantly affects the Bureau of Waterworks which operates using water as a raw material. In order to make the water supply operation sustainable, TMG considers that it is necessary to reduce CO<sub>2</sub> emissions at their own facilities, by curbing energy consumption including electricity and by using renewable energy sources, and contribute to reducing CO<sub>2</sub> emissions in society as a whole.
- Specifically, TMG will invest in the introduction of renewable energy sources, including solar power systems and small-scale hydroelectric power stations.
- At water purification plants and water supply stations, the Bureau of Waterworks has installed small hydroelectric power stations that utilize the difference in elevation between the reservoir and the



water purification plant and the excess pressure at the inlet to the water distribution reservoir of the water supply station.

- The use of proceeds includes refinancing of funds allocated to the introduction of high-efficiency pumps.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
	9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes
	13.1 Strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries 13.2 Integrate climate change measures into national policies, strategies, and planning

#### <Energy conservation and global warming mitigation in sewerage services>

- Sewage treatment, roughly divided into water treatment and sludge treatment processes, require energy sources including electricity and fuels in the process, generally resulting in high greenhouse gas emissions. The Bureau of Sewerage of the TMG is striving to reduce greenhouse gas emissions through energy conservation and streamlining of treatment processes and methods.
- The initiatives to which the funds will be allocated are: (1) introduction of fine bubble diffusers to reduce electricity consumption by approximately 20% compared to conventional diffusers; (2) introduction of energy-saving sludge thickeners and sludge dehydrators to reduce electricity consumption; and (3) optimization of the aeration system to reduce electricity consumption. Note that (3) optimizes airflow capacity and reduces electricity consumption by introducing a more efficient blower of the appropriate size (capacity) in conjunction with the fine bubble diffuser.
- The use of proceeds will be allocated to new investments only.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.




SDGs	
	7.3 By 2030, double the global rate of improvement in energy efficiency
	13.2 Integrate climate change measures into national policies, strategies, and planning

#### <Improvement of combined sewer system>

- There are two types of sewerage elimination systems: a separate sewer system that collects "sewage" and "rainwater" in separate sewer pipes, and a combined sewer system that collects "sewage" and "rainwater" in a single sewer pipe. In a separate sewer system, sewage is collected and treated at a water reclamation center, while rainwater is discharged into rivers and the sea from outfalls and pump stations along rivers. In a combined sewer system, all sewage is collected and treated at a water reclamation center on sunny or light rainfall days, but on days with heavy rainfall,

rainwater mixed with sewage is discharged into rivers and other bodies of water to protect urban areas from flooding. For this reason, the Bureau of Sewerage is developing facilities to store particularly dirty sewage in the early stages of rainfall in order to reduce the amount of pollution load discharged from combined sewers into rivers, the sea, and other bodies of water.




- Specifically, by the end of FY2023, storage facilities of 1.7 million m3 capacity were installed to ensure the quality of water discharge equivalent to that of a separate sewer system, as stipulated by the Sewerage Act Enforcement Order. After complying with the Sewerage Act Enforcement Order in 2024, the TMG has continued to develop storage facilities, etc. to further improve water quality in river areas where water tends to stagnate due to the ebb and flow of the tide, and in closed water areas such as canals surrounded by sluice gates.
- The use of proceeds will be allocated to new investments only.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
	12.2 By 2030, achieve the sustainable management and efficient use of natural resources
	14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution

#### <Flood countermeasures>


- In part because less rainwater is sunk into the soil due to urbanization, more rainwater flows into the sewage system, causing flooding damage in some locations. The TMG has been constructing trunk lines and storage facilities, etc. with an emphasis on areas at high risk of flooding in order to reduce flood damage as soon as possible, as a countermeasure to respond to 50 mm rainfall per hour basically.
- In recent years, heavy rains exceeding 50 mm per hour have been on the increase due to the frequent torrential rains and larger typhoons, making it necessary to promote hard measures as well as enhance soft measures. In the typhoon Hagibis in 2019, the facilities that have already been developed effectively reduced flood damage, but in light of the increasingly heavy rainfall in recent years, it is necessary to accelerate and strengthen efforts to reduce flood damage. Therefore, in areas where extensive inundation above floor level is anticipated, the TMG has taken measures more aggressively, including the construction of sewage facilities capable of treating 75 mm of rainfall per hour.
- To enhance preparedness for sudden heavy rains, the TMG will introduce newly-developed waterless type standby pumps with longer operational time whose technology allows the pumps operate earlier than the rainwater inflows, and construct new trunk lines and lower the water level of existing trunk lines, etc.
- The use of proceeds will be allocated to new investments only.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.



SDGs	
	6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
	11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels
	13.1 Strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries 13.2 Integrate climate change measures into national policies, strategies, and planning


#### <Renovation and repair of metropolitan facilities (greening projects)>

- TMG will green the grounds of Tokyo metropolitan schools to promote the preservation of natural environment. Specifically, green spaces will be developed by turfing school grounds, greening rooftops, and planting trees.
- The use of proceeds includes refinancing.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

#### <Development of metropolitan parks>



- The funds will be allocated for newly “development of general parks,” including development works and purchase of sites necessary for such works which directly leads to the opening of new parks (including extension of existing parks). This will take place for 32 parks including Rokusen Park. Park development will be promoted to form the structure of water and green so that Tokyo becomes a lush and green city.
- The use of proceeds will be allocated to new investments only.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

#### <Greening of waterfront areas>


- There are various expectations for rivers, not only to improve flood control functions, but also to serve as precious spaces left in urban areas for people to enjoy the water, nurture living creatures, and interact with nature, as well as to create beautiful landscapes. In response to these requests, the TMG has implemented a variety of measures in consideration with conservation and restoration of the natural environment, and even waterfront use, including the development of high hydrophilic gently sloping revetments, the greening of revetments, etc., and the adoption of structures that allow for easy habitat for living creatures.

- The use of proceeds will be allocated to new investments only.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, particularly for women and children, older persons and persons with disabilities
	15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

#### <Marine park development (Umi-no-Mori park)>


- Marine parks take advantage of the characteristics of the waterfront area on reclaimed land in Tokyo, and are developed and managed by the Bureau of Port and Harbor under a legal system (Tokyo Metropolitan Government Ordinance on Marine Parks) that differs from that of urban parks under the Urban Parks Act. The types of marine parks shall be seaside parks, wharf parks, and greenway parks. The Ordinance, a legislation concerning the establishment and management and operation of metropolitan marine parks, was enacted to position marine parks as public facilities based on the Local Autonomy Act and to ensure the management in a proper and consistent manner.
- Umi-no-Mori (Sea Forest) Project plans to plant saplings in the “trash heap”, a reclaimed land floating in the Port of Tokyo, made from garbage and construction debris, and transform it into a beautiful forest. The marine parks aims to restore the natural environment of the waterfront area and to provide citizens of Tokyo with a place to enjoy the greenery. Facing the sea, the marine parks are also intended to provide citizens of Tokyo with a place to enjoy the water.
- The use of proceeds will be allocated to new investments only.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

#### <Restoration of water quality in sections of the outer moat>



- Due to the sheer volume of blue-green algae, the waterside spaces of the outer moat function poorly as a place of comfort and enrichment, resulting in a less attractive urban area.
- In the “Future Tokyo” strategy, the “Outer Moat Cleaning Project” is presented which aims to improve the water quality of the outer moat, a historical asset, to provide a place of healing for people working in the city center, and to revitalize the entire area by creating a dignified landscape, toward a revival of Tokyo as the “City of Water” through the promotion of the cleaning of the outer moat.
- As a permanent measure to improve water quality, necessary facilities for water conduction will be developed to introduce purified water to prevent the stagnation of moat water and control the massive generation of blue-green algae.
- The use of proceeds will be allocated to new investments only.

- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

#### <Introduction of eco-friendly buses to the Toei bus fleet>

- The TMG plans to renew all Toei buses with non-step buses which comply with the latest emission control standard, striving to reduce NOx (nitrogen oxide) and PM (particle matter).
- In particular, fuel cell buses, which have been introduced in recent years, are powered by a motor running off electricity produced by a chemical reaction between oxygen and hydrogen, which emits only water when running.
- With a view to the introduction of fuel cell buses, Toei Bus conducted a demonstrative test run in July 2015 and introduced two vehicles in FY2016. It started commercial operation of fuel cell buses for the first time in Japan on March 21, 2017, and owns 73 vehicles as of April 1, 2023.
- The use of proceeds will be allocated to new investments only.
- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.



SDGs	
	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
	13.2 Integrate climate change measures into national policies, strategies, and planning

#### ■ Blue Projects

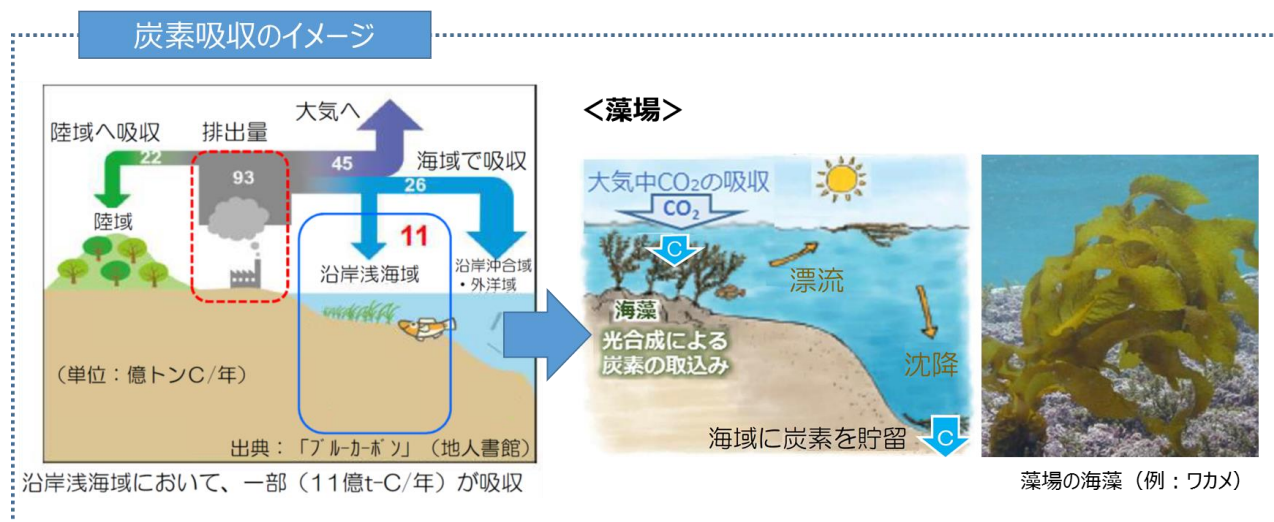
##### <Development of a blue carbon ecosystem at the Port of Tokyo>

- Blue carbon refers to carbon absorbed and stored by marine ecosystems such as seaweeds and seagrasses. Through photosynthesis, atmospheric CO<sub>2</sub> is taken up by shallow-water blue carbon ecosystems, which sequesters and stores CO<sub>2</sub> as organic matter. In addition, carbon as blue carbon is accumulated as dead blue carbon ecosystems are accumulated on the seafloor and continue to be buried on the seafloor mud.
- In May 2023, to strategically promote efforts to decarbonize the Port of Tokyo, the TMG established a study group consisting of port-related businesses and companies with expertise in decarbonization, and formulated Port of Tokyo Carbon Neutral Port (CNP) Implementation Plan. The plan's main initiatives include the creation and conservation of seaweed and seagrass beds and other habitats that make up the blue carbon ecosystem.
- One of the specific measures is to promote decarbonization through the use of blue carbon by creating seaweed and seagrass beds.
- The use of proceeds will be allocated to new investments only.

- The table below shows contributions of the eligible projects to SDGs in accordance with ICMA's table of mapping between project categories and SDGs.

SDGs	
	13.2 Integrate climate change measures into national policies, strategies, and planning
	14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

## ■ Blue Carbon Initiatives



[Source: Prepared by TMG based on information available on the websites of the Ministry of Land, Infrastructure, Transport and Tourism and the Fisheries Agency]

## &lt;Confirmation as a Blue Project&gt;

- In January 2022, the International Finance Corporation (IFC) developed its Guidelines for Blue Finance using the framework of the Green Bond Principles, to promote financing for enhanced ocean and coastal conservation and increased pollution-free water resources. In light of this, the International Capital Markets Association (ICMA), IFC, United Nations Environment Programme Finance Initiative (UNEP FI), United Nations Global Compact (UNGC), and the Asian Development Bank (ADB) released “Bonds to Finance the Sustainable Blue Economy - A Practitioner’s Guide -” (SBE Guidance) in September 2023.
- SBE Guidance describes the importance of investment for a sustainable blue economy and provides an approach to financing marine-related projects. R&I has confirmed that the Project falls under the category of Blue Projects as described in SBE Guidance.

Approach to Selection	Details of Eligible Projects
<b>1. Does the project fall under the eligible project categories of the Green Bond Principles, comply with applicable laws and regulations, and make a substantive contribution to SDGs 6 or 14?</b>	<ul style="list-style-type: none"> <li>- A project that falls under the eligible project categories of the Green Bond Principles.</li> <li>- The project aims to create a rich marine environment and biological habitat through the creation of seaweed and seagrass beds. The eligible project will lead to the restoration of marine ecosystems, and is considered to contribute to SDGs 14.</li> </ul>
<b>2. Is there any risk that the project may affect progress on other environmental priorities such as SDGs 2, 7, 12, 13, and 15?</b>	<ul style="list-style-type: none"> <li>- Development of a blue carbon ecosystem at the Port of Tokyo contributes to decarbonization through the preservation of marine ecosystems, which will help respond to climate change and contribute to SDGs 13.</li> <li>- While the project may use fossil fuels temporarily for the transportation of materials and construction works associated with the development, environmental improvements are expected in the medium to long term. Consequently, R&amp;I considers that there is no risk of significant impact on the progress of other environmental priorities currently in place.</li> </ul>
<b>3. Does the project not fall under the categories of “Examples of Exclusion” in Appendix 1 of SBE Guidance, or, will environmental, social, and governance (ESG) safeguards and standards, such as IFC Performance Standards, be applied in the implementation of the project if there are significant environmental and social risks associated with the project?</b>	<ul style="list-style-type: none"> <li>- No significant environmental or social risks assumed are identified at this time.</li> <li>- TMG will take necessary measures, to reduce environmental burdens by the project and prevent the project from causing environmental pollution, pursuant to a metropolitan ordinance and other laws and regulations. In addition, TMG also plans to research the environment of the sea area to confirm conditions suitable for seaweed and seagrass bed creation, etc.</li> </ul>

- Development of a blue carbon ecosystem at the Port of Tokyo contributes to the conservation, improvement, and restoration of marine and coastal ecosystems through the absorption of carbon dioxide and removal of nitrogen compounds, etc. by seaweed and seagrass beds. Accordingly, seaweed and seagrass development falls under the category of “Marine Ecosystem Management, Conservation, and Restoration.” In terms of correspondence with green projects, the Port of Tokyo Blue Carbon Project is deemed to have an impact on “Biodiversity Conservation,” “Natural Resource Conservation,” and “Climate Change Mitigation.”

### 3. Process for Project Evaluation and Selection

Environmental objectives, a decision-making process for evaluation and selection, and a process for identifying, mitigating and managing environmental and social risks have been defined. A process is in place to select projects that give due consideration to the environment and society. The process for project evaluation and selection is appropriate.

#### (1) Decision-Making Process for Evaluation and Selection

- Projects to be allocated Tokyo Green and Blue Bonds funding in a fiscal year are selected through an evaluation of their eligibility based on criteria covering environmental, social and governance aspects, which are listed in the table below. In addition, in order to reduce environmental and social risks associated with the implementation of the project, confirmation is made that the following measures have been taken.
  - Compliance with environmental laws and regulations and implementation of environmental impact assessments where necessary
  - Provision of adequate explanations to local residents
  - Eco-friendly procurement of materials, measures for environmentally hazardous substances, waste management and occupational safety considerations

##### ■ Criteria for the Evaluation & Selection of Eligible Projects

No.	Evaluation Aspects	Evaluation Items	Perspective
E-1	Environmental	Clarity of positive impact	The project's positive environmental outcomes can be measured quantitatively, or are clear.
E-2	Environmental	Reduction of negative impact	Initiatives are in place to reduce the negative impacts of the project.
S-1	Social	Clarity of positive impact	The project's positive social outcomes can be measured quantitatively, or are clear.
S-2	Social	Reduction of negative impact	Initiatives are in place to reduce the negative impacts of the project.
G-1	Governance	Policy & regulatory compliance	The project's plan complies with laws and guidelines such as the "Future Tokyo" strategy and Japan's Local Government Finance Act.
G-2	Governance	Feasibility/urgency	Special note is made of the feasibility and urgency of the project.
G-3	Governance	Effect sustainability	The positive environmental/social outcomes of the project will be sustainable.

#### (2) Process for Identifying, Mitigating and Managing Environmental and Social Risks

- For the Tokyo Green and Blue Bonds, priority is especially given to E-1 and E-2 (environmental aspects) of the above table.



### (3) Procedure and Responsibility for Evaluation and Selection

- The Bureau of Finance requests the relevant bureaus to identify projects that could be eligible for Tokyo Green and Blue Bond funding.
- The bureaus confirm projects believed to meet the requirements of Tokyo Green and Blue Bonds funding and submit their information to the Bureau of Finance.
- The Bureau of Finance examines the content of the projects and narrows down the list of potential eligible projects.
- The Bureau of Finance evaluates each of the projects. In the evaluation, based on information submitted on a project, the environmental project category is confirmed, and evaluations are conducted using criteria such as eligibility from the environmental, social and governance aspects. The measures to reduce environmental and social risks associated with the implementation of the project are also confirmed.
- The Bureau of Finance selects candidate projects.
- The Bureau of Environment reviews candidate projects from an environmental standpoint.

The Bureau of Finance selects the projects to be allocated funds. (Notifies the bureaus of their decision)

## 4. Management of Proceeds

The method of tracking proceeds for their allocation to green projects and the method of managing unallocated proceeds have been identified. The management of proceeds is appropriate.

- Expenditures of local governments in each fiscal year must be covered by the revenue for that year. Therefore, proceeds from the Tokyo Green and Blue Bonds issuance shall be allocated to eligible projects in the business year, in principle. Information on such projects to which proceeds will be allocated and the amount thereof shall be determined after confirmation of the implementation status, etc. by the Bureau of Finance with the bureau managing business establishments and disclosed before the issuance.
- After the Tokyo Green and Blue Bonds are issued, the proceeds will be managed by classifying them into accounting categories based on the TMG's budget rules to clarify their use. Until the proceeds are allocated, they will be managed under the Tokyo Metropolitan Government Public Money Management Policy. Moreover, at the end of each fiscal year, for all revenues and expenditures related to projects funded by the Tokyo Green and Blue Bonds, the results of execution and settlement-related documents will be created and submitted to the Tokyo Metropolitan Audit and Inspection Commissioners for inspection. The documents will be submitted together with the comments of the commissioners to the Tokyo Metropolitan Assembly for certification. Consequently, R&I considers that the proceeds will be managed appropriately.

## 5. Reporting

The timing, method and items of disclosure (reporting) have been specified. The environmental benefit indicators are consistent with the environmental objectives. The reporting is appropriate.



## (1) Overview of Disclosure

- By the end of the fiscal year following the year the Tokyo Green and Blue Bonds were issued, the outcomes of and other information concerning the projects to which the proceeds were allocated will be disclosed. Specifically, the information will be disclosed on the TMG website through the following procedures.
  - The Bureau of Finance confirms the expenditures situation of projects scheduled for allocation with the relevant bureaus.
  - The Bureau of Finance finalizes the breakdown of the allocated proceeds of the Tokyo Green and Blue Bond.
  - The outcomes of the allocation are compiled and the impact report is prepared. These are disclosed on the TMG website.
  - If Tokyo Green and Blue Bond proceeds will be allocated to a single project over multiple fiscal years, information pertaining to this must also be disclosed.
- It is difficult to disclose impact navigators, since not a few projects need time to see social outcomes. Information on any significant event such as a change in eligible projects shall be announced upon occurrence thereof. Timely disclosure will be made when a significant change in the situation occurs.

Content	Timing
Tokyo Green and Blue Bonds Framework	At all times
Details of the decision on projects to be allocated proceeds <ul style="list-style-type: none"> <li>- Environmental Project category</li> <li>- Project name (including refinanced projects)</li> <li>- Expected environmental impact</li> <li>- Amount to be allocated (refinanced)</li> </ul> < The following are also disclosed in the case of refinancing > <ul style="list-style-type: none"> <li>- Age of assets</li> <li>- Remaining useful life of asset (Authorized remaining bond redemption years*)</li> </ul>	Before issuance
Outcomes of projects to which proceeds were allocated and impact report <ul style="list-style-type: none"> <li>- Environmental project category</li> <li>- Project name (including refinanced projects)</li> <li>- Environmental impact</li> <li>- Amount allocated (refinanced)</li> </ul> < The following are also disclosed in the case of refinancing > <ul style="list-style-type: none"> <li>- Age of assets</li> <li>- Remaining useful life of asset (Authorized remaining bond redemption years*)</li> </ul>	Fiscal year following issuance
Details of any significant events such as a change in a project scheduled for allocation	Upon occurrence of an event

\* Authorized remaining bond redemption years is obtained by subtracting the age of the asset from the maximum years for bond redemption (within the years of useful life of the public or official facility which is planned to be built using the funds procured from this local government bond) submitted to and approved by the Ministry of Internal Affairs and Communications at the time of the issuance of the local government bond.

## (2) Environmental Benefit Indicators

- The information on environmental benefits is to be disclosed in line with example evaluation methods as listed below.

### 1 Realization of zero emissions through energy decarbonization and the sustainable use of resources

#### (1) Reduce the greenhouse gas emissions of office buildings

Expected Environmental Impact	Evaluation Method Example
Reduction of CO2 emissions	<ul style="list-style-type: none"> <li>■ Installation of energy-efficient equipment</li> <li>· Calculate the reduction in CO2 emissions through the difference in energy use by existing equipment and the energy efficient equipment to be newly installed</li> </ul>

#### (2) Promote energy conservation and management

Expected Environmental Impact	Evaluation Method Example
Reduction in energy consumption	<ul style="list-style-type: none"> <li>■ Installation of LED lightning</li> <li>· Calculate by comparing energy consumption of conventional lights and LEDs</li> </ul> <p>Calculation formula: Number of LED lights × reduction of energy consumption per LED light (kW) × hours used in one year</p> <ul style="list-style-type: none"> <li>■ Implementation of ZEB (Zero Energy Buildings)</li> <li>· Calculate energy consumption that can be reduced through energy savings (and the addition of energy creation in some cases) by ZEBs</li> </ul>

#### (3) Promote the use of zero emission vehicles

Expected Environmental Impact	Evaluation Method Example
Reduction of CO2 emissions	<ul style="list-style-type: none"> <li>■ Introduction of zero emission vehicles</li> <li>· Calculate the reduction in CO2 emissions through the difference in CO2 emissions of existing vehicles and vehicles to be newly introduced</li> </ul>

## (4) Adopt next-generation transportation and promote bicycle use

Expected Environmental Impact	Evaluation Method Example
Reduction in energy consumption	<ul style="list-style-type: none"> <li>■ Adoption of energy-efficient subway cars</li> <li>・ Calculate reduction of energy use from the difference in energy efficiency between existing cars and those to be newly introduced</li> </ul> <p>Calculation formula: Annual power consumption for operation of cars before renewal (Number of train formations × number of cars per train formation × total operating distance of a passenger car × passenger car energy consumption per kilometer of operating distance) minus the annual power consumption for operation of cars newly introduced</p>

## (5) Increase the usage rate of renewable energy sources such as solar, geothermal, sewer heat and hydrogen energies.

Expected Environmental Impact	Evaluation Method Example
Increase in use of renewable energy sources	<ul style="list-style-type: none"> <li>■ Solar power system</li> <li>・ Calculate power generation from the renewable energy system to be introduced, through the average annual amount of sunlight, loss factor, system capacity, and annual days of generation</li> </ul> <p>Calculation formula: Average annual amount of sunlight shining on the installed panel per day × loss factor × system capacity × number of annual days of generation</p> <ul style="list-style-type: none"> <li>■ Installation of hydroelectric power systems</li> <li>・ Calculate power generation from the renewable energy system to be introduced, through the system capacity, utilization rate, and annual hours of generation</li> </ul> <p>Calculation formula: System capacity (kW) × utilization rate (%) × annual hours of generation</p> <ul style="list-style-type: none"> <li>■ Installation of storage batteries</li> <li>・ Capacity and output of storage batteries to be installed</li> </ul>

## (6) Reduce resource loss and increase the use of eco-friendly materials

Expected Environmental Impact	Evaluation Method Example
Reduction of CO2 emissions	■ Utilization of sustainable wall materials to reduce resource loss
Increase in recycled waste	・ Amount of surface area planned to be built using eco-friendly materials

## (7) Promote the 3 Rs (reduce, reuse and recycle) for the recycling of waste

Expected Environmental Impact	Evaluation Method Example
Reduction of CO2 emissions	■ Circular use of waste through the 3 Rs (reduce, reuse and recycle)
Increase in recycled waste	・ Amount of waste planned for circular use

## (8) Increase the utilization of materials that help reduce negative environmental impacts

Expected Environmental Impact	Evaluation Method Example
Reduction of CO2 emissions	■ Utilization of materials that help reduce environmental impacts
Reduction of waste generation	・ Amount of eco-friendly materials planned for use

## (9) Implement adaptation measures for rising temperatures in urban areas

Expected Environmental Impact	Evaluation Method Example
Enhanced ability to adapt to rising temperatures	■ Installation of cooling mists and sunshades along streets
	・ Amount of land areas planned for installation

## (10) Implement measures for floods and natural disasters

Expected Environmental Impact	Evaluation Method Example
Enhanced ability to natural disasters such as floods and tsunamis	<ul style="list-style-type: none"> <li>■ Development of facilities for storms, tsunamis and earthquakes</li> <li>・ Amount of land area planned for development</li> <li>・ Length planned for development</li> <li>・ Percentage of planned development areas</li> <li>・ Storage capacity after implementation of the planned project</li> <li>・ Number of locations planned for development</li> </ul>

## (11) Improve roads (measures for heat reflection and water retention)

Expected Environmental Impact	Evaluation Method Example
Enhanced heat reflective and water retentive properties of roads	<ul style="list-style-type: none"> <li>■ Pavement to enhance heat reflection and water retention</li> <li>・ Land area planned for development</li> <li>・ Length planned for development</li> </ul>

## (12) Reduce water pollution and conserve groundwater

Expected Environmental Impact	Evaluation Method Example
Improvement of water quality	<ul style="list-style-type: none"> <li>■ Building of rainwater storage facilities</li> <li>・ Planned storage capacity after project implementation</li> <li>■ Introduction of advanced sewage treatment facilities</li> <li>・ Planned capacity of introduced facilities</li> </ul>

## 2 Realization of a Prosperous Society in Harmony with Nature that Continues to Benefit from ecosystem services

### (1) Create and protect green spaces (e.g., park development, urban greening, and forests development)

Expected Environmental Impact	Evaluation Method Example
Increase in green land area  Increase in land area developed	<ul style="list-style-type: none"> <li>■ Greening of areas within facilities and on their grounds, and metropolitan parks</li> <li>・ Land area planned as green spaces</li> <li>・ Land area planned for development</li> <li>■ Planting of roadside trees</li> <li>・ Land area planned for development</li> <li>・ Length planned for development</li> </ul>

### (2) Conserve biodiversity (e.g., tidal flat development in marine parks)

Expected Environmental Impact	Evaluation Method Example
Increase in land area developed	<ul style="list-style-type: none"> <li>■ Development of tidal flats in marine parks</li> <li>・ Land area planned for development</li> </ul>

## 3. Realization of a Better Urban Environment that ensures the Safety and Health of Tokyo Residents

### (1) Reduce air pollution

Expected Environmental Impact	Evaluation Method Example
Improvement of air quality	<ul style="list-style-type: none"> <li>■ Introduction of low pollution non-step buses that can reduce air pollutants such as NOx and CO</li> <li>・ Calculate by comparing the regulated emission caps of scrapped vehicles and vehicles that will be introduced through the project</li> </ul>

## (2) Promote soil contamination countermeasures

Expected Environmental Impact	Evaluation Method Example
Improvement of soil quality	<ul style="list-style-type: none"><li>■ Soil contamination countermeasures</li><li>・ Land area planned for implementation of countermeasures</li></ul>

## (3) Promote treatment of hazardous waste, etc.

Expected Environmental Impact	Evaluation Method Example
Reduction of CO2 emissions  Increase in recycled waste	<ul style="list-style-type: none"><li>■ Treatment of hazardous waste</li><li>・ Amount of hazardous waste planned for treatment</li></ul>



## [Disclaimer]

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## [Expertise and Third-Party Characteristics]

R&I launched the R&I Green Bond Assessment business in 2016, and since then, R&I has accumulated knowledge through numerous evaluations. Since 2017, R&I has been participating as an observer in the Green Bond Principles and Social Bond Principles, which have their own secretariat at the International Capital Market Association (ICMA). It also has been registered since 2018 as an Issuance Supporter (external review entity) of the Financial Support Programme for Green Bond Issuance, a project by the Ministry of the Environment. In 2022, R&I was designated as an external reviewer for transition finance in the global warming countermeasures promotion project of the Ministry of Economy, Trade and Industry.

The R&I assessment method and results are disclosed on the R&I website (at <https://www.r-i.co.jp/en/rating/esg/index.html>).

In December 2022, R&I expressed its support for the intent of and its endorsement of the "Code of Conduct for ESG Evaluation and Data Providers" (ESG Code of Conduct) published by the Financial Services Agency. Disclosures on R&I's compliance with the six Principles of the ESG Code of Conduct and the Guidelines for their implementation are available on the R&I website at <https://www.r-i.co.jp/en/rating/products/esg/index.html> (Disclosures on Compliance with the ESG Code of Conduct).

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