Tokyo Green and Blue Bonds Framework

September 2024

Tokyo Metropolitan Government

Tokyo Green and Blue Bonds Framework

1. The Issuance of Tokyo Green and Blue Bonds

As the world directs increasing attention to achieving sustainable societies, it confronts critical global-scale issues such as the escalating gravity of the climate crisis, loss of biodiversity, changes in water and air quality and other circumstances surrounding the environment.

In response to such challenges, the Paris Agreement was adopted as a framework for global actions to address climate change in the period after 2020. It set the universal goal of keeping the increase in global average temperature below 2°C above pre-industrial levels and pursuing efforts to limit this increase to 1.5°C. At COP 26 in 2021, a global agreement was reached on pursuing efforts to achieve this 1.5°C target. Various other initiatives are underway around the world, including the adoption of the 17 Sustainable Development Goals (SDGs) for the realization of a sustainable world.

Against this backdrop, as the responsibility of a global metropolis, the Tokyo Metropolitan Government (hereinafter referred to as the "TMG") has set the goal of achieving "Zero Emission Tokyo" to help realize net zero carbon dioxide emissions globally by 2050. On the financial side, in order to create a virtuous circle of the environment and economy and to strongly advance Tokyo's environmental projects, the TMG issued Tokyo Green Bonds in October 2017 as the first local government in Japan to do so. In Future Tokyo: Tokyo's Long-Term Strategy, formulated in March 2021, which outlines the vision for Tokyo's bright future and the strategies for realizing this vision, the continued issuance of green bonds was listed as one initiative for achieving "Zero Emission Tokyo". The updated version of the strategy, formulated in January 2024, then repositioned the bonds by upgrading them to Tokyo Green and Blue Bonds.

With the growing importance of environment-friendly efforts, green finance initiatives for companies, local governments and other players to procure funding for environmental projects have been increasing year by year on a global scale.

The TMG will issue Tokyo Green and Blue Bonds in order to continue working actively to resolve environmental issues, a universal challenge faced by the international community, and to drive the development of the green finance market.

Tokyo Green and Blue Bonds are compliant with the Green Bond Principles 2021 (hereinafter referred to as GBP) of the International Capital Market Association (hereinafter referred to as ICMA) and the Practitioner's Guide for Bonds to Finance the Sustainable Blue Economy 2023 (hereinafter referred to as SBE Guide) published by the ICMA, International Finance Corporation, United Nations Global Compact, United Nations Environment

Programme – Finance Initiative, and Asian Development Bank.

The purpose of issuing Tokyo Green and Blue Bonds
1. To strongly promote the TMG's environmental measures backed by the support provided by residents, companies and investors through their investment in Tokyo Green and Blue Bonds. 2. To create a virtuous cycle of the environment and the economy by accelerating the trend of utilizing market funds to find solutions to environmental challenges. 3. To realize Zero Emission Tokyo and other targets, by promoting understanding of environmental measures among Tokyo residents, companies and other parties, and fostering environmental awareness through these efforts, and to contribute to achieving the SDGs.

2. About the Tokyo Green and Blue Bonds Framework

For issuance of the Tokyo Green and Blue Bonds, the TMG has established the Tokyo Green and Blue Bonds Framework as follows, which, in accordance with the GBP and the SBE Guide, comprises components including Use of Proceeds, Process for Project Evaluation and Selection, Management of Proceeds, and Reporting.

(1) Use of Proceeds

Proceeds from the issuance of the Tokyo Green and Blue Bonds are scheduled to be allocated to the green projects and the blue project listed in the Appendix.

Proceeds will be allocated to finance expenditure for new projects or to refinance expenditure for existing projects, as indicated in the Appendix. Regarding the refinancing of existing expenditure, for projects that began implementation within the five fiscal years prior to the fiscal year containing the bond's issue date, proceeds will be allocated to capital expenditures (CAPEX).

(2) Process for Project Evaluation and Selection

If stipulated in the Local Government Finance Act and other laws, a local government can issue municipal bonds as provided in the budget.[1] The budget must be approved by the local government's assembly before the start of a fiscal year.[2]

Not only are such procedures necessary to issue the Tokyo Green and Blue Bonds as TMG bonds, but the feasibility of the projects and the sustainability of their outcomes are also verified during the process of budgeting. The specific process is as follows:

(a) Evaluation and Selection Criteria

Projects to be allocated Tokyo Green and Blue Bond 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, while also confirming the project's alignment with environmental project categories based on the Tokyo Environmental Master Plan (September 2022), as detailed in Attachment 1.

Priority is especially given to E-1 and E-2 (environmental aspects). (For details regarding the evaluation method, refer to the examples of methods for evaluating environmental benefits listed in Attachment 2.)

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, implementation of measures for environmentally hazardous substances, waste management, and occupational safety considerations

[1] Local Autonomy Act, Article 230

[2] Local Autonomy Act, Article 211

Criteria for the Evaluation & Selection of Eligible Projects

No.	Evaluation Aspect	Evaluation Item	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 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 feasible and urgent nature of the project.
G-3	Governance	Effect sustainability	The positive environmental/social outcomes of the project will be sustainable.

(b) Evaluation and Selection Procedures and Division of Roles

① The Bureau of Finance requests the relevant bureaus to identify projects that could be eligible for Tokyo Green and Blue Bond funding.

② The bureaus confirm projects believed to meet the requirements of Tokyo Green and Blue Bond funding and submit their information to the Bureau of Finance.

③ The Bureau of Finance examines the content of the projects and narrows down the list of potential eligible projects.

④ 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,

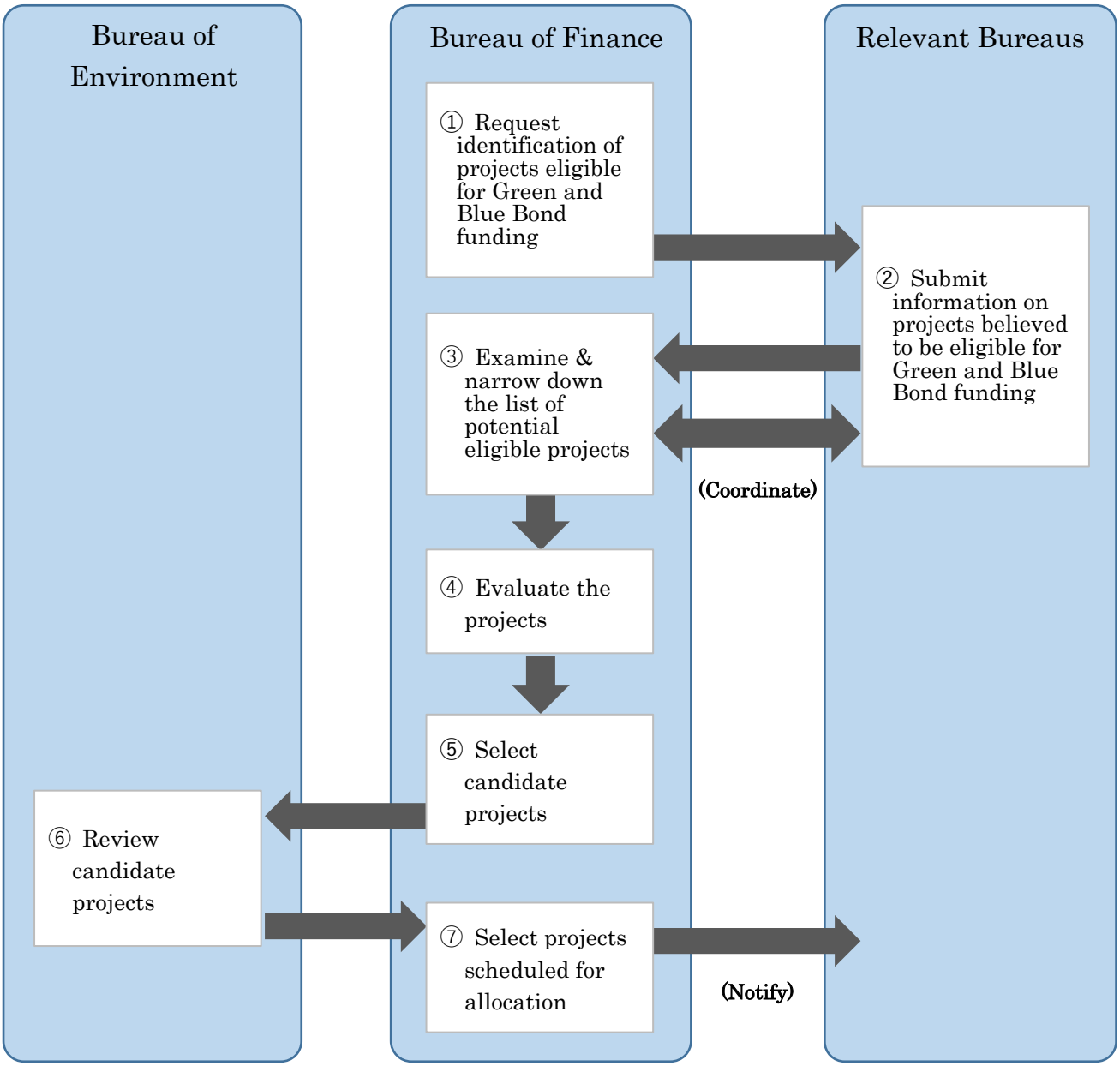
social, and governance aspects. The measures to reduce environmental and social risks associated with the implementation of the project are confirmed.

⑤ The Bureau of Finance selects candidate projects.

⑥ The Bureau of Environment reviews candidate projects from an environmental standpoint.

⑦ The Bureau of Finance selects the projects to be allocated funds (and notifies the bureaus of their decision).

Evaluation and Selection Procedure for Projects to Be Allocated Funds



(c) Monitoring

In cooperation with the bureaus and other parties, confirmation that the projects are properly implemented will be made at least once in the following fiscal year. In the event that a problem arises, the situation will be discussed with the relevant bureau and action will be taken promptly to improve the situation.

(3) Management of Proceeds

Local governments must be able to correlate expenditures in each fiscal year to their annual revenue.[3] Therefore, in principle, all proceeds of the Tokyo Green and Blue Bonds are apportioned within that fiscal year to projects scheduled for allocation. Information on the planned allocated projects and the amount they will be allocated shall be determined after confirmation of relevant matters, including their implementation status, by the Bureau of Finance with the bureau responsible for the project. This information will be disclosed before the issuance of the bonds.

The Bureau of Finance manages the progress of the projects so that the situation of Tokyo Green and Blue Bonds fund allocation can be tracked when necessary, confirms in the following fiscal year that all proceeds have been allocated to the projects, and discloses this information based on the methods of "(4) Reporting."

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 TMG Public Money Management Policy. Moreover, at the end of each fiscal year, for all revenue and expenditures, including those related to projects funded by the Tokyo Green and Blue Bonds, 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.[4]

[3] Local Autonomy Act, Article 208

[4] Local Autonomy Act, Article 233

(4) Reporting

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 contents of the disclosures are shown in the table below.

(a) The Bureau of Finance confirms the expenditures situation of projects scheduled for allocation with the relevant bureaus.
(b) The Bureau of Finance finalizes the breakdown of the allocated proceeds of the Tokyo Green and Blue Bonds.
(c) The outcomes of the allocation are compiled and the impact report is prepared.
(d) (c) is disclosed on the TMG website.
(e) 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.

Contents of Information Disclosure on Tokyo Green and Blue Bonds

No.	Content	Timing
1	Tokyo Green and Blue Bonds Framework	At all times
2	Details of the decision on projects to be allocated proceeds ・Environmental project category ・Project name (including refinanced projects) ・Expected environmental impact ・Amount to be allocated (refinanced) <The following are also disclosed in the case of refinancing> ・Age of asset ・Remaining useful life of asset (Authorized remaining bond redemption years*)	Before issuance
3	Outcomes of projects to which proceeds were allocated and impact report ・Environmental project category ・Project name (including refinanced projects) ・Environmental impact ・Amount allocated (refinanced) <The following are also disclosed in the case of refinancing> ・Age of asset ・Remaining useful life of asset (Authorized remaining bond redemption years*)	Fiscal year following issuance

4	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.

3. External Review

(1) Pre-issuance External Review (Second Party Opinion)

The TMG has obtained a second party opinion (hereinafter referred to as SPO) from Rating and Investment Information, Inc. regarding the alignment with the GBP and the SBE Guide. The SPO is available on the TMG website.

(2) Post-issuance External Review

In the fiscal year following the issuance, the TMG will select an organization that can conduct an external review, and upon sharing information, such as the contents in "2 (4) Reporting," will be subject to a review and will disclose the results.

Appendix

Projects scheduled to be allocated proceeds from
the Tokyo Green and Blue Bonds to be issued in FY2024

■ Projects to be financed

No.	Environmental Project Category	Project	Impact Reporting Metrics
Green Projects			
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 (m^3)
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

No.	Environmental Project Category	Project	Impact Reporting Metrics
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 CO_2 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) ($t\text{-}CO_2$ / 5 years)
16		Improvement of combined sewer systems	Capacity of storage facilities, etc. (m^3)
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 (m^2)
19		Development of metropolitan parks	Developed land area (m^2)
20		Greening of waterfront areas	Developed land area (m^2)
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 (%)

No.	Environmental Project Category	Project	Impact Reporting Metrics
Blue Project			
24	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 (m^2)

■ Projects to be refinanced (from FY 2019 Tokyo Green Bonds)

No.	Environmental Project Category	Project	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 (m^3)
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)

No.	Environmental Project Category	Project	Impact Reporting Metrics
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 (m^2)
10		Development of metropolitan parks	Developed land area (m^2)
11		Greening of waterfront areas	Developed land area (m^2)

*Part of the project to promote energy conservation in water and sewerage facilities financed by FY 2019 Tokyo Green Bonds

Attachment 1

Environmental Project Categories of Tokyo Green and Blue Bonds

Listed below are environmental project categories based on the Tokyo Environmental Master Plan (September 2022), examples of eligible projects for Tokyo Green and Blue Bonds by category, and expected environmental impact.

No.	Environmental Project Category	Eligible Project Examples	Expected Environmental Impact
1	Realization of zero emissions through decarbonization of energy systems and the sustainable use of resources	■ Reduce the greenhouse gas emissions of office buildings ■ Promote energy conservation and management ■ Promote the use of zero emission vehicles ■ Adopt next-generation transportation and promote bicycle use ■ Increase the usage rate of renewable energy sources such as solar, geothermal, sewer heat, and hydrogen energies. ■ Reduce resource loss and increase the use of eco-friendly materials ■ Promote the 3 Rs (reduce, reuse, and recycle) for the recycling of waste ■ Increase the utilization of materials that help reduce negative environmental impacts ■ Implement adaptation measures for rising temperatures in urban areas ■ Implement measures for floods and natural disasters ■ Improve roads (measures for heat reflection and water retention) ■ Reduce water pollution and conserve groundwater	■ Reduction of CO_2 emissions ■ Reduction in energy consumption ■ Increase in use of renewable energy sources ■ Reduction of waste generation ■ Increase in recycled waste ■ Enhanced ability to adapt to rising temperatures ■ Enhanced ability to respond to natural disasters such as floods and tsunamis ■ Enhanced heat reflective and water retentive properties of roads ■ Improvement of water quality
2	Realization of a prosperous society in harmony with nature that continues to benefit from ecosystem services	■ Create and protect green spaces (e.g., park development, urban greening, and forest development) ■ Conserve biodiversity (e.g., tidal flat development in marine parks)	■ Increase in green land area ■ Increase in land area developed
3	Realization of a better urban environment that ensures the safety and health of Tokyo residents	■ Reduce air pollution ■ Promote soil contamination countermeasures ■ Promote treatment of hazardous waste, etc.	■ Improvement of air/soil quality ■ Reduction of CO_2 emissions ■ Increase in recycled waste

Attachment 2

Examples of methods for evaluating the environmental impact of
eligible projects for Tokyo Green and Blue Bonds (by environmental category)

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

(1) Reduce the greenhouse gas emissions of office buildings

Expected environmental impact	Evaluation method example
Reduction of CO_2 emissions	■ Installation of energy-efficient equipment ・ Calculate the reduction in CO_2 emissions through the difference in energy use by existing equipment and the energy-efficient equipment to be newly installed

(2) Promote energy conservation and management

Expected environmental impact	Evaluation method examples
Reduction in energy consumption	■ Installation of LED lighting ・ Calculate by comparing the use of energy by conventional lighting and LEDs Calculation formula: Number of LED lights × reduction of energy consumption per LED light (kW) × hours used per year ■ Implementation of ZEBs (zero emission buildings) ・ Calculate energy use that can be reduced through energy savings (and the addition of energy creation in some cases) by ZEBs

(3) Promote the use of zero emission vehicles

Expected environmental impact	Evaluation method example
Reduction of CO_2 emissions	■ Introduction of zero emission vehicles ・ Calculate the reduction in CO_2 emissions through the difference in CO_2 emissions of existing vehicles and vehicles to be newly introduced

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

Expected environmental impact	Evaluation method example
Reduction in energy consumption	■ Adoption of energy-efficient subway cars ・ Calculate reduction of energy use from the difference in energy efficiency between existing cars and those to be newly introduced 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

(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	■ Solar power systems ・ 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 Calculation formula: Average annual amount of sunlight shining on the installed panel per day × loss factor × system capacity × annual days of generation ■ Introduction of hydroelectric power systems ・ Calculate power generation from the renewable energy system to be introduced, through the system capacity, utilization rate, and annual hours of generation Calculation formula: System capacity (kW) × utilization rate (%) × annual hours of generation ■ Installation of storage batteries ・ Capacity and output of storage batteries to be installed

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

Expected environmental impact	Evaluation method example
Reduction of CO_2 emissions Increase in recycled waste	■ Use of sustainable wall materials to reduce resource loss ・ 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 CO_2 emissions Increase in recycled waste	■ Circular use of waste through the 3 Rs (reduce, reuse, and recycle) ・ 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 CO_2 emissions Reduction of waste generation	■ Utilization of materials that help reduce negative environmental impacts ・ 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 area planned for installation

(10) Implement measures for floods and natural disasters

Expected environmental impact	Evaluation method example
Enhanced ability to respond to natural disasters such as floods and tsunamis	■ Development of facilities for storms, tsunamis, and earthquakes ・ Amount of land area planned for development ・ Length planned for development ・ Percentage of planned development completed ・ Storage capacity after implementation of the planned project ・ Number of locations planned for development

(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	■ Pavement to enhance heat reflection and water retention ・ Land area planned for development ・ Length planned for development

(12) Reduce water pollution and conserve groundwater

Expected environmental impact	Evaluation method examples
Improvement of water quality	■ Building of rainwater storage facilities ・ Planned storage capacity after project implementation ■ Introduction of advanced sewage treatment facilities ・ Planned capacity of introduced facilities

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 forest development)

Expected environmental impact	Evaluation method examples
Increase in green land area Increase in land area developed	■ Greening of areas within facilities and on their grounds, and metropolitan parks ・ Land area planned as green spaces ・ Land area planned for development ■ Planting of roadside trees ・ Land area planned for development ・ Length planned for development

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

Expected environmental impact	Evaluation method example
Increase in land area developed	■ Development of tidal flats in marine parks ・ Land area planned for development

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 examples
Improvement of air quality	■ Introduction of low-polluting non-step buses that can reduce air pollutants such as NO_x and CO ・ Calculate by comparing the regulated emission caps of scrapped vehicles and vehicles that will be introduced through the project

（2） Promote soil contamination countermeasures

Expected environmental impact	Evaluation method example
Improvement of soil quality	■ Soil contamination countermeasures ・ Land area planned for implementation of countermeasures

（3） Promote treatment of hazardous waste, etc.

Expected environmental impact	Evaluation method example
Reduction of CO_2 emissions Increase in recycled waste	■ Treatment of hazardous waste ・ Amount of hazardous waste planned for treatment

(Remarks)

・ Informed by the Green Bond Guidelines of the Ministry of Environment and other sources, the above examples of methods to evaluate environmental impact have been designed to match the contents of projects considered to be eligible projects for Tokyo Green and Blue Bonds.

In the study of concrete methods of evaluation, when necessary, benchmarks presented by external organizations (e.g., figures provided by equipment manufacturers) will be used.