

Annex 1: Guidance on Eligibility Criteria for Green Projects with Clear Environmental Benefits

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The Green Bond Principles of the International Capital Market Association (ICMA) state that eligible green projects to be financed by green bonds should have clear environmental benefits and that these benefits will be assessed and, where feasible, quantified by the issuer. Therefore, the Green Bond Guidelines of Japan state that the proceeds of green bonds should be allocated to green projects that have clear environmental benefits, and that the issuer should assess these environmental benefits and, where feasible, the issuer is recommended to quantify them. In addition, the guidelines state that financial markets ultimately evaluate the appropriateness of the green bond, including its use of proceeds. Similarly, the Green Loan Guidelines state that the parties participating in the green loan ultimately evaluate its appropriateness.

There are various pathways to realize a sustainable society; therefore, there are multiple perspectives from which fundraisers themselves may assess whether the green project is eligible and has clear environmental benefits. The following points aim to help fundraisers conduct preliminary evaluations of their green projects. These are for reference and green projects do not necessarily have to meet all four points. However, it is recommended that the respective points be comprehensively assessed depending on the nature of the project.

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Eligibility Criteria for Green Projects

(1) It can be logically explained that the output achieved through the implementation of the project will lead to achieving the intended environmental objectives and generating positive impacts through green bonds/green loans.

(2) It is objectively evident that environmental benefits will be generated through the project implementation. This may include that projects are expected to clearly improve indicators used to measure environmental benefits compared to the "Business as Usual"¹ approach or to materially improve the environment in terms of socioeconomic conditions, such as introducing renewable energy facilities in the field of climate change mitigation.

(3) Where long-term project-implementation goals exist at the global, country, regional, or sector levels where the issuer/borrower is located or where the project is implemented, there is consistency between the implementation of the project in question and the achievement of these long-term goals—achieving carbon neutrality in Japan by 2050—in principle and there is no apparent inconsistency.

(4) The project has a process for identifying, mitigating, or managing any negative impacts that may be caused by project implementation apart from the intended environmental benefits.

The following Green List was developed based on evaluation criteria, national and international knowledge, and issuance records. The Green

¹Business as usual refers to the situation not implementing a green project and/or not changing current business operation

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List includes examples of the use of proceeds, KPIs, and negative environmental impacts. The items on the Green List illustrate what can be considered green projects, building on the eligible green project categories provided in Green Bond Principles of the ICMA, as well as current Japanese market practices.

The Green List shows a series of indicative examples, and is not intended to be exhaustive. Therefore, eligible green projects are not limited to these examples. Referring to the guidance above, fundraisers need to assess projects on a case-by-case basis, including those that are not explicitly included on the Green List, and their eligibility may be controversial. Additionally, some projects not explicitly contained in the Green List could be eligible green projects in the future as markets and international trends evolve over time, or vice versa. Therefore, it is necessary to pay close attention to broader market trends and development of international practices when evaluating project eligibility.

As stated in the reporting section of the Green Bond and Green Loan Guidelines, it is important to disclose the expected and/or achieved environmental impacts transparently. When making such disclosures, it is recommended to use quantitative performance indicators, where feasible, and disclose them together with the underlying methodology and/or assumptions used in the quantitative calculation. Investors and financial institutions have initiated the calculation of financed emissions, aimed at net-zero emissions in national and international markets. They see the importance of quantifying environmental impacts.

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In terms of negative impacts, this is also an indicative list of the expected major negative impacts from an environmental perspective. Depending on the type of project, there may be other negative environmental and social impacts; therefore, it is important to evaluate each case individually.

When identifying, mitigating, and managing the negative environmental and/or social impacts of a green project, fundraisers may refer to relevant national and international policies. For example, the "due diligence guidance for responsible business conduct" developed by the Organization for Economic Co-operation and Development (OECD) and the "introduction to environmental due diligence in the value chain"² developed by the Ministry of the Environment Japan—which is in line with the OECD's Guidance—can be useful when identifying, mitigating, and managing overall negative impacts, including social aspects.

Another useful reference approach is the table for environmental impact assessment provided in the Environmental Impact Assessment Act^{3,4}, which aims to help assess environmental impacts. The table

² See the following.

OECD Due Diligence Guidance for Responsible Business Conduct (Japanese version)

<https://www.mofa.go.jp/mofaj/files/000486014.pdf>

Introduction to Environmental Due Diligence in the Value Chain: Using the OECD Guidance as a Reference

<https://www.env.go.jp/content/900497033.pdf> (available only in Japanese)

³ Projects subject to environmental assessment under the Environmental Impact Assessment Act include 13 types of projects such as roads, dams, railways, airports and power plants.

Environmental Impact Assessment Information Support Network: Projects Subject to Environmental Impact Assessment

http://assess.env.go.jp/1_seido/1-1_guide/1-4.html

⁴ Basic Matters Based on the Environmental Impact Assessment Act (Notification No. 87 of the Environment Agency) Appended Table

http://assess.env.go.jp/files/1_seido/1-3_horei/3_seitei/3/kihon.pdf

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comprises a combination of environmental impact factors—maintaining a good state of the natural components of the environment, such as air and water; ensuring biodiversity and systematic conservation of the natural environment; and reducing environmental impacts—and business stages, such as in the construction and operation phases. In addition, local governments may have their own ordinances for environmental impact assessments⁵ that can be applied to projects in certain areas or above a certain size. With this in mind, when considering market value impacts, such as those on the entire life cycle, including the procurement and disposal phases, it is important to identify, mitigate, and manage negative impacts according to individual cases.

Green projects may work synergistically with other environmental, economic, and social objectives. To achieve a net-zero, circular, and nature-positive economy in an integrated manner, it is important to pay attention to the synergy brought about by green projects as well as the negative effects mentioned above.

The examples in this list will be continuously reviewed in light of the development of market practices in Japan and overseas as well as fast-changing international trends.

⁵ Environmental Impact Assessment by Local Governments http://assess.env.go.jp/1_seido/1-4_jichitai/index.html

Appended Table (commonly known as the "Green List")

- Note 1: Regarding negative environmental impacts, the main expected impacts are listed; depending on the nature of the business, there may be other negative environmental impacts, and negative social impacts may also be expected; therefore, it is important to consider each case individually.
- Note 2: It is important to consider the entire life cycle when evaluating the environmental benefits and negative environmental impacts.
- Note 3: While in principle absolute value is used for specific indicators in the calculation of environmental benefits, decisions need to be made on a case-by-case basis because there are cases where the information that can be disclosed is limited owing to confidentiality agreements or competitive considerations, or where the base unit or change amount is more appropriate depending on the nature of the project..
- Note 4: When confirming the measures to be taken to reduce greenhouse gas emissions, refer to the measures specified in the Guidelines for Emission Reduction based on Article 25 of the Act on the Promotion of Global Warming Countermeasures (Act No. 117 of 1998).
- Note 5: The Green Project includes relevant expenditures such as assets, investments, research and development, and demonstrations, and others and incidental expenditures.

Major Category 1: Renewable Energy (including production, transmission, appliances and products)

| | Minor Category | Examples of Specific Indicators Used to Calculate Environmental Benefits | Examples of Negative Environmental Impacts |
|-----|---|--|--|
| 1-1 | Businesses that generate electricity from renewable energy sources such as solar, wind (including offshore wind), hydroelectric, biomass (limited to those that are certified sustainable or from waste), geothermal, and ocean renewables such as wave and tidal | <ul style="list-style-type: none"> Amount of CO2 emissions reduced or avoided (t-CO2) ※Calculated by comparing the CO2 emissions (t-CO2) that would have been produced in the case of not implementing the business or in the case of letting things take their natural course, with the CO2 emissions (t-CO2) after the business has been implemented Amount of electricity generated from renewable energy sources by facilities built by the business (GWh) Percentage of renewable energy used in manufacturing processes (%) | <p>[Solar Power]</p> <ul style="list-style-type: none"> Collapses due to surface erosion caused by land development or installation on natural slopes, creation of muddy water, and noise from ancillary equipment such as power conditioners Effects of reflected light from panels Adverse landscape impacts Reduction in habitat and breeding environment of important flora and fauna due to land modification Adverse impacts due to neglect or improper disposal of power generation equipment and increased landfill disposal <p>[Wind Power (Onshore)]</p> <ul style="list-style-type: none"> Noise caused by the operation of wind turbines Shadows cast by wind turbines Impact on bird strikes, foraging, and breeding Landscape impacts Reduction in the habitat and breeding environment of important flora and fauna due to land modification <p>(In the case of offshore wind, the following should also be considered)</p> <ul style="list-style-type: none"> Changes in marine ecosystems Impacts on marine life <p>[Hydropower]</p> <ul style="list-style-type: none"> Contamination and eutrophication of water in reservoirs Reduction in the habitat and breeding environment of important flora and fauna due to land modification <p>[Biomass]</p> <ul style="list-style-type: none"> Increased greenhouse gas emissions throughout the life cycle of biomass fuel, air pollution from factories and delivery vehicles, negative environmental impacts in fuel production areas such as illegal logging, land-use changes such as peatland development and indirect land-use changes, water pollution from factories effluents, negative impacts on marine ecosystems from thermal discharges, noise, odors from fuel storage, and food competition <p>[Geothermal]</p> <ul style="list-style-type: none"> Impacts of hydrogen sulfide odors and impacts on hot springs <p>[Ground source heat]</p> <ul style="list-style-type: none"> When pumping groundwater, there is a risk of land subsidence, depending on groundwater and geological conditions <p>[General]</p> |
| 1-2 | Businesses that install and maintain power lines to transmit electricity generated by renewable energy sources and batteries to store electricity, and perform tasks such as maintenance and management, balancing supply and demand, and energy storage | <ul style="list-style-type: none"> ※Compare the rate of renewable energy use in the manufacturing process (the amount of renewable energy used as a proportion of total energy used) before and after the deal is implemented Renewable energy generation capacity of facilities built by the business (GW) | |
| 1-3 | Businesses that manufacture equipment used in the above businesses, such as solar panels, power lines, and storage batteries | | |
| 1-4 | Businesses that use renewable heat, such as solar and ground source heat | | |
| 1-5 | Businesses that use renewable energy to power all or part of their offices, factories, homes, and data centers | | |
| 1-6 | Businesses that provide ICT solutions (maintenance and management systems, operational systems, optimal coordination of supply and demand) that contribute to renewable energy | | |

| | Minor Category | Examples of Specific Indicators Used to Calculate Environmental Benefits | Examples of Negative Environmental Impacts |
|--|----------------|--|--|
| | | | <ul style="list-style-type: none"> ● Discharge of harmful chemicals and other substances generated during the manufacturing process of equipment into the general environment ● Adverse impacts on the surrounding area, such as muddy water, noise, and vibration caused by construction work ● Impact on places where people interact with nature (parks and trails) <p>In addition, be aware of cases where there may be negative environmental impacts or clear inconsistencies with long-term goals, depending on the nature of the business</p> |

Major Category 2: Energy efficiency (such as in new and refurbished buildings, energy storage, district heating, smart grids, appliances and products);

| | Minor Category | Examples of Specific Indicators Used to Calculate Environmental Benefits | Examples of Negative Environmental Impacts |
|-----|--|--|--|
| 2-1 | Businesses that construct or renovate buildings with high energy-saving performance, such as offices, factories, homes, and data centers ※Obtaining environmental certifications such as BELS, ZEH (Net Zero Energy House), and ZEB (Net Zero Energy Building), and other matters related to the construction of new buildings or the renovation (including thermal insulation renovation) of buildings with high energy-saving performance | <ul style="list-style-type: none"> ● Amount of CO2 emissions reduced (t-CO2) ※Calculated by multiplying the reduction amount, which is the difference between the amount of energy use (MJ) that would be expected without the business and the amount of energy use after the business, by the CO2 emission factor (t-CO2/MJ) ● Amount of energy consumption reduction (MJ) ※Calculated by comparing the estimated energy consumption (MJ) in the case of not implementing the business with the energy consumption (MJ) after implementing the business. ● Type and evaluation of environmental certifications such as BELS, ZEH, and ZEB obtained for buildings related to the business ● Number of energy-saving devices (e.g., LED lighting, high-efficiency chillers and air conditioners, heat pumps, high-efficiency boilers) and energy-saving products installed | <ul style="list-style-type: none"> ● Adverse impacts on the surrounding community, such as noise, vibration, and light pollution from construction activities, and the dispersal of hazardous waste such as asbestos ● Adverse impacts of improper disposal of equipment and facilities prior to replacement ● Increased energy consumption over the entire life cycle, including the operation of communications technology <p>In addition, be aware of cases where there may be negative environmental impacts or clear inconsistencies with long-term goals, depending on the nature of the business</p> |
| 2-2 | Businesses that introduce equipment and facilities with high energy-saving performance in offices, factories, homes, and data centers | | |
| 2-3 | Businesses that introduce equipment related to the effective use of energy on a regional scale, such as energy storage, district heating and cooling, and smart grids | | |
| 2-4 | Businesses related to the provision of ICT solutions (BEMS, HEMS, CEMS, ITS, and supply chain management) that contribute to energy savings, or the introduction of communication technologies with high energy-saving performance | | |

※New construction or renovation with high energy-saving performance listed in 2-1 that obtain environmental certification may be included as part of 10-1 in practice.

Major Category 3: Pollution prevention and control (including reduction of air emissions, greenhouse gas control, soil remediation, waste prevention, waste reduction, waste recycling and energy/emission-efficient waste to energy)

| | Minor Category | Examples of Specific Indicators Used to Calculate Environmental Benefits | Examples of Negative Environmental Impacts |
|-----|---|---|--|
| 3-1 | Businesses that aim to optimize the entire life cycle at each stage of resource extraction, production, distribution, use, and disposal to achieve a circular economy. This includes the design and manufacture of resource-efficient, durable products; the use of materials, such as recycled materials and renewable resources, that have a positive impact on reducing environmental impacts; cooperation between the "artery" and "vein" industries, including the active use of recycled materials by manufacturers and the supply of recycled materials by recycling companies; the reduction of food loss and waste; and advanced collection and processing of waste (recycling promotion facilities and waste treatment facilities with energy recovery) | <ul style="list-style-type: none"> ● Amount of landfill waste reduced through business implementation (t) ※Calculated by comparing the amount of landfill waste that would have been generated without the business (t) with the amount of landfill waste generated after the business (t) ● Amount of waste recycled (t/t) ● Recycling rate of materials generated by the business (%) ● Amount of reduction in waste generated before and after implementation of the business (t) ● Reduction rate of by-products and waste sent to landfill or incinerated (%) ● Percentage of renewable resources used (%) ● Percentage of resources recovered and recycled by type of recovery/reuse (reuse, repair, recycling, refurbishment) (%) ● Total amount of raw materials used relative to sales (t/yen) ● Amount of reduction of CO2 emissions (t-CO2) | <ul style="list-style-type: none"> ● Adverse impacts from spills, leaks, or improper disposal of Toxic substances (%) ● Air pollution from waste disposal and contaminated soil, and water pollution from wastewater ● Increased environmental impacts, such as greenhouse gas emissions, over the life cycle due to inefficient recycling ● Adverse impacts from improper disposal of sludge containing toxic substances such as heavy metals ● Adverse impacts caused by improper disposal of contaminated soil <p>In addition, be aware of cases where there may be negative environmental impacts or clear inconsistencies with long-term goals depending on the nature of the business</p> |
| 3-2 | Businesses that reduce the discharge of Toxic substances into the environment (including the marine environment) through the introduction of advanced equipment and technologies related to the prevention of leakage, volatility, and permeation of Toxic substances, and the use of alternative products | <ul style="list-style-type: none"> ● Types and quantities (t) of Toxic substances reduced by introducing alternative substances ● Amount of emissions of water pollutants (toxic substances [e.g., cadmium], chemical oxygen demand [COD], biochemical oxygen demand [BOD]) reduced by the business into public waters (t) ● Amount of emissions of air pollutants (sulfur oxides [Sox], soot and dust, nitrogen oxides [NOx], volatile organic compounds [VOCs], mercury and hazardous air pollutants (trichloroethylene, dioxins)) reduced by the company into the atmosphere (t) ● Number of cases in which water treatment technology that contributes to the preservation of ecosystems has been introduced (e.g., number of cases in which ballast water treatment systems with high environmental benefits have been introduced) | |

| | Minor Category | Examples of Specific Indicators Used to Calculate Environmental Benefits | Examples of Negative Environmental Impacts |
|-----|--|---|--|
| 3-3 | Businesses that design or manufacture products that contribute to the reduction of fluorocarbon emissions | <ul style="list-style-type: none"> ● Amount of reduction of fluorocarbon emissions (t-CO2 equivalent) ※Calculated by comparing the amount of fluorocarbon emissions that would have been expected in the absence of the businesses (t-CO2 equivalent) with the amount of fluorocarbon emissions after the business is implemented (t-CO2 equivalent) | |
| 3-4 | Businesses related to the advanced treatment and reuse of wastewater from industries and the construction of sewerage facilities with high environmental benefits and improvements to combined sewer systems | <ul style="list-style-type: none"> ● Reduction of energy consumption (MJ) ● Reduction of CO2 emissions (t-CO2) ● Improved sludge recycling rate (%) ● Combined sewage improvement rate (%) ● See relevant items in 3-2 | |
| 3-5 | Businesses that treat contaminated soil | <ul style="list-style-type: none"> ● Amount of reduction in environmental impacts associated with the treatment of contaminated soil (e.g., amount of water pollutants discharged into public waters [t], amount of air pollutants discharged into the atmosphere [t]) | |
| 3-6 | Businesses that contribute to the prevention of pollution from plastic waste | <ul style="list-style-type: none"> ● Plastic reuse rate (%) ● Effective recovery rate of used plastic (%) ● Percentage of end-of-life biodegradation (or recycling) (%) ● Percentage reduction of microplastic emissions from products (%) | |
| 3-7 | Businesses that provide ICT solutions that contribute to the prevention and control of water and air pollutants, Toxic substances, and waste management | See indicators for relevant topics | |

Major Category 4: Environmentally sustainable management of living natural resources and land use (including environmentally sustainable agriculture; environmentally sustainable animal husbandry; climate smart farm inputs such as biological crop protection or drip-irrigation; environmentally sustainable fishery and aquaculture; environmentally sustainable forestry, including afforestation or reforestation, and preservation or restoration of natural landscapes)

| | Minor Category | Examples of Specific Indicators Used to Calculate Environmental Benefits | Examples of Negative Environmental Impacts |
|-----|---|--|--|
| 4-1 | Businesses related to sustainable agriculture (environmentally friendly agriculture such as organic farming and drip irrigation) | <ul style="list-style-type: none"> Area of farmland managed using sustainable methods (ha) ※, agricultural production using sustainable methods (t) ※ ※Acquisition of JAS organic certification, compliance with the Organic Agriculture Promotion Act and standards for specially cultivated agricultural products Reduction in risk-weighted use of chemical pesticide and chemical fertilizer use (t) | Be aware of cases where there may be negative environmental impacts or clear inconsistencies with long-term goals, depending on the nature of the business |
| 4-2 | Businesses related to sustainable fisheries and aquaculture | <ul style="list-style-type: none"> Acquisition of certifications that include biodiversity and ecosystem considerations (e.g., number of MEL, MSC, or ASC certifications acquired, or volume of certified seafood handled) | |
| 4-3 | Businesses related to sustainable forest management | <ul style="list-style-type: none"> Forest management plan area (ha), forest improvement area in forests with forest management plans (ha), wood production (m³) Area (ha) of forests certified by private organizations for sustainable forest management (FSC certification, SGEC/PEFC certification), area (ha) of forest improvement in certified forests and wood production (m³) Amount of CO₂ absorbed by forests (t-CO₂) Forest species diversity, forest stock, and understory vegetation rate | |
| 4-4 | Businesses related to the conservation and restoration of natural landscapes | <ul style="list-style-type: none"> Area (km²) where urban environment has been improved to address climate change and biodiversity through measures such as improving land cover and vegetation in urban development Amount of carbon fixed (t-CO₂) | |
| 4-5 | Businesses undertaken by or in cooperation with local governments to maintain and create urban green spaces and waterfronts, and to create water and green networks | <ul style="list-style-type: none"> Change in area of green and water amenity space before and after implementation of the business (km²) | |
| 4-6 | Businesses that contribute to reducing the burden on natural resources | <ul style="list-style-type: none"> Amount of reduction in ecological footprint of target area before and after implementation of the business (gha) or amount of reduction in value obtained by subtracting carbon footprint from ecological footprint (gha) Amount of reduction in the ecological footprint of the target area before and after the introduction of the product or service (gha) or amount of reduction in the value obtained by subtracting the carbon footprint from the ecological footprint (gha) | |

| | Minor Category | Examples of Specific Indicators Used to Calculate Environmental Benefits | Examples of Negative Environmental Impacts |
|-----|--|---|--|
| | | <ul style="list-style-type: none"> Amount of reduction in the amount of environmental impact assessed by LIME (Life cycle Impact assessment Method based on Endpoint modeling; Japanese version of the damage calculation-based environmental impact assessment method) in the target area before and after implementation of the business (EINES [Expected Increases in Number of Extinct Species]) Amount of reduction in the amount of environmental impact assessed using LIME in the target area before and after the introduction of products and services (EINES; expected increase in the number of species going extinct as a result of environmental impacts) | |
| 4-7 | Businesses that provide ICT solutions that contribute to the sustainable management of natural resources and land use (including traceability systems related to the sustainability of agricultural, forestry and marine resources, and forest management systems) | See the relevant position indicators | |

Major Category 5: Terrestrial and aquatic biodiversity(including the protection of coastal, marine, and watershed environments)

| | Minor Category | Examples of Specific Indicators Used to Calculate Environmental Benefits | Examples of Negative Environmental Impacts |
|-----|---|---|---|
| 5-1 | <p>Businesses that conserve and restore the health of ecosystems in protected areas and OECM (Other Effective area-based Conservation Measures)</p> <ul style="list-style-type: none"> - Forest ecosystems: Maintenance and conservation of forests that are balanced and arranged in a mosaic pattern, comprising various growth stages and tree species, from the perspective of realizing the multiple functions of forests (appropriate forest maintenance based on the forest plan system, inducing a transition to an uneven-aged mixed conifer and broadleaf forest by introducing broadleaf trees in a simple-storied forest, forest operations that consider the conservation of biodiversity, such as the appropriate conservation and management of natural forests and the protection of valuable wildlife etc.) - Farmland ecosystems: Reducing the use of chemical fertilizers and the risks posed by the use of chemical and pesticides in agriculture, promoting organic farming, reducing environmental impacts through proper management of livestock waste, maintaining the overall mosaic of the rural landscape, including waterways, ridges and windbreaks that provide habitat, growth and breeding grounds for a wide range of organisms, and reclamation of dilapidated farmland and abandoned fields etc. | <ul style="list-style-type: none"> ● <u>Area (km²) of protected areas and OECM (Nationally Certified Sustainably Managed Natural Sites etc.) maintained or increased by the business</u> ● Area (km²) of representative ecosystems where appropriate conservation and management has been conducted, and number of species and diversity of flora and fauna (excluding non-native species), as well as their habitat and growth conditions <ul style="list-style-type: none"> -Forest ecosystems: Species diversity, forest stock, percentage of vegetation cover in the understory vegetation, number of species, and frequency of confirmation of mammals, birds, and insects that represent the forest ecosystem etc. -Agricultural ecosystems: Number of species of birds, amphibians, and insects that represent the agricultural ecosystem and frequency of confirmation etc. - Urban ecosystems: Number of species of birds and insects that represent urban ecosystems and frequency of confirmation etc. -Freshwater ecosystems (rivers, lakes and marshes, wetlands): number of species of birds, amphibians, and fish that represent freshwater ecosystems and frequency of confirmation etc. -Coastal and marine ecosystems (tidal flats): Number of species and frequency of confirmation of sandpipers and plovers, number of species and density of benthic organisms, and number of seabird nests etc. - Coastal and marine ecosystems (seaweed beds): Number of species of seaweed beds and seagrass beds, number of species of fish and other animals, and frequency of confirmation etc. -Coastal and marine ecosystems (corals): Number of coral species, number of species and frequency of fish confirmation etc. <p>※The term "frequency of confirmation" refers to the average number of confirmations per unit of effort. For example, the average number of target species that can be confirmed per year at a single site</p> <ul style="list-style-type: none"> ● Ecosystem Continuity and Ecosystem Network Index ● Amount of carbon absorbed by ecosystems (t-CO₂) | <ul style="list-style-type: none"> ● Adverse impacts on ecosystems from large-scale land reclamation ● Adverse impacts on species other than those being monitored ● Introduction of non-native species into the target area and disturbance of the gene pool etc. <p>In addition, be aware of cases where there may be negative environmental impacts or clear inconsistencies with long-term goals depending on the nature of the business</p> |

| | Minor Category | Examples of Specific Indicators Used to Calculate Environmental Benefits | Examples of Negative Environmental Impacts |
|-----|--|---|--|
| | <p>-Urban ecosystems: Development of urban parks, preservation of green spaces, and creation of attractive waterfronts etc.</p> <p>-Freshwater ecosystems (rivers, lakes, marshes): Initiatives to restore rivers to a more natural state, and maintain and create habitats for the growth and reproduction of organisms and diverse landscapes etc.</p> <p>-Coastal and marine ecosystems: Conservation, restoration and creation of marine environments such as seagrass beds, mudflats, and coral reefs in conjunction with measures to increase fishery resources and/or use blue carbon as an absorption source etc. (including initiatives related to blue infrastructure)</p> | | |
| 5-2 | Businesses related to the conservation of threatened species (including in situ and ex situ conservation) | <ul style="list-style-type: none"> ● Recovery status of threatened species (number of individuals/habitats/localities/other indicators) ● Area/number of sites where conservation/improvement of habitats is being conducted ● Number of species/populations being bred, cultivated, or reproduced ● Number of threatened species/populations for which seeds and germ cells are being preserved | <p>The following negative impacts associated with inappropriate reintroduction into the wild</p> <ul style="list-style-type: none"> ● Disturbance of ecosystems/populations (disturbance/competitions/others of species interactions) ● Disturbance of genetic diversity and population characteristics of in situ populations ● Transmission/unintentional introduction of pathogens and parasites. Unintentional introduction of non-native species <p>In addition, be aware of cases where there may be negative environmental impacts or clear inconsistencies with long-term goals depending on the nature of the business</p> |
| 5-3 | Businesses that contribute to the prevention and reduction of negative impacts of invasive alien species | <ul style="list-style-type: none"> ● Capture Per Unit Effort (CPUE) of invasive alien species ● Area occupied by the invasive alien species (m² or km², before and after implementation of the business) ● Population of the invasive alien species identified in the area affected by the invasive alien species (before and after implementation of the business to control invasive alien species), and number or population of rare or native species identified in the area affected by the invasive alien species (selected by the | <ul style="list-style-type: none"> ● Adverse impacts on the ecosystem, such as the scattering of seeds when cutting invasive plants <p>In addition, be aware of cases where there may be negative environmental impacts or clear inconsistencies with long-term goals depending on the nature of the business</p> |

| | Minor Category | Examples of Specific Indicators Used to Calculate Environmental Benefits | Examples of Negative Environmental Impacts |
|-----|--|--|--|
| | | <p>control body) (before and after implementation of the business to control invasive alien species)</p> <ul style="list-style-type: none"> ● Number of invasive alien species control plans developed for affected areas ● Number of cases in which measures such as control were promptly taken when invasive alien species were newly confirmed in business target areas | |
| 5-4 | Businesses that maintain an appropriate distance from wild birds and animals and contribute to the mitigation of wildlife damage | <ul style="list-style-type: none"> ● Estimated population size (number of individuals) of wild birds and animals ● Capture Per Unit Effort (CPUE) for wild birds and animals ● Number of confirmed cases of mass mortality of wild birds and animals or adverse impacts on rare birds and animals threatening the survival of the species due to infectious diseases affecting wild birds and animals | <ul style="list-style-type: none"> ● Negative environmental impacts such as lead poisoning in wild birds caused by lead bullets used in the control of wild birds and animals <p>In addition, be aware of cases where there may be negative environmental impacts or clear inconsistencies with long-term goals depending on the nature of the business</p> |
| 5-5 | Businesses providing ICT solutions that contribute to biodiversity conservation (ecosystem monitoring using satellites, flying objects, IoT, wildlife damage prevention systems, and biodiversity data analysis) | See indicators for related topics | See related items |

Major Category 6: Clean transportation (such as including electric, hybrid, public, rail, non-motorised, multi-modal transportation, infrastructure for clean energy vehicles and reduction of harmful emissions)

| | Minor Category | Examples of Specific Indicators Used to Calculate Environmental Benefits | Examples of Negative Environmental Impacts |
|-----|---|--|---|
| 6-1 | Businesses that manufacture and introduce electrified vehicles (electric vehicles, fuel cell vehicles, plug-in hybrid vehicles, hybrid vehicles), trains, bicycles, and zero-emission ships (hydrogen fuel cell ships, battery ships), and develop the infrastructure necessary for their use | <ul style="list-style-type: none"> ● Amount of CO2 emissions reduced or avoided (t CO2) ※Calculated by comparing the amount of CO2 emissions that would have been emitted in the case of not implementing the business or in the case of letting things take their natural course (t-CO2) with the amount of CO2 emissions after implementing the project (t-CO2) ● Share of electrified vehicles in new car sales (%) ● Passenger transportation capacity ※Number of passengers (persons) x distance traveled (km), or number of passengers, or total transportation volume (t) x distance traveled (km), or total transportation volume (t) ● Estimated amount of CO2 emissions reduced by the business (t-CO2) ● Changes in road and rail traffic due to business implementation ● Reduction of air pollutants (e.g., particulate matter [PM], sulfur oxides [SOx], nitrogen oxides [NOx], carbon monoxide [CO], and non-methane volatile organic compounds [NMVOCs]) | <ul style="list-style-type: none"> ● Adverse impacts on ecosystems from large-scale land reclamation ● Adverse environmental impacts from inappropriate mining, use and disposal of metals such as rare metal ● Increased noise, vibration, and air pollution due to concentration in certain locations or periods of time ● Noise and waste near business locations <p>In addition, be aware of cases where there may be negative environmental impacts or clear inconsistencies with long-term goals, depending on the nature of the business</p> |
| 6-2 | Businesses that improve the efficiency of the logistics system through systematic development of logistics bases, consolidation of transportation networks, modal shifts, and shared transportation and delivery | | |
| 6-3 | Businesses introducing equipment (such as digital tachographs) to support eco-driving | | |
| 6-4 | Businesses to develop facilities for park -and-ride and car-sharing | | |
| 6-5 | Businesses related to sustainable marine transport (including businesses that contribute to the development of Carbon Neutral Ports (introduction of decarbonized cargo handling equipment and introduction of onshore power supply facilities for vessels at berth), prevention of oil fuel spills, and improvement of recovery facilities and waste management in ports and terminals | <ul style="list-style-type: none"> ● Amount of CO2 emissions reduced (t-CO2) ● Amount of energy saved (MJ) ● Amount of oil spilled annually (tons/year) ● Number of oil spills annually (incidents/year) | |

Major Category 7: Sustainable water and wastewater management(including sustainable infrastructure for clean and/or drinking water, wastewater treatment, sustainable urban drainage systems and river training and other forms of flooding mitigation)

| | Minor Category | Examples of Specific Indicators Used to Calculate Environmental Benefits | Examples of Negative Environmental Impacts |
|-----|--|---|--|
| 7-1 | Businesses that sustain the water cycle, such as watershed cultivation and rainwater infiltration into the soil (including groundwater preservation and the development of green infrastructure) | <ul style="list-style-type: none"> ● Annual water savings (e.g., total annual water consumption [m³/year] before and after implementation of the business, and percentage reduction in water consumption before and after implementation of the business) ● Annual wastewater treatment efficiency (e.g., the amount of wastewater treated before and after implementation of the business, the amount of wastewater reuse or reduction contribution [m³/year], and the reduction contribution ratio [%]) ● Amount of rainwater recycled (m³) ● Area of developed rainwater infiltration facilities (ha) | <ul style="list-style-type: none"> ● Adverse impacts on ecosystems due to large-scale land reclamation ● The introduction of inappropriate plantings of non-native species ● Adverse impacts on ecosystems due to discharge of concentrated water ● Adverse impacts on global warming due to the use of inefficient equipment and methods <p>In addition, be aware of cases where there may be negative environmental impacts or clear inconsistencies with long-term goals, depending on the nature of the business</p> |
| 7-2 | Businesses that develop facilities for flood prevention | <ul style="list-style-type: none"> ● Decrease in inundation area (e.g., the estimated inundation area [ha] during heavy rains that is expected to decrease as a result of the business) | |
| 7-3 | Businesses related to clean water and drinking water infrastructure (including water supply development and desalination businesses) | <ul style="list-style-type: none"> ● Number of beneficiaries (e.g., number of people/households who will gain access to water as a result of the business) | |
| 7-4 | Businesses related to urban drainage systems (including the development of sewage systems, sewage sludge management, and urban drainage systems that prevent the discharge of pollutants) | <ul style="list-style-type: none"> ● Amount of water pollutants (toxic substances [e.g., cadmium], chemical oxygen demand [COD], biochemical oxygen demand [BOD]) reduced by the business activities and discharged to public waters (t) | |
| 7-5 | Water-efficient technologies, equipment and water management activities that reduce water supply throughout the supply chain | <ul style="list-style-type: none"> ● Water savings rate (%) ● Water footprint reduction (m³) | |

Major Category 8: Climate change adaptation(including efforts to make infrastructure more resilient to impacts of climate change, as well as information support systems, such as climate observation and early warning systems)

| | Minor Category | Examples of Specific Indicators Used to Calculate Environmental Benefits | Examples of Negative Environmental Impacts |
|-----|--|--|---|
| 8-1 | Agriculture, forestry and fisheries: Businesses related to the development and introduction of crop varieties that are resistant to climate change and the introduction of low environmental impact agriculture | <ul style="list-style-type: none"> Area (ha) planted with high-temperature resistant varieties (staple rice) | <ul style="list-style-type: none"> Adverse environmental impacts on other environmental factors, such as adverse impacts on the natural environment and ecosystems caused by the business (including the construction and operation phases of facilities and equipment) <p>In addition, be aware of cases where there may be negative environmental impacts or clear inconsistencies with long-term goals, depending on the nature of the business</p> |
| 8-2 | Water environment and water resources: Businesses related to the efficient use of water resources and the introduction of measures against drought | <ul style="list-style-type: none"> Drought frequency (assumption), which decreases depending on the business | |
| 8-3 | Natural ecosystems: Businesses related to the development of green infrastructure, such as Ecosystem-based Adaptation (EbA) and Ecosystem-based Disaster Risk Reduction (ECO-DRR) | <ul style="list-style-type: none"> Comparison of estimated damage costs with and without the functions of Eco-DRR Slope collapse prevention function: amount of sediment that can be trapped | |
| 8-4 | Natural disasters and coastal zones: In logistics, railways, ports, airports, roads, rivers, water supply infrastructure, waste management facilities, road safety facilities and private real estate, businesses that strengthen disaster prevention and mitigation functions while considering the natural environment and biodiversity conservation (including projects that contribute to national resilience in response to climate change adaptation) | <ul style="list-style-type: none"> Exposure to climate change-related disasters reduced by the business (estimated) (e.g., estimated inundation area [ha] during heavy rains reduced by the business) Percentage of properly maintained coastal forests (%) Total length of river improvement businesses that consider the effects of climate change (km) | |
| 8-5 | Health: Businesses related to the provision of weather information and the Wet-Bulb Globe Temperature (WBGT) index, as well as alerts, dissemination of information on prevention and coping methods, providing information on the | <ul style="list-style-type: none"> Reduction in the number of heat illness deaths per year (persons/year),etc. | |

| | Minor Category | Examples of Specific Indicators Used to Calculate Environmental Benefits | Examples of Negative Environmental Impacts |
|-----|--|---|--|
| | occurrence of heat, the introduction of air conditioning and dehumidifiers, and the creation of cooling spots (e.g., sunshades, misting) | | |
| 8-6 | Industrial and economic activities: Businesses that ensure the sustainability of their businesses, such as measures to deal with weather-related disasters at business sites, relocation from areas of high climate risk, heat stroke prevention measures, and initiatives to ensure a stable supply of raw materials | <ul style="list-style-type: none"> ● Reduction in number of customers and employees affected by weather-related disasters (people) ● Reduction in repair costs due to weather-related disasters (monetary amount) ● Capacity of installed renewable energy and battery storage (MWh) | |
| 8-7 | National and urban life: Businesses related to the development of sewerage facilities to prevent inundation caused by rainwater and the development of a system that allows for the prompt and appropriate implementation of emergency measures and restoration in the event of a reduction in water supply due to damage to facilities | <ul style="list-style-type: none"> ● Rate of improvement of combined sewage system (%) ● Number of organizations that have prepared maps showing areas expected to be flooded in the event of the largest class of internal flooding | |
| 8-8 | Businesses related to meteorological observation and monitoring, early warning systems, and ICT solutions that contribute to climate change adaptation | <ul style="list-style-type: none"> ● Number of beneficiaries of early warning systems (e.g., number of people using the app), improved accuracy (e.g., improved probability of accuracy and reduced forecast time) ● For elements contributing to adaptation to climate change, see relevant indicators | |

Main Category 9: Circular economy adapted products, production technologies and processes (such as the design and introduction of reusable, recyclable and refurbished materials, components and products; circular tools and services); and/or certified eco-efficient products

| | Minor Category | Examples of Specific Indicators Used to Calculate Environmental Benefits | Examples of Negative Environmental Impacts |
|-----|---|--|--|
| 9-1 | Businesses that produce environmentally friendly products, including the development and introduction of environmentally friendly products, products that have received eco-labels or certification, packaging made from materials such as recycled materials and renewable resources that have a positive effect on reducing environmental impact, tools and services related to the circular economy (such as sharing, subscription, and repair and maintenance that promote the appropriate long-term use of products and lead to a reduction in environmental impact), and the construction and renovation of industries and workplaces used to manufacture such products | <ul style="list-style-type: none"> ● Amount of CO2 emission reduction per ton of product (t-CO2/t) ※CO2 emissions per ton of product are calculated by comparing before and after implementation of the business ● Amount (t) and percentage (%) of materials with reduced environmental impact, such as recycled materials and renewable resources, used ● Amount of raw material use reduction (t) ※Calculated by comparing the amount of raw materials used in the implementation of the business (t) ● For products that are reused, the average number of times they are used before reaching the end of their useful life ● Percentage of raw materials sourced from sustainable supply chains (%) ● Percentage of products biodegraded or recycled at end of life (%) ● Percentage of plastic containers and packaging that can be reused, recycled, or composted (%) ● Amount of CO2 emissions (t-CO2) and waste (t) avoided through use of tools and services | <ul style="list-style-type: none"> ● Adverse impacts on ecosystems due to large-scale land reclamation ● Increased life cycle greenhouse gas emissions ● Leakage of hazardous substances used in the manufacturing phase of products ● Adverse environmental impacts due to inappropriate mining and the use and disposal of metals such as rare metals <p>In addition, be aware of cases where there may be negative environmental impacts or clear inconsistencies with long-term goals depending on the nature of the business</p> |
| 9-2 | Businesses related to the research and development and demonstration of technologies and products that contribute to the reduction of greenhouse gases (technologies and products related to the projects listed in the related items, technologies related to hydrogen, ammonia, the separation, recovery, storage and use of CO2, next-generation aircraft, zero-emission ships [such as ammonia-fueled ships and hydrogen-fueled ships]) and SAF [sustainable aviation fuel]). These are examples only and are not limited.) | See indicators for related items such as Major Categories 1, 2, and 6 | <ul style="list-style-type: none"> ● Adverse impacts on other environmental factors, such as the impact of business operations on the natural environment and ecosystems ● In the case of businesses related to fuels such as hydrogen and ammonia, an increase in life cycle greenhouse gas emissions ● In the case of businesses related to zero-emission ships, the negative environmental impact of nitrous oxide emissions from the combustion of ammonia fuel <p>See the relevant items in Major Categories 1, 2, and 6. Be aware of cases where there may be negative environmental impacts or clear inconsistencies with long-term goals, depending on the nature of the business</p> |

Major Category 10: Green buildings that meet regional, national or internationally recognized standards or certifications for environmental performance

| | Minor Category | Examples of Specific Indicators Used to Calculate Environmental Benefits | Examples of Negative Environmental Impacts |
|------|--|--|--|
| 10-1 | Businesses that construct or renovate new buildings that either meet national standards or have obtained environmental certification demonstrating high performance under nationally and internationally recognized environmental certification systems, such as CASBEE and LEED, regarding green buildings that have energy-saving performance and take a wide range of considerations into account, such as the reduction of life-cycle greenhouse gas emissions, the use of materials with low environmental impact, water use, waste management, and the conservation and creation of biological environments. | <p>[Energy efficiency]</p> <ul style="list-style-type: none"> ● Annual energy consumption per unit floor area or total floor area (MJ/m²·year) ● Percentage reduction in energy consumption or contribution to reduction (%) ● Percentage of renewable energy produced at the facility in comparison to total energy consumption (%) <p>[Carbon performance]</p> <ul style="list-style-type: none"> ● Annual CO₂ emissions per unit of floor area or total floor area (kgCO₂/m²·year) ● Annual reduction in greenhouse gas emissions and contribution to reduction (t-CO₂ equivalent/year) ● Annual reduction and contribution rate of carbon emissions (%) ● Greenhouse gas emissions and reductions (t-CO₂ equivalent) or percentage (%) over life cycle of building ● Carbon storage (t-CO₂) <p>[Materials]</p> <ul style="list-style-type: none"> ● Use of materials that disclose information on environmental impacts (type, number of products) ● Amount (t, m³) and percentage (%) of recycled materials and renewable resources used <p>[Water resource use efficiency]</p> <ul style="list-style-type: none"> ● Annual water use per unit of floor area or total floor area (m³/m²·year) ● Total annual water consumption before and after implementation of the business (m³/year) or amount of water consumption reduced before and after implementation of the business (%) ● Annual amount of rainwater collected and reused (m³/year) <p>[Waste Management]</p> <ul style="list-style-type: none"> ● Annual reduction, reuse, and recycling of waste (as a percentage of total waste [%], or reduction amount, reuse amount, recycling amount [t/year]) <p>[Number of certifications earned and status of certification]</p> <ul style="list-style-type: none"> ● Types and ratings of CASBEE and LEED certifications earned | <p>See related items under Major Categories 1-9</p> <p>In addition, be aware of cases where there may be negative environmental impacts or clear inconsistencies with long-term goals, depending on the nature of the business</p> |

※Among the new constructions or renovations of high-energy-saving buildings listed in 2-1, those that obtain environmental certification may, in practice, be included as part of 10-1.