

ASSESSMENT

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Contacts

Natasha Talisca
Adrianto
ALA Sustainable Finance Assessments
Moody's Japan K.K.
natashatalisca.adrianto@moody's.com

MJ Park
Analyst-Sustainable Finance Assessments
mj.park@moody's.com

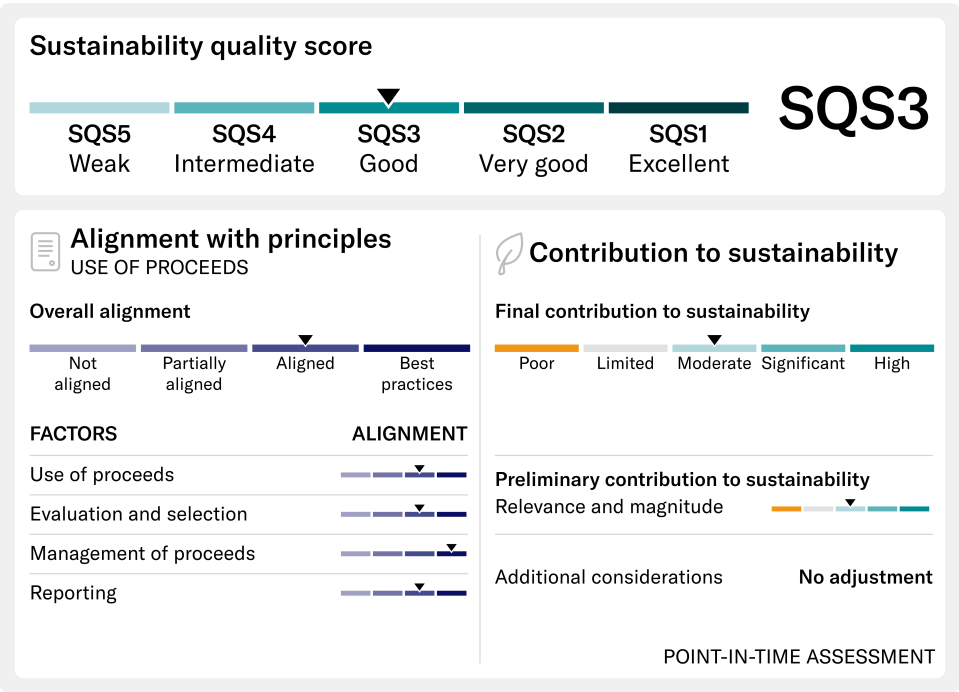
Maisam Hasnain, CFA
SVP Mgr-Sustainable Finance Assessments
maisam.hasnain@moody's.com

MUFG Bank, Ltd.

Second Party Opinion – Foreign currency-denominated (FCY)
Green Deposit Framework Assigned SQS3 Sustainability
Quality

Summary

We have assigned an SQS3 Sustainability Quality Score (good) to MUFG Bank, Ltd.'s (MUFG) foreign currency-denominated (FCY) green deposit framework (version 3.1) dated 2024. The bank has established its use-of-proceeds framework to finance ten eligible green categories. The framework is aligned with the four core components of the International Capital Market Association's (ICMA) Green Bond Principles (GBP) 2025, and the Loan Market Association, Asia Pacific Loan Market Association and Loan Syndications and Trading Association's (LMA/APLMA/LSTA) Green Loan Principles (GLP) 2025. The framework demonstrates a moderate contribution to sustainability.



Scope

We have provided a Second Party Opinion (SPO) on the green credentials of MUFG Bank, Ltd.'s foreign-currency denominated (FCY) green deposit framework (version 3.1), including the framework's alignment with the four core components of the ICMA's GBP 2025, and the LMA/APLMA/LSTA's GLP 2025. Under its use-of-proceeds framework, the bank plans to accept green deposits to finance projects in ten eligible green categories, as outlined in Appendix 3 of this report.

Our assessment is based on the foreign currency-denominated (FCY) green deposit framework (version 3.1) dated 2024, and our opinion reflects our point-in-time assessment¹ of the details contained in this version of the framework, as well as other public and non-public information provided by the bank.

We produced this SPO based on our [Assessment Framework: Second Party Opinions on Sustainable Debt](#), published in October 2025.

Issuer profile

MUFG Bank, Ltd. is a wholly owned banking subsidiary of Mitsubishi UFJ Financial Group, Inc., one of the world's largest financial groups and Japan's largest banking group. The bank provides a comprehensive range of financial services, including commercial banking, corporate and investment banking, transaction banking, treasury services, and wealth-related solutions to retail, corporate, and institutional clients globally. The bank has a capital stock of ¥1,711,958 million. As of 31 March 2025, the bank employed 31,427 employees and operated an extensive network comprising 415 domestic branches in Japan and 100 overseas branches, supporting clients across Japan and in around 40 countries worldwide.

The bank faces exposure to environmental risks, specifically from carbon transition risk because of its exposure to carbon-intensive sectors. Like its peers, the bank is facing mounting regulatory and stakeholder pressure to meet broader carbon transition goals. The bank's physical climate risks are manageable. The bank faces exposure to social risks. Changing demographics are a particular concern in Japan, where the population has been both shrinking and aging over the past few decades.

Strengths

- » Green deposit proceeds are expected to be fully allocated to existing eligible assets when deposits are accepted, consistent with the market best practice of an allocation period of less than 24 months
- » The bank has committed to annual allocation and impact reporting until maturity of the green deposits
- » The bank has committed to obtaining an independent annual external review of allocation and impact reporting

Challenges

- » Some eligible categories are supported by broadly defined thresholds, limiting visibility into assessing the full extent of expected impact
- » Although the framework is in line with current market practices, inclusion of general corporate purpose loans to pure-play companies constitutes a nonstandard use of proceeds susceptible to specific challenges in terms of asset-level adherence to sustainability objectives, allocation and traceability, impact reporting, and an increased risk of double counting

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Alignment with principles

MUFG's FCY green deposit framework (version 3.1) is aligned with the four core components of the ICMA's GBP 2025, and the LMA/APLMA/LSTA's GLP 2025. For a summary alignment with principles scorecard, please see Appendix 1.

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|--|--|
| ☒ Green Bond Principles (GBP) | ☒ Green Loan Principles (GLP) |
| ☐ Social Bond Principles (SBP) | ☐ Social Loan Principles (SLP) |
| ☐ Sustainability-Linked Bond Principles (SLBP) | ☐ Sustainability Linked Loan Principles (SLLP) |

Use of proceeds



Clarity of the eligible categories – **ALIGNED**

MUFG has clearly communicated the nature of eligible expenditures and defined eligibility and exclusion criteria for nearly all eligible project categories. The proceeds may finance capital and operating expenditures, and eligible projects may be located globally across regions where MUFG operates. While the framework includes technical criteria and thresholds for a number of eligible activities, quantitative thresholds or detailed technical criteria are not established across all categories.

The cornerstone of the ICMA's Green Bond Principles is the full utilization of net bond proceeds for eligible projects with clear environmental or social benefits. Some of the contemplated types of financing, notably pure-play financing, could conceivably introduce concerns in terms of alignment with sustainability objectives, allocation and traceability at the asset level, or impact reporting.

The framework permits the allocation of proceeds to general-purpose loans provided to pure-play companies whose revenue from eligible activities represents at least 90% of the rolling average revenue over the previous five years. Although the use of proceeds within the borrower is not tracked to specific eligible expenditures, MUFG has established eligibility requirements intended to ensure a strong link between the borrower's overall business activities and the environmental objectives of the framework. In particular, eligible borrowers must derive at least 90% of revenue from activities aligned with the framework's eligible categories and must not engage in activities captured by the framework's exclusion criteria.

To identify and evaluate eligible pure-play entities, MUFG applies internal assessment procedures that include a review of financial statements, segment information and other supporting documentation to verify compliance with the 90% revenue threshold. Eligible entities are also subject to MUFG's standard credit review processes, environmental and social risk management procedures, and the project evaluation and selection processes established under its sustainable finance framework. In addition, MUFG has communicated that proceeds allocated to pure-play loans will be tracked and managed within the green deposit portfolio in the same manner as other eligible assets.

MUFG has also established measures intended to support ongoing eligibility monitoring and allocation integrity. Pure-play loans remain subject to annual eligibility reviews, including verification of continued compliance with the 90% revenue threshold, and loans that no longer satisfy the eligibility requirements will be removed from the green deposit portfolio through the annual reconciliation process. The framework also commits to avoiding double counting of eligible projects financed through other thematic financial instruments.

With these mitigation measures in place, coupled with the 90% revenue threshold, we consider the structure of the framework to be in line with current market practices and sufficient to largely mitigate the potential associated risks.

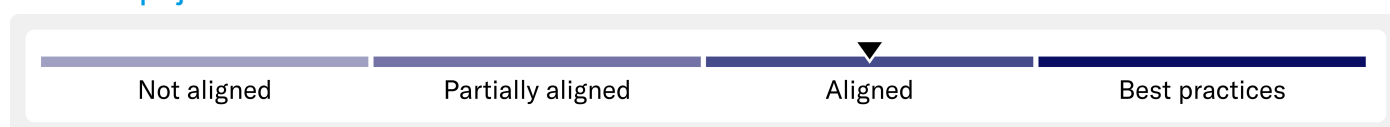
Clarity of the environmental or social objectives – ALIGNED

MUFG has identified relevant environmental objectives for all 10 eligible project categories. The objectives are coherent with recognized international standards, including the United Nations' (UN) Sustainable Development Goals (SDGs), as detailed in Appendix 2.

Clarity of expected benefits – ALIGNED

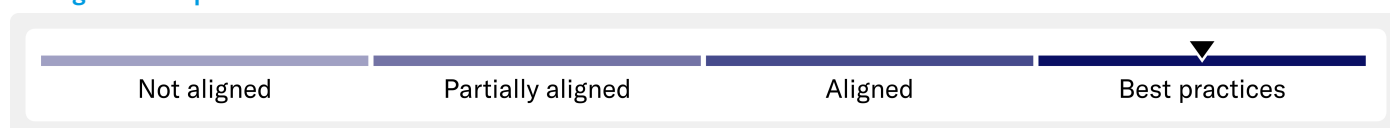
MUFG has identified relevant and measurable expected environmental benefits for nearly all eligible project categories. While not formally included in the framework documentation, MUFG has provided indicative impact indicators for five eligible categories: renewable energy, green buildings, environmentally sustainable management of living natural resources and land use, clean transportation, and eco-efficient and/or circular economy adapted products, production technologies and processes (see Appendix 3). For the remaining five eligible categories, MUFG has shared examples of impact indicators under consideration for future reporting; however, these specific indicators have not yet been formally established or committed to, but will be finalized in the future.

MUFG does not disclose the expected share of refinancing or define a maximum look-back period. Eligible assets for green deposit allocation are selected from assets that have already been financed, and green deposit funds may also be allocated to refinancing.

Process for project evaluation and selection**Transparency and clarity of the process for defining and monitoring eligible projects – ALIGNED**

MUFG has established a structured process for assessing and selecting eligible projects, which the issuer confirmed is in line with what was outlined in MUFG's sustainable finance framework dated July 2024. Eligible projects are evaluated against the applicable eligibility criteria, with relevant MUFG functions involved in the evaluation and selection process and the final selection undertaken through the bank's internal governance process. MUFG communicates its evaluation and selection process to deposit holders before deposits are accepted and during the product proposal process.

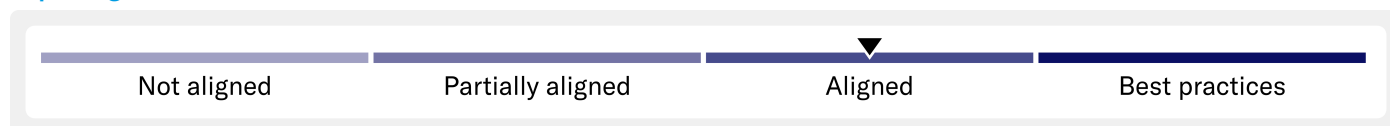
MUFG also applies processes to identify and manage E&S risks associated with eligible projects and communicates these processes to deposit holders. In addition to the eligibility and exclusion criteria specific to each category, MUFG utilizes its environmental and social policy framework to applicable financing, which includes conducting standard due diligence and, where necessary, enhanced due diligence for activities identified as 'high-caution' activities. For applicable large-scale projects, MUFG also conducts E&S due diligence and monitoring in accordance with the Equator Principles. These processes serve as an additional risk mitigation measure. An eligible loan that no longer meets the applicable eligibility criteria will be removed from the green deposit portfolio as part of the annual reconciliation process.

Management of proceeds**Allocation and tracking of proceeds – BEST PRACTICES**

Green deposit proceeds are managed through MUFG's general account, while eligible assets are separately tracked and managed within green deposit portfolios. MUFG monitors eligible loan balances monthly to ensure that sufficient eligible assets are maintained relative to the green deposit balance and to prevent double counting with other green finance products. The balance of eligible loans and green deposits is also subject to an annual reconciliation process.

MUFG expects green deposits to be fully allocated to existing eligible assets at the time deposits are accepted and therefore does not prescribe a separate maximum allocation period. Pending full allocation, any unallocated amounts will be held in cash or cash-equivalent instruments in accordance with MUFG's treasury management practices. The proceeds management process will be disclosed to deposit holders.

Reporting



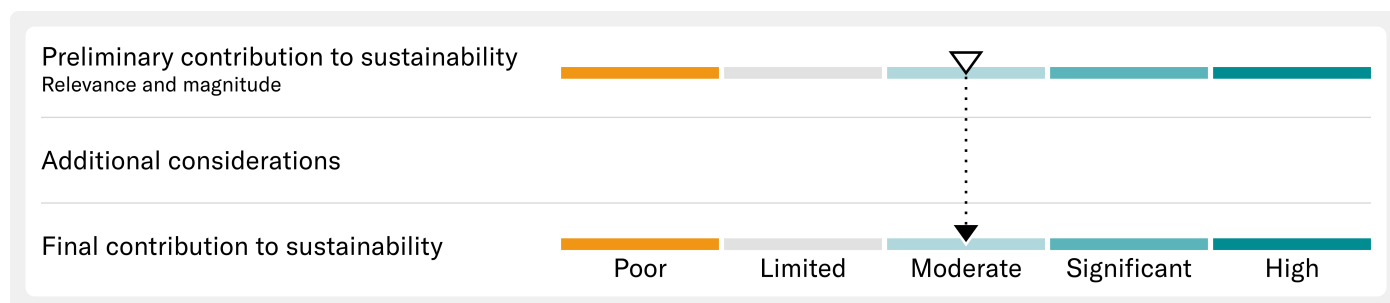
Reporting transparency – ALIGNED

MUFG commits to providing annual reporting for as long as green deposits remain outstanding and in the event of any material developments. The issuer has also committed to providing annual reporting directly to green deposit holders. Allocation reporting will disclose the outstanding balance allocated to eligible categories and the associated expected sustainability benefits.

Since updating its green deposit framework (FCY) (version 3.1) in 2024 (version 1.0 originally published in 2022), MUFG has reported allocation information only. The issuer has confirmed to us that impact reporting will be introduced beginning with its next annual reporting cycle. Accordingly, MUFG has confirmed that both allocation reporting and future impact reporting will be subject to independent external review going forward. The issuer has also indicated that it may disclose the methodologies and assumptions underpinning reported environmental impacts in future impact reports; however, there is no firm commitment at this stage to provide such information.

Contribution to sustainability

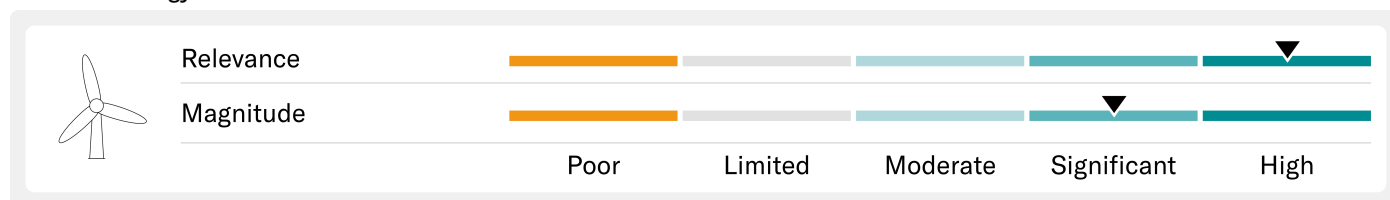
The framework demonstrates a moderate overall contribution to sustainability. This reflects a preliminary contribution to sustainability score of moderate, based on the relevance and magnitude of the eligible project categories, and we have not made an adjustment to the preliminary score based on additional contribution to sustainability considerations.



Preliminary contribution to sustainability

The preliminary contribution to sustainability is moderate, based on the relevance and magnitude of the eligible project categories. Based on the information provided by the bank, they will mainly allocate to the renewable energy, green building, clean transportation and sustainable water and wastewater management categories, and therefore we have assigned a higher weight to these categories in our assessment. We have also assigned a higher weight to the energy efficiency category based on the bank's historical allocation. A detailed assessment by eligible category has been provided below.

Renewable energy

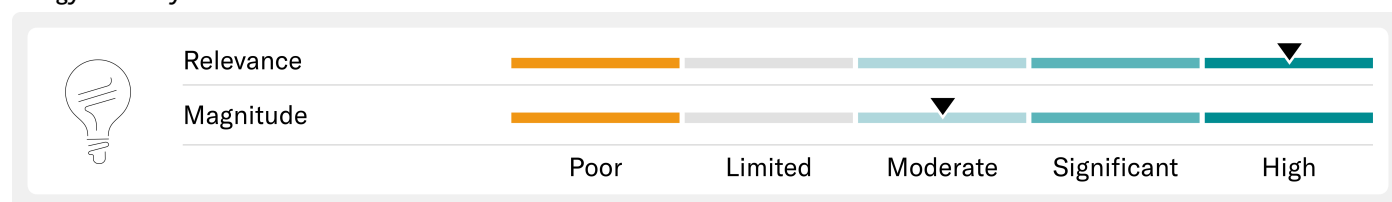


The relevance of this category is high. Investments in renewable energy projects support climate change mitigation, a highly relevant sustainability objective globally and for both the banking sector and the bank. Renewable energy is particularly relevant to the bank given its significant financing activities in the sector, including approximately ¥9.4 trillion in cumulative project finance for renewable energy and environment-related projects between fiscal 2019 and fiscal 2025.² Under the International Energy Agency's Net Zero Emissions Scenario, the share of electricity generated from renewable sources would need to increase from approximately 29% in 2020

to more than 60% by 2030 and nearly 90% by 2050, highlighting the need for continued investment in renewable energy generation and supporting infrastructure.³ The category is also highly relevant in Japan, where further deployment of renewable energy will be needed to support the country's long-term decarbonization objectives, with Japan's Seventh Strategic Energy Plan targeting an increase in the share of renewable energy in the electricity mix to approximately 40% to 50% by fiscal year 2040, from around 22.9% in fiscal year 2023.⁴

The magnitude of this category is significant. Most eligible renewable energy technologies are expected to generate strong environmental benefits. Solar, wind, ocean, tidal and geothermal projects are subject to clearly defined criteria and are considered best available technologies with limited externalities. While an EIA is not explicitly required for concentrated solar power (CSP) and offshore wind projects, MUFG will follow the Equator Principles and its environmental and social policy framework to applicable financing. Eligible grid investments are also subject to robust criteria, with transmission and distribution infrastructure either dedicated to renewable energy or required to support at least 90% renewable electricity. For bioenergy projects, while woody biomass feedstock is not explicitly excluded and there are no specific methane-leakage monitoring requirements for anaerobic digestion processes, risks related to biomass sourcing are partly addressed through recognized certification and feedstock requirements. Separately, a lifecycle emissions threshold of 100 g CO₂/kWh for non-waste biomass projects helps limit their overall emissions intensity. In addition, MUFG conducts sector-specific E&S due diligence, which includes impacts on primary forests, the human rights of local communities, competition between fuel and food uses, fuel sustainability, lifecycle GHG emissions.

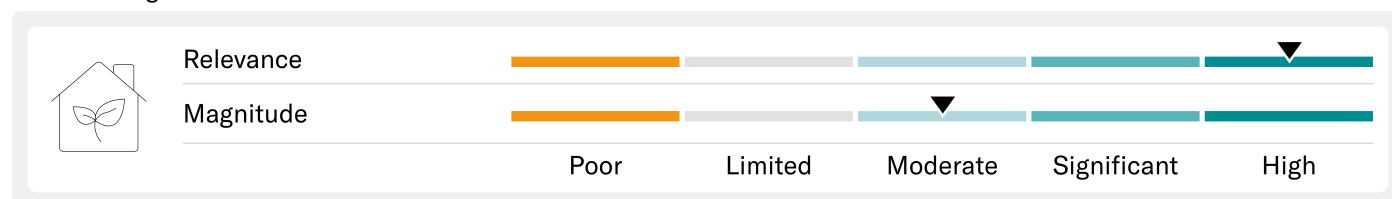
Energy efficiency



The relevance of the category is high. Improving energy efficiency remains a critical component of the global energy transition and efforts to reduce greenhouse gas emissions. Japan's Seventh Strategic Energy Plan also identifies energy conservation and efficiency improvements as important measures to enhance energy security and support carbon neutrality.⁵ The category is particularly relevant to the bank given its role in financing technologies that support emissions reductions across the economy, including in sectors represented in its lending portfolio, such as real estate.

The magnitude of this category is moderate. Eligible projects will use proven technologies to improve energy efficiency within buildings, including LEDs, smart lighting solutions, daylight controls, building management systems (BMS) and heating, ventilation and air conditioning (HVAC) upgrades that are not powered by fossil fuels. For energy-efficient equipment and appliances, eligible projects require third-party environmental or energy performance certification, such as ENERGY STAR. However, the framework does not establish minimum energy-efficiency improvement thresholds or energy-savings requirements, limiting visibility into the scale of the expected environmental benefits.

Green building



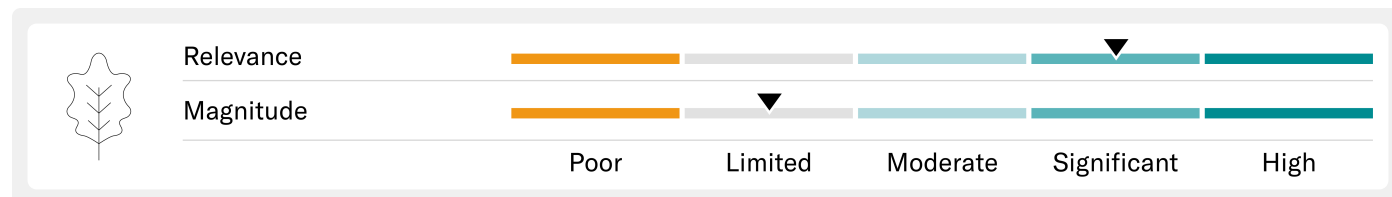
The relevance of this category is high. Investments in green buildings support climate change mitigation, a highly relevant sustainability objective for the issuer, the banking sector and in the global and national context. Buildings represent around 30% of global energy demand, making improvements in building efficiency and environmental performance an important lever for decarbonization.⁶ The category is also relevant in Japan, where improving the environmental performance of buildings forms an important component of the

country's broader decarbonization strategy under Japan's Seventh Strategic Energy Plan.⁷ The category is also relevant for the bank, given its exposure to the real estate sector through its lending activities.

The magnitude of this category is moderate. Eligible green building projects are expected to generate long-term environmental benefits through improved building energy performance and reduced operational greenhouse gas emissions. The eligibility criteria reference recognized standards, including Climate Bonds Initiative (CBI) criteria, Leadership in Energy and Environmental Design (LEED) Gold or above, Building Research Establishment Environmental Assessment Method (BREEAM) Excellent or above and DBJ Green Building Certification 4 Stars or above. Building upgrades following the CBI Low Carbon Buildings Standard must achieve at least a 30% reduction in carbon dioxide emissions compared with the baseline. However, the certification-based criteria in the framework does not prescribe uniform quantitative operational energy or carbon emissions thresholds for all eligible buildings. The framework also does not include specific requirements addressing embodied carbon or potential operational carbon lock-in. Nonetheless, potential negative externalities are partially mitigated by exclusion of buildings designed for fossil fuel-related and specified controversial activities.

This limitation is particularly relevant for data centers, which are not excluded and are not subject to a uniform data-center-specific PUE threshold under the framework. MUFG has provided asset-level information showing that at least one data center asset in the current Eligible Asset Pool has a PUE below 1.4, and MUFG Bank has applied quantitative PUE criteria in other green finance transactions. This provides additional visibility into the energy performance of certain data center assets. However, because these criteria are not incorporated into this framework and therefore do not apply to all data center projects financed under it, such data center projects could achieve a lower magnitude on a standalone basis.

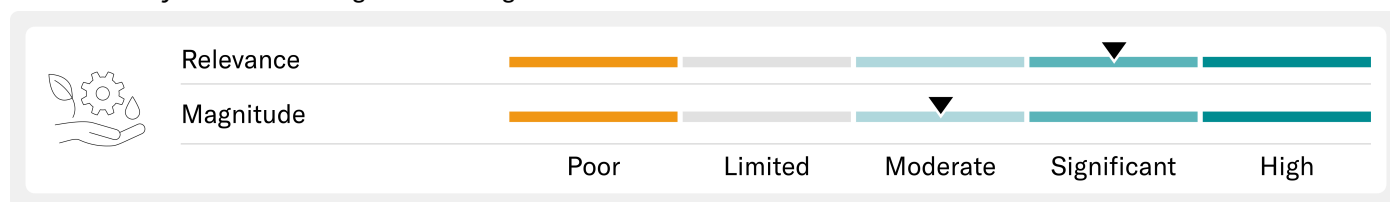
Resource efficiency & pollution prevention and control



The relevance of this category is significant. Financing pollution prevention and control facilities supports waste recycling and resource efficiency. Waste management remains an important global challenge, with municipal solid waste generation projected to increase from around 2.1 billion tonnes in 2023 to 3.8 billion tonnes by 2050.⁸ Although Japan has an established waste management system, municipal solid waste recycling rates remain at 19.3%, highlighting the continued importance of investment in waste recycling and resource recovery activities.⁹ While these activities are relevant globally and in Japan, they are generally less material to the bank than renewable energy and other climate change mitigation activities. This assessment also reflects the currently limited share of the bank's financing activities attributable to this category.

The overall magnitude of this category is limited. Financing projects related to facilities that process recyclable waste into secondary raw materials are anticipated to help reduce pollution. However, the framework does not require all recycling projects to explicitly follow the waste hierarchy and provides limited information on the recycling methods and performance thresholds that may apply, reducing visibility into the expected contribution to the stated objective. For landfill gas recovery, eligible projects must involve closed or decommissioned landfills and achieve a gas capture efficiency above 75%, which helps mitigate methane emissions associated with landfill gas, however does not fully follow other relevant criteria in line with CBI's waste management criteria. Additionally, the issuer does not specify other quantitative standards such as recycling efficiency, resource recovery rate, landfill avoidance rate, or facility energy consumption and emission intensity. E&S risks are mitigated to some extent through the framework's eligibility restrictions, and exclusion criteria. Eligible projects exclude plastics, rubber, tire-derived fuels, landfill gas flaring and gas capture from operational landfills.

Environmentally sustainable management of living natural resources and land use



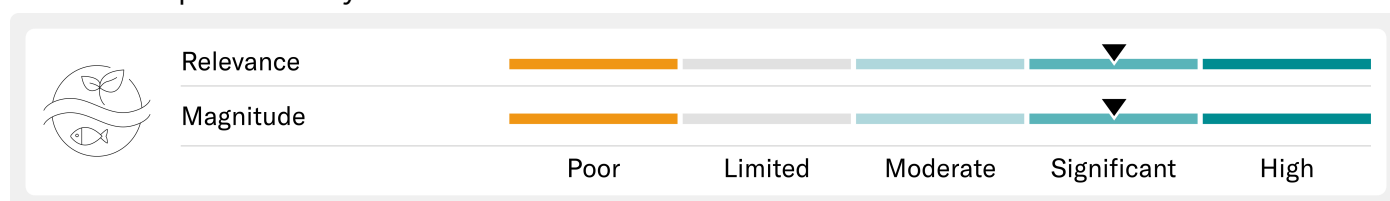
The relevance of this category is significant. Sustainable management of natural resources and land use addresses important environmental issues globally, particularly deforestation and the environmental impacts of agricultural practices. In 2025, the world lost 10.6 million acres of tropical primary rainforest, highlighting the continued importance of sustainable forestry and land management.¹⁰ While deforestation is less material in Japan, where forest cover has remained broadly stable since 1990,¹¹ the eligible activities address broader natural resource and land use challenges across the bank's global financing activities. However, these issues are not among the most material sustainability considerations for the bank.

The overall magnitude of this category is moderate. The majority of these projects will obtain internationally recognized certifications across these sectors. Deforestation of primary or high-conservation-value forests, activities within UNESCO World Heritage Sites or legally protected areas unless consistent with conservation objectives, intensive livestock production, or activities associated with deforestation, illegal logging, and genetically modified crops are excluded from eligible financing. Restoration activities must also use species well adapted to the conditions of the site.

These safeguards are supplemented by MUFG's sector-specific due diligence for forestry and agriculture, which considers respect for free, prior and informed consent (FPIC), expectations regarding no deforestation, no peat and no exploitation (NDPE), internationally recognized certifications, and supply-chain management and traceability. For applicable large-scale projects, MUFG also conducts assessments under the Equator Principles with reference to IFC Performance Standard 6 and the mitigation hierarchy. Together, these measures provide additional mitigation of land-use and biodiversity risks beyond the category-specific eligibility and exclusion criteria.

However, the framework does not explicitly require the use of native species or prohibit large-scale monoculture plantations, and the broader due diligence measures do not fully substitute for such project-level technical requirements. In addition, the expected environmental impact of urban green projects is constrained because the framework does not distinguish projects undertaken primarily for landscape or recreational purposes or prioritize native plant species. For soil remediation, the eligibility criteria also lack technical detail on the remediation technologies and methods to be used.

Terrestrial and aquatic biodiversity



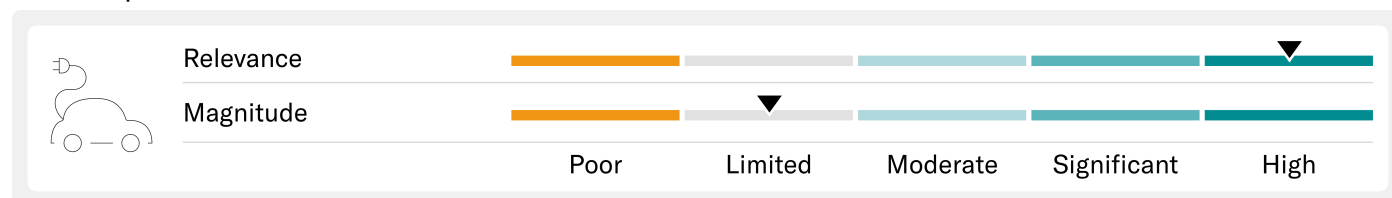
The relevance of this category is significant. Terrestrial and aquatic biodiversity conservation addresses an important environmental issue globally and in Japan. Globally, 44% of reef-building corals, 38% of sharks and rays and 26% of freshwater fishes are threatened with extinction on the IUCN Red List.¹² Aquatic biodiversity loss is also relevant in Japan, where threatened marine species include those dependent on tidal-flat and coastal habitats.¹³ However, biodiversity conservation is not among the most material sustainability issues for the bank.

The magnitude of this category is significant. Eligible fisheries and aquaculture projects are expected to generate positive environmental benefits and are required to be certified by the Marine Stewardship Council (MSC) or Aquaculture Stewardship Council (ASC) standards, which provide safeguards against a range of potential environmental externalities.

These certification requirements are reinforced by MUFG's broader E&S risk management framework, which designates fisheries and aquaculture as 'high caution' activities and explicitly identifies risks arising from the construction and operation of aquaculture facilities,

including eutrophication, red tides, and water pollution caused by antibiotics and other chemicals. As part of its client assessments, MUFG also considers potential involvement in illegal, unreported and unregulated (IUU) fishing and reviews the status of third-party certification. In addition, applicable large-scale projects may be subject to due diligence under the Equator Principles, with reference to IFC Performance Standard 6. Taken together, the mandatory certification criteria and MUFG's sector-specific due diligence provide complementary controls for identifying and mitigating material fisheries- and aquaculture-related E&S risks.

Clean transportation

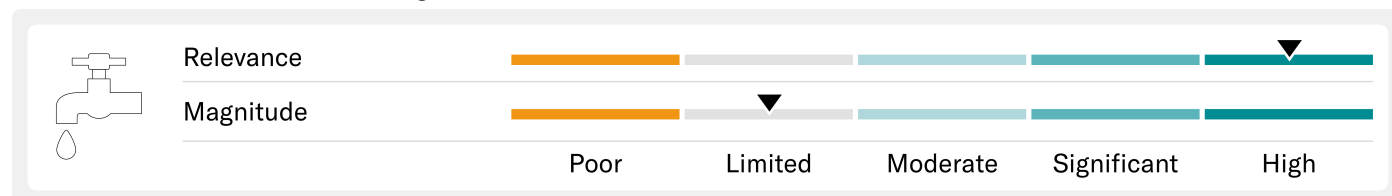


The relevance of this category is high. Financing clean transportation solutions and supporting infrastructure addresses climate change mitigation and pollution prevention and control, a material sustainability challenge globally and in Japan. Transportation is one of the largest emitting sectors globally, accounting for approximately 25% of global emissions in 2024.¹⁴ In Japan, transportation accounted for approximately 19.3% of CO₂ emissions in FY2024, with road transport representing the majority of transport-related emissions.¹⁵ Financing clean transportation is also highly relevant to the bank, given its exposure to the clean transportation through its lending activities.

The magnitude of this category is limited. Zero-direct-emission vehicles and related infrastructure are expected to generate strong long-term environmental benefits. However, the framework also permits hybrid vehicles, buses and rail with residual direct emissions without requiring a phase-down to zero emissions. In addition, there is limited visibility into the expected allocation across the different eligible transportation activities, which constrains the assessment of the category's overall environmental impact.

For shipping-related projects, the framework provides limited visibility into lifecycle carbon intensity and does not establish sufficiently detailed technical thresholds for eligible alternative fuels. Separate from the framework's eligibility criteria, MUFG has communicated to us that it monitors the applicable shipping finance portfolio in accordance with the Poseidon Principles. This includes measuring vessel climate alignment and portfolio climate alignment by comparing vessel-level CO₂e emissions intensity with the required decarbonization trajectory, as well as targeting portfolio climate alignment of 0% or below by 2030. This monitoring provides additional visibility into vessel carbon intensity and the portfolio's alignment with the low-carbon transition. However, the Poseidon Principles-based approach measures climate alignment at the vessel and portfolio levels; it does not establish binding technical eligibility criteria for assets financed under the framework or fully address lifecycle emissions associated with eligible alternative fuels. Carbon lock-in risks are partly mitigated through exclusions for infrastructure primarily supporting fossil fuel transportation and certain fossil fuel-powered vessels.

Sustainable water and wastewater management



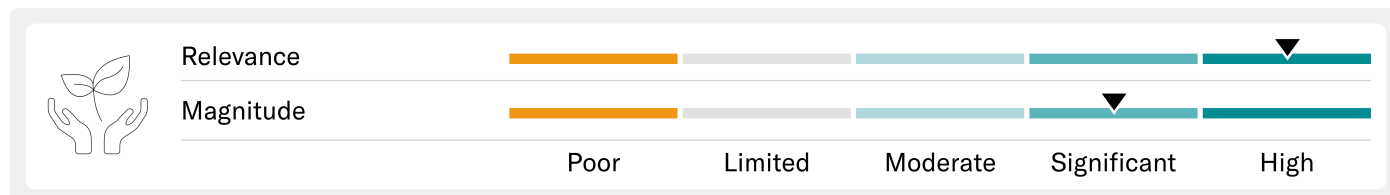
Investments in support of sustainable water and wastewater management are highly relevant for the bank, the banking sector and in the global and national context. Global water stress has held at 18% since 2023, with one in ten people now living under high or critical water stress, and several regions exceeding a 75% stress level¹⁶ while Japan's water stress level reached 36.6% in 2022.¹⁷ The category is considered to be one of the material sustainability issues for the issuer considering the bank's exposure to the sector.

The magnitude of this category is limited. While eligible projects are expected to contribute to sustainable water and wastewater management, the framework does not exclude large-scale infrastructure or desalination plants and does not establish quantitative thresholds for water-efficiency improvements, energy performance or greenhouse gas emissions, and does not require specific

methane-leakage monitoring for wastewater treatment involving anaerobic digestion, limiting visibility into the scale of environmental benefits and the management of potential negative externalities, such as those associated with energy-intensive facilities. Potential externalities are partly mitigated through exclusions for fossil-fuel-dependent equipment and water and wastewater infrastructure supporting certain carbon-intensive activities.

While desalination projects are not explicitly listed in the framework, MUFG has disclosed a project-level example demonstrating the implementation of E&S risk-management measures, including brine treatment before discharge, regular water-quality monitoring, biodiversity, turbidity controls, and habitat restoration. Nevertheless, the disclosed measures relate to a specific project and are not established as minimum requirements applicable to all desalination projects eligible under the framework.

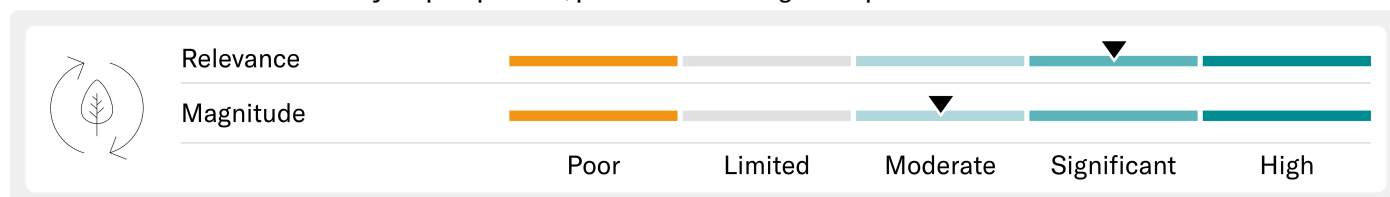
Climate change adaptation



The relevance of this category is high. Climate change adaptation addresses a highly relevant sustainability issue globally and in Japan. Globally, riverine and overflow floods are the costliest hazard type, with average annual losses of approximately \$388.4 billion, of which \$74.1 billion relates to critical infrastructure.¹⁸ In Japan, the annual frequency of heavy rainfall events exceeding 50mm per hour has increased by 1.5 times since the 1970s and a trend of average sea level rise has been observed since the 1980s.¹⁹ The category is also highly relevant to the bank given its exposure to climate-related risks and initiatives supporting climate change adaptation and resilience.

The magnitude of this category is significant. Eligible monitoring technologies and flood mitigation projects are expected to contribute to climate change adaptation. Flood mitigation projects are required to have a vulnerability assessment and adaptation plan, while business-as-usual upgrades to existing flood mitigation systems are excluded. However, large-scale infrastructure may be eligible, and the framework does not require project-specific criteria such as environmental impact assessments (EIAs), nature-based solutions or biodiversity protection measures. Although broader E&S risk-management processes apply, visibility into the management of potential project-level externalities remains limited.

Eco-efficient and/or circular economy adapted products, production technologies and processes



The relevance of this category is significant. Circular economy addresses waste management and resource efficiency, important sustainability issues globally and in Japan. Global municipal solid waste generation is projected to grow from 2.1 billion tonnes in 2023 to 3.8 billion tonnes by 2050.²⁰ Japan ranks second globally after the United States in per capita plastic packaging waste generation, highlighting the relevance of improving resource efficiency and waste management.²¹ However, this category is not among the most material sustainability issues for the bank.

The magnitude of this category is moderate. Eligible products and packaging materials are required to be certified by the Roundtable on Sustainable Biomaterials (RSB), supporting sustainable sourcing and resource efficiency. The framework also excludes commercial-scale resource-efficient or low-carbon products without sufficient information on manufacturing processes, sustainable sourcing or a reasonable basis for substantial lifecycle impact reduction, as well as recycled or waste inputs intended for non-medical single-use plastic packaging. However, the framework does not prescribe quantitative thresholds for reductions in raw material use, lifecycle emissions, waste generation or waste diversion, limiting visibility into the scale of the expected environmental benefits.

Additional contribution to sustainability considerations

We have not made an adjustment to the preliminary contribution to sustainability score based on additional considerations.

MUFG identifies and manages environmental and social (E&S) risks through group-wide policies and frameworks that are integrated into its financing and investment activities. The bank's approach is guided by the MUFG Environmental and Social Policy Framework, which establishes requirements for assessing and managing environmental and social impacts associated with clients and transactions. As part of its financing processes, the bank screens transactions against prohibited activities and sector-specific guidelines covering industries and activities with elevated environmental and social risks. Transactions identified as presenting heightened risk are subject to enhanced due diligence and additional review requirements. The bank supports its clients' E&S risk management and contributes toward a sustainable world by adoption of and adherence to the Equator Principles, a risk management framework for determining, assessing and managing environmental and social risks and impacts for large-scale projects.

The framework is coherent with the bank's broader sustainability strategy, as its eligible projects align with the group's sustainability priorities and climate objectives. The bank aims to provide JPY100 trillion in sustainable finance by the fiscal year ended 31 March 2030 (FY2030). As of FY2025, the bank reported a cumulative sustainable finance execution amount of JPY56.5 trillion, including JPY24.8 trillion directed toward environmental initiatives²². In addition, the bank has committed to achieving net-zero greenhouse gas emissions from its financed portfolio by 2050 and net-zero emissions from its own operations by 2030.^{23,24}

Appendix 1 - Alignment with principles scorecard for MUFG's FCY green deposit framework

Factor	Sub-factor	Component	Component score	Sub-factor score	Factor score
Use of proceeds	Clarity of the eligible categories	Nature of expenditure	A	Aligned	Aligned
		Definition of content, eligibility and exclusion criteria for nearly all categories	A		
		Location	A		
		BP: Definition of content, eligibility and exclusion criteria for all categories	No		
	Clarity of the objectives	Relevance of objectives to project categories for nearly all categories	A	Aligned	
		Coherence of project category objectives with standards for nearly all categories	A		
		BP: Objectives are defined, relevant and coherent for all categories	No		
	Clarity of expected benefits	Identification and relevance of expected benefits for nearly all categories	A	Aligned	
		Measurability of expected benefits for nearly all categories	A		
		BP: Relevant benefits are identified for all categories	No		
		BP: Benefits are measurable for all categories	No		
		BP: Disclosure of refinancing prior to issuance and in post-allocation reporting	No		
		BP: Commitment to communicate refinancing look-back period prior to issuance	No		
Process for project evaluation and selection	Transparency and clarity of the process for defining and monitoring eligible projects	Clarity of the process	A	Aligned	Aligned
		Disclosure of the process	A		
		Transparency of the environmental and social risk mitigation process	A		
		BP: Monitoring of continued project compliance	No		
Management of proceeds	Allocation and tracking of proceeds	Tracking of proceeds	A	Best practices	Best practices
		Periodic adjustment of proceeds to match allocations	A		
		Disclosure of the intended types of temporary placements of unallocated proceeds	A		
		BP: Disclosure of the proceeds management process	Yes		
		BP: Allocation period is 24 months or less	Yes		
Reporting	Reporting transparency	Reporting frequency	A	Aligned	Aligned
		Reporting duration	A		
		Report disclosure	A		
		Reporting exhaustivity	A		
		BP: Allocation reporting at least until full allocation of proceeds, and impact reporting until full bond maturity or loan payback	Yes		
		BP: Clarity and relevance of the indicators on the sustainability benefits	No		
		BP: Disclosure of reporting methodology and calculation assumptions	No		
		BP: Independent external auditor, or other third party, to verify the tracking and allocation of funds	Yes		
		BP: Independent impact assessment on environmental and social benefits	Yes		
Overall alignment with principles score:					Aligned

Legend: BP - Best practice, A - Aligned, PA - Partially aligned, NA - Not aligned

Appendix 2 - Mapping eligible categories to the United Nations' Sustainable Development Goals

The ten eligible categories included in the bank's framework are likely to contribute to eight of the United Nations' Sustainable Development Goals (SDGs), namely:

UN SDG 17 Goals	Eligible Category	SDG Targets
GOAL 6: Clean Water and Sanitation	Sustainable Water and Wastewater Management	6.1: Achieve universal and equitable access to safe and affordable drinking water for all
		6.3: Improve water quality by reducing pollution, eliminating dumping and minimizing hazardous chemicals and materials
GOAL 7: Affordable and Clean Energy	Renewable Energy	7.2: Increase substantially the share of renewable energy in the global energy mix
	Energy Efficiency; Green Building	7.3: Double the global rate of improvement in energy efficiency
GOAL 9: Industry, Innovation and Infrastructure	Energy Efficiency	9.4: Upgrade infrastructure and retrofit industries to make them sustainable, with all countries taking action
GOAL 11: Sustainable Cities and Communities	Clean Transportation	11.2: Provide access to safe, affordable, accessible and sustainable transport systems for all
	Resource Efficiency & Pollution Prevention and Control	11.6: Reduce the adverse per capita environmental impact of cities, with special attention to air quality and waste management
GOAL 12: Responsible Consumption and Production	Eco-efficient and/or Circular Economy Adapted Products, Production Technologies and Processes	12.4: Achieve environmental management of chemicals and all wastes, and reduce their release to air, water and soil
	Resource Efficiency & Pollution Prevention and Control; Eco-efficient and/or Circular Economy Adapted Products, Production Technologies and Processes	12.5: Substantially reduce waste generation through prevention, reduction, recycling and reuse
GOAL 13: Climate Action	Green Building; Climate Change Adaptation	13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
GOAL 14: Life Below Water	Terrestrial and Aquatic Biodiversity	14.2: Sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts
GOAL 15: Life on Land	Environmentally Sustainable	15.2: Promote the implementation of sustainable management of all types of forests
	Management of Living Natural Resources and Land Use	15.A: Mobilize and increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems

The United Nations' Sustainable Development Goals (SDGs) mapping in this SPO considers the eligible project categories and associated sustainability objectives/benefits documented in the issuer's financing framework, as well as resources and guidelines from public institutions, such as the ICMA SDG Mapping Guidance and the UN SDG targets and indicators.

Appendix 3 - Summary of eligible categories in MUFG Bank, Ltd.'s FCY green deposit framework

Eligible Categories	Description	Sustainability Objectives	Impact Reporting Metrics
Renewable Energy	i) Acquisition, development, operation, maintenance of projects / assets generating electricity from: • Solar, wind (on and offshore), ocean, and tidal power. • Geothermal. • Waste biomass from forestry and agriculture. • Non-waste biomass from crop-based feedstock from credible certification schemes, in particular, Roundtable for Sustainable Biomaterials (RSB), International Sustainability and Carbon Certification (ISCC) Plus, BONSUCRO for sugarcane, and The Roundtable on Responsible Soy (RTRS) for soy. ii) Production of technologies / equipment that support the above. iii) Transmission and distribution of renewable energy: • Development and construction of operational electric grid that is either (i) dedicated to connecting renewables to the power grid, or (ii) supports / integrates at least 90% renewable electricity on medium-term average (i.e., over a rolling five-year period), including: - Overground transmission and distribution lines, e.g., overhead transmission lines, conductors, insulators, towers and infrastructure assets such as buildings, fences, earth mats and busbars. - Transmission lines on high-voltage and/or extra-high voltage interconnected system. • Distributed assets (grid components) that are intended to reduce the curtailment of renewable energy into the grid, including fuses, circuit breakers, disconnectors, reactors, capacitors, transformers, voltage regulators, and switchgears. Exclusions: i) In the case of solar thermal / CSP project (s), non-renewable energy back-up limited at 15% of the facility's electricity production. ii) Geothermal projects with direct emissions intensity greater than 100 gCO₂/kWh. iii) Waste biomass projects where waste feedstock is from non-RSPO certified palm oil operations. iv) Non-waste biomass projects with life cycle emissions intensity greater than 100 gCO₂/kWh or where feedstock includes peat, palm oil, or non-certified oil / energy crops, including corn, soy, and/or sugarcane. v) Non-waste biomass feedstock that: • is produced on land with high biodiversity that has been converted for its production in the last 10-15 years, or • is produced on land with a high amount of carbon that has been converted for its production, or • competes with food production. vi) For production of renewable energy technologies / equipment, financing of facilities that are not wholly dedicated to the manufacture of components for renewable energy.	Climate change mitigation	Selected indicative indicators: - Power generation - Greenhouse gas emission reductions - Installed capacity
Energy Efficiency	i) End-user energy efficiency • Purchasing and installation / retrofitting of energy efficient technologies / industrial products or equipment that are non-motorized or powered by electricity (not by fossil fuels) that have received third-party certification for environmental or energy performance, in particular, ENERGY STAR. • Other energy efficient technologies / products or hardware systems such as LEDs / smart lighting solutions / daylight controls, Building Management Systems (BMS), HVAC upgrades that not powered by fossil fuel. Exclusions: i) Technologies / upgrades that: • improve the energy efficiency of fossil fuel production and/or distribution, or • are designed / intended for processes that are inherently carbon-intensive and/or primarily driven / powered by fossil fuels, such as oil / gas-fired boilers, cogeneration / CHP units, production processes within heavy industries such as steel, cement, aluminum, etc.	Climate change mitigation	Selected indicative indicators: - Energy consumption - Type and evaluation of green building certifications obtained
Green Building	i) Buildings which meet, or are expected to meet any of the below criteria: • Buildings that comply with the regional proxy¹ for commercial buildings as determined by the Climate Bonds Initiative (CBI) • Building upgrades² – including energy efficiency investments and/or refurbishments of buildings – which follow the low carbon trajectory as set out in the Low Carbon Buildings Standard as determined by the CBI (at least 30% reduction in CO₂ emissions compared to baseline)³; ii) U.S. Leadership in Energy and Environmental Design (LEED) – minimum certification level of Gold or above; BREEAM – minimum certification level of Excellent or above; or DBJ Green Building Certification – minimum certification level of 4 Stars or above. Exclusions: i) Buildings or energy efficiency projects for buildings that are, • designed for the purpose of extraction, storage, transportation or manufacture of fossil fuels, or • built for the purpose of controversial activities including gambling, coal-fired power generation, nuclear energy generation, pornography, tobacco, weapons and defense industries and potentially negative resource extraction operations. ¹https://www.climatebonds.net/standard/buildings/commercial/calculator ²Expenses are limited to property renovation cost only. ³https://www.climatebonds.net/standard/buildings/upgrade	Climate change mitigation	Selected indicative indicators: - Energy consumption - Type and evaluation of green building certifications obtained

Eligible Categories	Description	Sustainability Objectives	Impact Reporting Metrics
Resource Efficiency & Pollution Prevention and Control	i) Recycling Development, expansion, upgrade or maintenance of facilities and/or programs relating to processing of recyclable waste fractions into secondary raw materials. ii) Management of Municipal Waste – Development, expansion, upgrade or maintenance of landfill gas capture for energy generation from closed / decommissioned landfill with gas capture efficiency greater than 75%. Exclusions: i) Chemical recycling of plastic, or electronic waste recycling at facilities that do not have a robust waste management process to mitigate associated risks. ii) Landfill gas capture for flaring. iii) Waste recycling/ management facilities that do no support source segregation of recyclables such as plastic, glass, metal, etc. iv) Plastics, rubber or tire derived fuel (TDF) for energy or fuel conversion	Transition to a circular economy Pollution prevention and control	Illustrative indicators under consideration: - Amount of recycled processing - Production of secondary raw materials - Landfill gas recovery/power generation
Environmentally Sustainable Management of Living Natural Resources and Land Use	i) Forest Products – Growing and/or purchase of: - Products / operations certified by Forest Stewardship Council (FSC) or Program for the Endorsement of Forest Certification (PEFC). ii) Agriculture – Growing and/or purchase of: - Products / operations certified by Rainforest Alliance, USDA Organic, Global Good Agricultural Practices (Integrated Farm Assurance – Crops Base),¹ or Better Cotton Initiatives (BCI). iii) Land Conservation - Preservation and/or restoration of native and high-conservation value forests.² - Preservation and/or restoration of biodiversity and valuable natural habitats. - Preservation and/or restoration of biodiversity in urban areas such as parks, green rooftops, and other green spaces. iv) Soil remediation Exclusions: i) Manufacturing / purchase of inorganic or synthetic fertilizers / pesticides / herbicides. ii) Agricultural units that include industrial livestock production units. iii) Soil remediation related to the contamination or negative environmental externality from MUFG's own or its loan borrower's own activities. ¹The certification scheme does not include sustainable land management practices, which implies that the expected positive environmental impact may be limited. ²Reforestation/afforestation should use tree species that are well-adapted to the site conditions. A sustainable management plan should also be in place, preferably certified to FSC/PEFC certification.	Natural resource conservation	Illustrative indicators under consideration: - Types of forest certifications obtained - Target area - Production and sales volume of target products
Terrestrial and Aquatic Biodiversity	i) Fisheries and aquaculture - Products / operations certified by the Marine Stewardship Council (MSC)¹ or Aquaculture Stewardship Council (ASC)². ii) Aquatic Conservation - Preservation and/or restoration of aquatic biodiversity and valuable aquatic natural habitats. Exclusions: i) Financing of equipment running on fossil fuel ¹The Marine Stewardship Council certification- https://www.msc.org/standards-and-certification/the-msc-standards ²The Aquaculture Stewardship Council certification- https://asc-aqua.org/producers/asc-standards/	Biodiversity conservation	Illustrative indicators under consideration: - Status and number of certifications obtained for MSC/ASC - Habitat area conserved or recovered

Eligible Categories	Description	Sustainability Objectives	Impact Reporting Metrics
Clean Transportation	i) Passenger and freight vehicles – Development, manufacture, purchase, financing of: • Zero direct-emission vehicles, including electric vehicles. • Hybrid vehicles. ii) Mass transit – Development, manufacture, purchase, financing of: • Low-to-zero carbon busses. • Bus rapid transit infrastructure and other public rapid transit systems that are built exclusively for eligible BRT systems or buses. • Train / rail stock. • Train / rail infrastructure including tracks and stations. iii) Infrastructure – Investments in infrastructure for: • Zero direct emission vehicles including electric vehicles. iv) Shipping • Manufacture of new zero-to-low carbon ships (subject to emissions threshold in line with market practice) including electric, biofuel- or hydrogen-powered. • Retrofit of existing passenger and cargo ships involving switching to a low-carbon fuel, as mentioned above. • Shipping infrastructure including bunkering facilities for biofuels, hydrogen, ammonia and methanol, infrastructure for alternative maritime power including outlets, electrical distribution, and control systems. Exclusions: i) Hybrid passenger vehicles and freight vehicles with direct emissions in excess of 75g CO₂e/passenger-km and 25g CO₂e/t--km respectively. ii) Public buses (including those included in the BRT infrastructure) with direct emissions in excess of 50 gCO₂e/p-km (based on WLTP). iii) Construction of roads or road bridges and parking facilities (even if charging and alternative fuel infrastructure are included) - except for dedicated lanes for eligible BRT infrastructure. iv) Individual rail with direct emissions in excess of threshold of 50 gCO₂e/p-km (passenger) or 25gCO₂/t-km (freight). v) Systems and infrastructure used primarily for the transportation of fossil fuels or fossil fuel filling stations and other assets which prolong the life and/or facilitate the use of fossil- fuel powered transport or bunkering facilities for LNG / LPG. vi) New and/or retrofit of fossil-fuel powered ships, which are not in line with International Maritime Organization trajectory or that run on conventional Heavy Fuel Oil (HFO), Low-Sulfur Heavy Fuel Oil (LSHFO), Marine Diesel Oil (MDO); for cargo ships, oil tankers or vessels solely or in majority ("by mass") transporting coal, oil, and petrochemicals.	Climate change mitigation Pollution prevention and control	Selected indicative indicators: - Reduction in greenhouse gas emissions during the operation phase of electric vehicles - Reduction in emissions from the introduction of railway vehicles and railway-related equipment
Sustainable Water and Wastewater Management	i) Water efficiency / conservation – Development, manufacture, purchase of products and technologies that reduce and/or monitor water use. ii) Wastewater treatment – Development, expansion, upgrade, or maintenance of infrastructure. iii) Potable / Drinking water – Development, manufacture, purchase of products and technologies to increase supply / access to potable / drinking water. Exclusions: i) Equipment and / or methods dependent on fossil fuels. ii) Systems and measures to provide water for fossil fuel operations, fracking, nuclear and mining. iii) Treatment of wastewater from fossil fuel operations. iv) Potable water supply for industrial activities.	Sustainable water and wastewater management	Illustrative indicators under consideration: - Water savings - Treated wastewater volume - Drinking water supply volume
Climate Change Adaptation	i) Monitoring technologies including climate observation and information support systems. ii) Infrastructure – Development, expansion, upgrade or maintenance of infrastructure related to adaptation or mitigation of climate change such as flood mitigation barriers and other rising water level management systems. iii) Flood mitigation – Investment in infrastructure to provide protection against flooding. Exclusions: i) Flood mitigation projects without Vulnerability Assessment and Adaptation Plan in place. ii) Business-as-usual renovations and retrofits to existing flood mitigation systems.	Climate change adaptation	Illustrative indicators under consideration: - Assets, regions, beneficiaries subject to climate change adaptation and flood countermeasures
Eco-efficient and/or Circular Economy Adapted Products, Production Technologies and Processes	i) Development and/or manufacture of: • Products / packaging materials that are certified by Roundtable on Sustainable Biomaterials (RSB). ii) Production of technologies / equipment that support the above. Exclusions: i) Commercial-scale manufacturing /production of resource-efficient/low-carbon of products without details on manufacturing process, assurance of sustainable sourcing, and/or reasonable basis for substantial reduction of life-cycle emissions. ii) Procurement of recycled/waste inputs intended for (non-medical) plastic packaging for single-use consumer products.	Transition to a circular economy	Selected indicative indicators: - Types of certifications obtained - SAF fuel production volume (approximate value)

Endnotes

- ¹ Point-in-time assessment is applicable only on date of assignment or update.
- ² MUFG, [Integrated Report](#), 2026.
- ³ International Energy Agency, [Net Zero by 2050: A Roadmap for the Global Energy Sector](#), October 2021.
- ⁴ Ministry of Economy, Trade and Industry, [7th Strategic Energy Plan](#), February 2025.
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- ⁸ United Nations Environment Programme (UNEP), [Global Waste Management Outlook 2024](#), 2024.
- ⁹ Ministry of the Environment, Japan, [Municipal Solid Waste Generation and Disposal in FY2024 \(Press Release\)](#), 27 March 2026.
- ¹⁰ WWF, [Deforestation and Forest Degradation](#), accessed September 2026.
- ¹¹ Ministry of Agriculture, Forestry and Fisheries, Japan, [Annual Report on Forest and Forestry in Japan](#), 2024.
- ¹² IUCN Red List, [Background & History](#), accessed September 2026.
- ¹³ Ministry of Environment, [Publication of the Ministry of the Environment's Marine Life Red List](#), 21 March 2017.
- ¹⁴ International Energy Agency (IEA), [Greenhouse Gas Emissions from Energy Data Explorer](#), accessed August 2026.
- ¹⁵ Ministry of Land, Infrastructure, Transport and Tourism (MLIT), [CO₂ Emissions from the Transport Sector](#), accessed August 2026.
- ¹⁶ United Nations, [SDG Goal 6: Clean Water and Sanitation](#), accessed September 2026.
- ¹⁷ World Bank Group, [Level of water stress: freshwater withdrawal as a proportion of available freshwater resources – Japan](#), accessed September 2026.
- ¹⁸ UNDRR, [GAR 2025 Hazards: Floods](#), accessed September 2026.
- ¹⁹ Japan Meteorological Agency, [Climate Change Monitoring Report 2023](#), June 2024.
- ²⁰ UNEP, [Global Waste Management Outlook 2024](#), 28 February 2024.
- ²¹ Institute of Global Environmental Strategies, [Japan's Plastic Waste Management – Challenges and Potential Solutions](#), 2022.
- ²² MUFG, [Sustainability Management](#), accessed October 2026.
- ²³ MUFG, [Sustainability Report](#), 2025.
- ²⁴ MUFG, [Sustainability Management](#), accessed September 2026.

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