

———— Sustainability Bond Evaluation by Japan Credit Rating Agency, Ltd. ————

Japan Credit Rating Agency, Ltd. (JCR) announces the following preliminary Sustainability Bond Evaluation Results.

JCR Assigned Preliminary SU 1 to Series 22, 23, 24 unsecured corporate bonds issued by Mitsui O.S.K. Lines, Ltd.

S u b j e c t	: Mitsui O.S.K. Lines, Ltd. Series 22, 23, 24 Unsecured Corporate Bonds (with limited inter-bond pari passu clause)
T y p e	: Bonds
Issue amount	: Total 20 billion yen
Interest rate	: To be determined
Date of issuance	: Series 22 Unsecured Corporate Bonds: To be determined Series 23 Unsecured Corporate Bonds: To be determined Series 24 Unsecured Corporate Bonds: July 29, 2019
Redemption date	: Series 22 Unsecured Corporate Bonds: To be determined Series 23 Unsecured Corporate Bonds: To be determined Series 24 Unsecured Corporate Bonds: July 29, 2025
M e t h o d o f r e p a y m e n t	: Bullet
Use of proceeds	: (1) Establishment of the Philippine University of Merchant Shipping (2) Workplace Reform (3) Ballast Water Treatment Equipment (4) SO _x scrubber (5) LNG fuel ship (6) LNG fuel supply ship (7) Energy-saving Propeller Boss Cap Fins (Upgraded PBCF) (8) Wind Challenger

<Sustainability bond Preliminary Evaluation Results>

Overall evaluation	SU1
Green and Social Evaluation (Use of proceeds)	gs1
Management, Operation and Transparency Evaluation	m1

Chapter 1: Evaluation Overview

Mitsui O.S.K. Lines, Ltd. is a general maritime transport company founded in 1884. In 1999, former MOL and Navix Line merged to form the current business. The company has built the world's largest fleet of tankers, LNG

carriers, and other diverse vessels, centered on the transportation of natural resources and energy. The company has numerous high-quality customers in Japan and overseas. In 2018, it issued Green Bonds and is working on green projects such as installing ballast water treatment equipment, scrubbers and acquiring LNG ships using the proceeds.

The proceeds will be used for the following eight projects: (1) Establishment of the Philippine University of Merchant Marine; (2) Workplace Reform; (3) Ballast Water Treatment System; (4) SO_x Scrubber; (5) LNG fuel ship; (6) LNG fuel supply ship; (7) Energy-saving Propeller Boss Cap Fins (Upgraded PBCF); and (8) Wind Challenger. Through a series of social projects, it is expected that (1) the creation of employment by vocational training of young people in developing countries and (2) the socioeconomic improvement of persons with disabilities and employees caring for children and family members. With regard to (3), it is expected that marine biodiversity will be protected. In addition, with regard to (4), it is expected that air pollution will be prevented by reducing SO_x emissions. The projects from (5) to (8) are also considered to contribute to the prevention of air pollution and the mitigation of climate change, and are evaluated as projects with clear potential for environmental improvement effects. Based on the above, JCR evaluates the use of proceeds for projects with environmental improvement effects and social benefits.

MOL identifies "provision of added value through transportation," "conservation of the marine and global environment," "innovation to advance marine technologies," "development of local communities and human resources development," and "governance and compliance to support business" as sustainability issues (materiality). Through a series of initiatives, MOL aims to maximize the economic and social value of the MOL Group. Among MOL's materiality, social projects contribute to "development of local communities and human resources", and green projects contribute to "innovation to advance marine technologies".

Regarding the management of the proceeds, internal controls are ensured by confirming the appropriation status and reporting to the CFO on a quarterly basis. The status of the appropriation will be disclosed on the Integrated Report or Company's website once a year until it is fully appropriated.

Based on JCR Sustainability Finance Assessment Methodology, JCR assigns "gs1" for the preliminary evaluation of "Green/Social Evaluation (Uses of Proceeds)". It assigns "m1" for "Management, Operation and Transparency Evaluation". Consequently, it assigns "SU1" for the preliminary overall evaluation of JCR sustainability bond. Detailed evaluation results are discussed in the next chapter. The Bonds are considered to meet the standards for the items required by the Green Bond Principles, the Social Bond Principles, the Sustainability Guidelines, and the Ministry of the Environment's Green Bond Guidelines.¹²³⁴

¹ ICMA(International Capital Market Association) Green Bond Principles 2018

² ICMA Social Bond Principles 2018

³ ICMA Sustainability Bond Guidelines 2018

⁴ Ministry of the Environment Green Bond Guidelines 2017

Chapter 2: Current Status of the project on each evaluation factor and JCR's evaluations

Evaluation Phase 1: Green and Social Evaluation

JCR assigns "gs1", the highest grade, to "Evaluation Phase 1: Green and Social Evaluation".

Rationale: 100% use of proceeds of the bond will be allocated to a green or social project, considering the factors described below.

(1) JCR's key consideration in this factor

In this section, JCR begins by checking whether proceeds are used for projects with clear environmental improvement effects or projects with social benefits. Next, in cases where the use of proceeds is expected to have a negative impact on the environment and society, the impact is fully examined by an internal specialized department or an external third-party organization to confirm whether necessary measures for avoidance and mitigation have been taken. Finally, JCR confirms consistency with the Sustainable Development Goals (SDGs).

(2) Current status of evaluation targets and JCR evaluation

Overview of Use of Proceeds

MOL has established the following frameworks for eligible green project and for social projects.

1. Social projects

(1) Establishment of Philippine Merchant Marine University (allocation ratio: 11.1%)⁵

Expenses for the construction of MOL Magsaysay Maritime Academy Inc. (hereinafter referred to as "MMMA"), a self-owned merchant ship university opened in the Philippines with local partners in August 2018.

<Target People> Young People in the Philippines

(2) Workplace reform (allocation ratio: 0.5%)

Combined with the introduction of personnel and work systems and ICT tools, the cost of establishing facilities and telework facilities for people with disabilities as part of the work place reforms.

<Target People> Employees requiring flexible working arrangements for reasons such as childcare, nursing care, and disability

The classification of Green Projects is as follows.

2. Green Project

(3) Ballast Water Treatment Equipment (allocation ratio: 7.8%)

Systems for treating microorganisms and bacteria in ballast water

(4) SO_x scrubbers (allocation ratio: 47.1%)

Device to remove SO_x (sulfur oxides) contained in exhaust gases. Introduction will allow for compliance with new regulations on sulfur content of fuel oil for ships as determined by the International Maritime

⁵ The proceed appropriation ratio is calculated on a total project cost basis.

Organization.

(5) LNG Fuel Ships (allocation ratio: 0.3%)

Ships fueled not by heavy oil but by LNG

(6) LNG Fuel Supply Ships (allocation ratio: 32.7%)

Ships supplying LNG to LNG fuel ships

(7) PBCF (allocation ratio: 0.3%)

By improving the shape and height of the fins, the propeller thrust is increased and the load on the propeller shaft is reduced.

(8) Wind Challenger (allocation ratio: 0.5%)

Research on the use of wind power to support propulsion

a. Environmental Improvement Effects and Social Benefits of the Project

i. 100% of the use of proceeds is expected to have environmental or social benefits.

This section reviews the expected effects of each project. MOL issued Green Bonds in 2018 for (3) to (8). In this bond, social projects (1) and (2) have been added to the proceed uses.

1. Social benefits of social projects

(1) Establishment of the Philippine University of Merchant Shipping

At MOL, 68% of seafarers are Philippine nationals on oceangoing vessels. According to MOL, the reason for the large number of Philippine seafarers is the low turnover rate, English speaking, and diligence. In the Philippine seafarer training program, European shipping companies have been partnering with local mariner training schools for about 30 years. MOL opened a self-employed merchant marine university, MOL Magsaysay Maritime Academy Inc. (MMMA), together with local partners (4 year curriculum, up to 300 students per grade). By engaging in management itself, crew training can be carried out not only through technical training, but also from the "education" stage to the students who are not crew members. It is important to understand the structure of ships in order to perform duties according to various types of vessels as a seafarer responsible for safe operation in the future. For this reason, basic education such as general education focusing on physics and chemistry is being carried out in order to acquire advanced technologies. For students, MMMA is a high-quality human resource development organization that is capable of acquiring not only operational skills but also basic academic ability, logical thinking ability, and discipline.

JCR regards the project as contributing to the provision of quality education and job creation for young people in the Philippines.

(2) Workplace Reform

MOL's work style reforms aim to create a foundation for innovative ideas by improving productivity and improving the organizational climate in order to realize its vision for the next 10 years. The Workplace Reform Project aims to create workplaces and realize diverse working styles, which support new ideas and initiatives, as a venue for working style reform. The aim of this project is to change the awareness and work styles of employees by realizing work place reforms that combine the introduction of personnel and work

systems and ICT tools, in addition to the development of easier-to-work offices. In May 2019, the company renovated the fifth floor of its headquarters building and launched a pilot office to measure the effectiveness of its work style that the company wants to realize.

MOL aims to clarify the direction of work style reform and expand it to the entire company and group through evaluation of the various measures undertaken in this project. By qualitatively and quantitatively measuring, analyzing, and evaluating the effectiveness of various measures in the Workplace Reform Project, the Company summarizes the extent to which it has achieved the "working styles it wants to achieve" and serves as a guideline for company-wide deployment.

In the Japanese SDGs Action Plan, the first priority is to "promote the success of all people." From the viewpoint of preventing the socioeconomic weakening caused by demographic changes in Japan since 2030, it is important not only to conduct policy-based discussions, but also to develop an environment in which enterprises can take the lead in enabling diverse ways of working. JCR believes that the work style reform, including the use of capital by MOL, will improve the socioeconomic development and empowerment of employees who work while raising children, nursing care, or having disabilities.

2. On the environmental improvement effects of the project

(3) Ballast Water Treatment Equipment

Ballast water is sea water for ships to maintain balance. The seawater at the port of departure is loaded at the time of departure of the empty cargo ship and discharged out of the ship at the port of cargo. This raises concerns about changes in ecosystems caused by transboundary movements of harmful microorganisms and bacteria, but ballast water treatment equipment prevents such transboundary movements by treating ballast water. The specific environmental improvement indicators expected are quantitatively calculated by MOL's New & Clean Energy Business Division, which has expertise in environmental matters, in terms of the number of ballast water treatment equipment installed and the amount of ballast water actually processed. The effects of environmental improvements in (4) to (8) below are also calculated in the same department.

(4) SO_x scrubbers

The SO_x scrubber is a device that removes sulfur oxides emitted as a result of the use of ships' fuels. This system is expected to reduce SO_x emissions by 86% and prevent air pollution. MARPOL Convention stipulates that regulations on SO_x emissions will be raised from 2020 onwards, but the introduction of this system will enable new regulations to be met.⁶

(5) LNG Fuel Ship

LNG Fuel Ships are ships fueled by LNG rather than conventional heavy oil. The project is expected to reduce CO₂ emissions by 30%, NO_x emissions by 76%, SO_x emissions by 99%, PM by 100%, and GHG emissions by 15%. Heavy oil remains the main fuel in the shipping industry, with no ships operating solely on clean energy, such as wind or solar. In addition, LNG is expected to reduce greenhouse gases and air pollutants compared to heavy oil, which is a conventional fuel. Given this background, LNG is a transient fuel for future fuel conversion and can be assessed as having a certain degree of green nature.

(6) LNG Fuel Supply Ship

⁶ Currently, the regulatory sulfur content in fuels is 3.5%, but it will be strengthened to 0.5% from 2020 onward.

LNG Fuel Supply Ships are ships supplying LNG to LNG Fuel Ships at sea. Traditionally, LNG Fuel Ships could only be fueled in coastal areas, but with LNG Fuel Supply Ships, LNG Fuel Ships could also be fueled offshore. Through this increase in the flexibility of fuel supply, it is expected that the spread of LNG fuel carriers will be promoted. The direct and indirect effects of this project are expected to be 30% reduction in CO₂ emissions, 76% reduction in NO_x emissions, 99% reduction in SO_x emissions, 100% reduction in PM emissions, and 15% reduction in GHG emissions as a whole.

(7) Energy-saving Propeller Boss Cap Fins (Upgraded PBCF)

The Upgraded PBCF improves the energy-saving effects of propeller-mounted energy-saving equipment adopted by more than 3,300 vessels worldwide, and enhances its effectiveness. The installation of this equipment will increase propeller thrust and reduce load on the propeller shaft, which is expected to save energy by about 5% compared to non-mounted vessels.

(8) Wind Challenger

Wind Challenger is an industry-academia collaboration project initiated by the University of Tokyo in 2009. The project aims to maximize the use of wind energy and improve fuel efficiency by installing huge sails on ships. Initiatives aimed at commencing operation in 2022 are under way, and it is expected that energy savings of 7% by each sail will be achieved through this initiative.

ii. Among the projects defined in the Social Bond Principles, (1) falls under "access to essential services (education and vocational training)", and (2) falls under "socioeconomic advancement and empowerment". With respect to (3), projects defined in the Green Bond Principles and the Ministry of the Environment's Green Bond Guidelines "terrestrial and aquatic biodiversity conservation" and (4) to (8) fall under the category of "prevention and control of pollution" and "clean transportation."

b. Environmental and Social Risks

The negative effects on the environment related to the Project are evaluated as unlikely to have serious impacts. We confirmed in an interview that although fuel economy may deteriorate due to the installation of scrubbers, the impact is minimal, and it is unlikely that negative effects will occur that greatly exceed the effects of environmental improvements. In addition, there are no other social risks that could have a significant impact.

c. Consistency with SDGs goals and Targets

1. Consistency with the SDGs of social projects

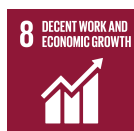
i. Consistency with ICMA's SDGs Mapping

Social projects (1) and (2) that are used for proceeding contribute to the following SDGs objectives and targets in light of ICMA's SDGs mappings.



Objective 4: Quality education

Target 4.6. By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy



Goal 8: Decent work and economic growth

Target 8.5. By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value



Goal 17: Partnerships for the goals

Target 17.9. Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation



ii. Consistency with measures for achieving Japan SDGs

Among the uses of proceeds, it was confirmed that social projects are consistent with the following items in the "Specific Measures to Achieve the SDGs" set by the Government of Japan as the SDGs Achievement Objectives.⁷

Implementation Guide line 1. Promoting the Success of All People

SDGs and Japanese Priority Issues That Are Especially Related: 5 (Gender equality); 8 (Decent work and economic growth); 10 (Reduced inequalities); 17 (Partnerships for the goals)			
Domestic measures			
	Outline of Measures	Target	Indicator
Support for Developing Countries including Public-Private Partnerships	Effective cooperation in the field of human resource development in developing countries will be promoted by strengthening collaboration with Japanese SMEs and other enterprises, local governments, universities, research institutes, etc.		Number of cooperative projects realized
Realizing a 100 million society in which people can play active roles: Work style innovation Correction of long working hours Support for Child-rearing Through Dreams Promotion of female employees activities	Working style reform is a cross-sectional issue and the greatest challenge for realizing a 100 million active society. Broaden the range of work style options. Create a society where children can be born and raised with peace of mind, and a society in which everyone can live up to a great dream if they work hard. Based on the Fourth Basic Plan for Gender Equality (approved by the Cabinet in December 2015), the Government will promote the strengthening of systems for promoting the active participation of women in the following priority fields. Changes in male-centered labor practices - Promotion of Gender Equality in Employment, etc. and Harmony of Work and Life	 	Status of correction of long working hours Employment Support for the Elderly Women's Action Plan Formulation Rate: Large enterprises (301 or more) 100% (early) SMEs (101 or more) Upper) 100% (through 2026)

⁷ Specific measures for the implementation of the Sustainable Development Goals (SDGs) established by the Headquarters for the Promotion of Sustainable Development Goals (SDGs), composed of the State Ministers.

<p>Promotion of measures stipulated in the Third Basic Plan for Persons with Disabilities</p>	<p>In order to realize a society in which all citizens respect and support each other's personalities and individuality, regardless of whether they have disabilities or not, the following measures, etc. shall be further promoted for supporting the independence of persons with disabilities and their participation in society.</p> <p>(Excerpts from Policies Related to Use of Capital)</p> <ul style="list-style-type: none"> - Support for Employment, Employment, and Economic Independence - Measures Concerning the Living Environment - Measures for Safety and Security 	 	<p>Achievement Status of Performance Targets Related to the Basic Plan for Persons with Disabilities</p>
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2. Consistency with the SDGs of Green Projects

i. Consistency with ICMA's SDGs Mapping

The Green Projects contribute to the following SDGs objectives and targets in light of ICMA's SDGs mappings...



Objective 3: Good health and well-being

Target 3.9. By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination



Goal 7: Affordable and clean energy

Target 7.a. By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology



Goal 9: Industry, innovation and infrastructure

Target 9.4. By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective



Objective 14: Life below water

By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution

Evaluation Phase 2: Management, Operation and Transparency Evaluation

JCR assigns "m1", the highest rating on JCR evaluation Phase 2: Evaluation on Management and Operation and Transparency.

Rationale: These projects have allocated the funding and implemented the business as planner through a firmly equipped management and operation system and high transparency as described below.

1. Appropriateness and Transparency concerning selection standard and processes of the use of proceeds

(1) JCR's key consideration in this factor

This section reviews the objectives to be achieved through sustainability bonds, the appropriateness of project selection criteria and processes, and the appropriateness of the process, and the appropriateness of the process to be properly disclosed to investors and others.

(2) Current status of evaluation targets and JCR evaluation

a. Social goals

MOL is engaged in global business development and has always actively employed a diverse range of multinational personnel. Furthermore, MOL has established the Working style Reform Committee, which consists of a variety of staff members, and is working to foster a variety of human resources and realize a flexible working environment. MOL believes that creating an environment in which not only foreign differences such as nationality and gender, but also people who can view and think differently, can flourish their abilities, and work vigorously, will lead to the strengths of the company. By instilling the Group's shared values of "MOL CHART (Challenge, Honesty, Accountability, Reliability, Teamwork)" in all MOL Group companies in Japan and overseas as well as MOL's vessels, MOL is using these values to further enhance compliance and operational safety awareness, and to train self-directed personnel. The Social Project is part of measures to improve the capacities of multinational seafarers and to enable employees with various circumstances to work flexibly, such as teleworking.

b. Environmental targets

MOL has formulated its "MOL Group Environmental Vision 2030" and aims to reduce greenhouse gas emissions per unit of transportation by 25% by 2030 and 50% by 2050 compared to 2014. In addition, the Company has established the "Environmental Management Action Plan," which is a concrete action plan for achieving the above targets, and the details are as follows.

1. Promote use and innovation of technologies for reducing environmental impact and advanced support technologies for safer vessel operation through the "ISHIN NEXT- MOL SMART SHIP PROJECT-".⁸
2. Participate in projects to build vessels that run on alternative fuels such as LNG and supply alternative fuels.
3. Reduce greenhouse gas emissions by using ICT to optimize sailing even further.
4. Utilize renewable energy such as wind and solar power for vessel propulsion and at Group-related facilities

⁸ Technology development project established by MOL. By sharing MOL's R&D policy with stakeholders and developing technologies that meet customer needs, MOL aims to deepen its "safe operation" and "reduction of environmental impact" technologies, strengthen its marketing capabilities, and enhance its corporate value.

in Japan and overseas.

5. Create environment and emission-free businesses.
6. Investigate emissions trading as a way to achieve greenhouse gas reduction targets.
7. Respond appropriately and proactively to air pollution prevention and the Ballast Water Management Convention.
8. Promote modal shift in transportation by enhancing the ferry and coastal shipping business in Japan.

In addition, MOL Group Environmental Vision 2030 outlines its policy of developing the environmental and emission-free business into a next-generation core business. The company is focusing on four businesses: "Renewable Energy Business," "Alternative Fuel Business," "CO2 Emissions Reduction Business," and "Environmental Value Creation Business." The use of proceeds is positioned as part of this effort.

c. Selection criteria

For Green Projects, MOL has selected projects based on the objectives set by MOL, such as "MOL Group Environmental Vision 2030" and "Environmental Management Action Plan," as well as the conformity to the classification of green projects as stipulated in the Green Bond Principles. In social projects, MOL selects projects based on safety management, the environment, and human resource development, which MOL define as important CSR issues, as well as the compatibility of social projects as stipulated in the social bond principles.

d. Processes

The following processes have been adopted in project selection:

1. MOL's Finance Division selects projects based on the above selection criteria.
2. For green projects, MOL's New & Clean Energy Business Division verifies the appropriateness and qualification of selected projects. The Corporate Planning Division verifies and verifies the appropriateness and qualification of social projects.
3. Final Approval for Projects Selected by CFO

JCR evaluates that the selection criteria are conducted with appropriateness because the roles of each organization are clearly divided and the selection criteria are conducted through departments with expertise in the decision-making process.

These selection criteria and the selection and evaluation process will be published in the Issue registration supplementary documents, ensuring transparency for investors.

2. Appropriateness and Transparency of management of the proceeds

(1) JCR's key consideration in this factor

It is usually assumed that the management of proceeds methods vary by issuers. Confirm that the proceeds procured through the issuance of sustainability bonds will be allocated to green and social projects, and that an internal system are in place to easily track the status of proceeding.

It also emphasizes assessing whether the proceeds procured through sustainability bonds are expected to be allocated promptly for projects, as well as how to manage and manage unallocated proceeds.

(2) Current status of evaluation targets and JCR evaluation

- a. The proceeds of this sustainability bonds under this evaluation are as follows: (1) Establishment of the University of Merchants in the Philippines; (2) Workplace Reform; (3) Ballast Water Treatment System; (4) SO_x Scrubber; (6) LNG Fuel Ship; (7) LNG Fuel Supply Ship; (7) Upgraded PBCF; and (8) Wind Challenger. These proceeds include new expenses and refinancing of expenses already incurred (approximately 40% of the total). All of the above proceeds will be allocated within three years after issuance, and the allocation schedule is also clearly planned for each project.
- b. The proceed management is implemented by MOL's Finance Division. The Finance Division regularly asks the relevant business sectors for information on the status of allocation, and manages the status of allocation using internal management files.
- c. The above proceeds management methods are not subject to internal audits. However, the Company's policy is to obtain the approval of the CFO on a quarterly basis in conjunction with the status of unappropriated proceeds, and this is aimed at internal control. The above information is scheduled to be retained for 10 years after the bond redemption.
- d. MOL's policy is to invest unappropriated proceeds as cash or cash equivalents.

JCR evaluates the management to be appropriate given that the proceeds procured are reliably allocated to the target projects, that the proceeds procured are managed internally by an appropriate method, that the internal control system is in place, and that there are no particular concerns about the management of the proceeds that have not been appropriated.

3. Reporting

(1) JCR's key consideration in this factor

In this section, JCR evaluates at the time of the issuance of sustainability bonds whether the disclosure system for investors before and after the issuance of sustainability bonds is planned in detail and in an effective manner.

(2) Current status of evaluation targets and JCR evaluation

a. Reporting on the proceeds allocation

MOL's policy is to disclose the items listed in the table below on the MOL website once a year until the full amount of proceeds is allocated to the project. The disclosure will be divided into four subgroups: "Social-Related" (Establishment of Philippine University of Merchant Shipping and Workplace Reform), "Regulatory Response" (ballast water treatment equipment and SO_x scrubbers), "LNG and Ocean-Related" (LNG fuel ships and LNG fuel supply ships), and "Others" (Upgraded PBCF and Wind Challenger). MOL's policy is to allocate surplus to other eligible projects if projects are postponed or cancelled.

- | |
|---|
| <ul style="list-style-type: none"> - Summary of each eligible project - Cumulative allocation of proceeds by subgroup (unit: yen) - Unallocated proceed balance - Refinancing ratio (%) |
|---|

b. Reporting on environmental improvement effects and social benefit

MOL's policy is to disclose in its Integrated Report or on its website annually the following KPIs (Key Performance Indicators) regarding the progress of the project, environmental improvement effects, and social benefits until the Sustainability Bond is redeemed.

Project Name	KPI (Key Performance Indicators)
(1) Establishment of the Philippine University of Merchant Shipping	Quantitative indicators such as the number of students and graduates, and qualitative effects
(2) Workplace Reform	Survey of awareness through questionnaires and interviews (qualitative analysis), Verification Results of behavioral Survey (Quantitative Analysis) Using Sensors
(3) Ballast Water Treatment Equipment	Number of ballast water treatment equipment introduced Amount of treated ballast water (mt/vessel/year)
(4) SO _x scrubbers	Number of SOX scrubbers introduced SOX emission reductions (%) compared to ships not equipped
(5) LNG Fuel Ship	Number of LNG fuel supply ships (financed and completed) GHG emissions (mt/vessel/year) GHG emission reductions (%) compared to fuel oil CO ₂ emission reductions (%) compared to fuel oil NO _x emission reductions (%) compared to fuel oil SO _x emission reductions (%) compared to fuel oil
(6) LNG Fuel Supply Ships	Number of LNG fuel ships (financed and completed) GHG emissions (mt/vessel/year) GHG emission reductions (%) compared to fuel oil CO ₂ emission reductions (%) compared to fuel oil NO _x emission reductions (%) compared to fuel oil SO _x emission reductions (%) compared to fuel oil
(7) Upgraded PBCF	Number of PBCF introduced Energy conservation effects (%) compared to ships not equipped Avoided GHG emissions (mt/vessel/year) CO ₂ emission reductions (%) compared to ships not equipped NO _x emission reductions (%) compared to ships not equipped SO _x emission reductions (%) compared to ships not equipped
(8) Wind Challenger	Number of financed and completed wind challengers Avoided GHG emissions (mt/vessel/year) CO ₂ emission reductions (%) compared to fuel oil NO _x emission reductions (%) compared to fuel oil SO _x emission reductions (%) compared to fuel oil

Since quantitative figures are disclosed, the content of environmental improvement effects is clearly easy to understand. The above-mentioned environmental improvement effects will be calculated by MOL's New & Clean Energy Business Division, which has expertise in environmental aspects, and JCR confirmed that the calculation method is appropriate.

Social benefits may not be ascertained solely in quantitative terms. The number of beneficiaries, such as school students and graduates, of the Philippine University is shown quantitatively. However, with regard to workplace reform, since the objective is to achieve results that make it difficult to set quantitative impact indicators, such as employee awareness reform and job comfort, the policy is to quantify qualitative matters as much as possible through questionnaire tabulation and other means.

JCR evaluates that the reporting to be conducted by MOL is highly transparent, as it plans to disclose various quantitative and qualitative indicators.

4. Organizational Sustainability Initiatives

(1) JCR's key consideration in this factor

This section evaluates whether the issuer's management positions sustainability issues as a high priority issue or whether the issuer's policies and processes for issuing sustainability bonds and criteria for selecting projects are clearly positioned by establishing a department specializing in sustainability issues, including those related to the environment and society, or by collaborating with external organizations.

(2) Current status of evaluation targets and JCR evaluation

(2)-1 Initiatives for Sustainability

MOL identifies the following five sustainability issues (materiality) and aims to maximize the economic and social value of the MOL Group through a series of initiatives.

- Providing added value through transportation
- Marine and global environmental protection
- Innovation that evolves the technology of the sea
- Development of local communities and human resources development
- Governance and Compliance Supporting Business

Among these, JCR evaluates the current use of proceeds as "development of local communities and human resources development," and the green business as a project that contributes particularly to "Marine and global environmental protection" and "innovation that advances marine technology."

According to MOL's Sustainability Bond Framework, MOL group operates globally, centered on the international shipping business, so MOL's stakeholders are diverse worldwide. For this reason, MOL recognizes that it is important to conduct management that gives full consideration to laws and regulations, social ethics, safety, the environment, and human rights, and to develop in a sustainable and synergistic manner with society while earning the support and trust of our stakeholders, including shareholders, customers, business partners, employees, and local communities.

Based on this belief, MOL considers CSR to be directly linked to our management philosophy and policies and make it a matter to be discussed directly by the Management Committee. The Corporate Planning Division is responsible for drafting policies and targets related to CSR in general, and for managing the progress of CSR. Each department is responsible for individual items such as "compliance," "safe operation," "the environment," and "human resources development and social contribution activities," and the organizational structure is in place to ensure that efforts are made in all areas.

In identifying the above-mentioned materiality, it was confirmed that the SDGs 17 objectives and 169 targets were implemented based on the awareness of being the largest comprehensive shipping company in the world.

(2)-2 Initiatives for Social Issues (particularly Human Resource Development)

MOL Group, which operates globally, employs approximately 20,000 multinational employees and seafarers. MOL believes that the collective strength of the MOL Group will be enhanced by the success of diverse multinational personnel. Accordingly, MOL has established a "Diversity and Health Management Promotion Team" and is implementing various measures and providing support. In the personnel policy in Japan, the "Promotion Conditions Reform Committee" was established to promote the active participation of women and the employment of people with disabilities through the development of telework environments and workplace reforms, including barrier-free offices.

(2)-3 Commitment to Environmental Issues

In the shipping industry, emissions regulations such as greenhouse gases, NOx, and SOx regulations are being gradually strengthened under the International Maritime Organization (IMO). MOL regards the strengthening of regulations as a strategy for business opportunities and differentiation, and has been actively engaged in the adoption of superior environmental technologies and the development of new technologies. The Green Project was promoted through the publication of Green Bonds in 2018 as part of this effort. On the system front, MOL has established the MOL Environmental Management System (MOL EMS21) to properly manage environmental risks and opportunities. The environmental management system based on this management system is certified with ISO14001 certification, an international standard for environmental management systems. In addition, an external third-party auditing organization conducts periodic audits once a year and a renewal audit once every three years to confirm the appropriateness of the system. In addition, in April 2019, the Environmental Management Committee, chaired by the vice president, was established to strengthen the framework that enables cross-organizational discussions and strategies on the formulation of environmental targets, check of the status of achievement, and promotion of environmental and emission-free businesses for the future.

Based on the above, JCR regards MOL as a company that actively engages in sustainability and ESG activities throughout the organization.

As detailed in Chapter 2, Section 1.(2) d., departments specializing in the environmental field and departments specializing in the training of overseas seamen and in-house work style reforms have been clarified, and project evaluation and selection criteria and selection processes have been clarified.

■ Evaluation result

Based on JCR Sustainability Finance Assessment Methods, the preliminary assessment of "Green and Social Valuation (Uses of proceeds)" and "Management and Operational Structure and Transparency Assessment" were defined as "gs1" and "m1" respectively. As a result, JCR assigns “SU 1” on the overall preliminary evaluation of the "JCR Sustainability Bond". In addition, this bond is considered to meet the standards for the items required in the Green Bond Principles, the Social Bond Principles, the Sustainability Bond Guidelines, and the Ministry of the Environment's Green Bond Guidelines.

[JCR Sustainability finance Evaluation Matrix]

		Management, Operation and Transparency				
		m1	m2	m3	m4	m5
Evaluation of greenness and social performance	gs1	SU 1	SU 2	SU 3	SU 4	SU 5
	gs2	SU 2	SU 2	SU 3	SU 4	SU 5
	gs3	SU 3	SU 3	SU 4	SU 5	Not qualified
	gs4	SU 4	SU 4	SU 5	Not qualified	Not qualified
	gs5	SU 5	SU 5	Not qualified	Not qualified	Not qualified

■ Subject

Issuer: Mitsui O.S.K. Lines, Ltd. (Security code: 9104)

[Assignment]

Subject	Issue amount	Date of issuance	Redemption date	Interest rate	Preliminary evaluation
Series 22nd Unsecured Corporate Bonds (with limited inter-bond pari passu clause)	JPY 5.0 billion	To be determined	To be determined	To be determined	JCR Sustainability Bond Evaluation: SU1 Green & Social Evaluation: gs1 Management, Operation and Transparency:m1
Series 23rd Unsecured Corporate Bonds (with limited inter-bond pari passu clause)	JPY 5.0 billion	To be determined	To be determined		
Series 24th Unsecured Corporate Bonds (with limited inter-bond pari passu clause)	JPY 10.0 billion	July 29, 2019	July 29, 2025		

(Responsible Analysts for this evaluation) Atsuko Kajiwara and Akihiro Kondo

Important explanation of sustainability bond Evaluation

1. Assumptions, Significance, and Limitations of JCR Sustainability bond Evaluation

JCR Sustainability Bond Assessment, which is granted and provided by Japan Credit Rating Agency, Ltd. (JCR), is a comprehensive opinion of JCR's current status on the extent to which the proceeds procured through the issuance of the Sustainability Bond to be evaluated will be appropriated for Green Projects and Social Projects as defined by JCR, as well as the extent to which management, operation and transparency initiatives related to the use of the proceeds of the Sustainability Bond are undertaken. JCR Sustainability Bond Evaluation does not fully represent the appropriation of the proceeds procured through the Sustainability Bond and the extent to which management, operation and transparency efforts are undertaken in relation to the use of the proceeds.

JCR Sustainability Bond Evaluation evaluates plans and conditions, such as the appropriation of proceeds at the time of issuance or at the time of issuance of the Sustainability Bond, and does not guarantee the appropriation of proceeds in the future. In addition, JCR Sustainability Bond Assessment does not prove the effectiveness of the Sustainability Bond on environmental and social issues, and does not assume responsibility for its effects on environmental and social issues. In principle, JCR does not directly measure the impact of proceeds procured through the issuance of sustainability bonds on environmental and social issues, although JCR confirms that they are quantitatively and qualitatively measured by the issuer or a third party requested by the issuer.

2. Methods used in the conduct of this evaluation

The methods used in this evaluation are listed on JCR website (Sustainability finance and ESG in <https://www.jcr.co.jp/en>) as JCR Sustainable Finance Evaluation Method.

3. Relationship with Acts Related to Credit Rating Business

JCR Sustainability bond Evaluation is determined and provided by JCR as a related business, which is different from the activities related to the credit rating business.

4. Relationship with Credit Ratings

The Evaluation differs from the Credit Rating and does not promise to provide or make available for inspection a predetermined Credit Rating.

5. Third-Party Evaluation of JCR Sustainability bond

There is no capital or personnel relationship between the subject of this evaluation and JCR that may give rise to conflicts of interest.

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■Glossary

JCR Sustainability Bond Evaluation evaluates the extent to which the proceeds procured from the issuance of the Sustainability Bond are appropriated for Green Projects or Social Projects as defined by JCR, as well as the level of management, operation, and transparency initiatives related to the use of proceeds for the relevant Sustainability Bond. Evaluations are performed on a five-point scale, from the top to the top, using SU1, SU2, SU3, SU4, and SU5 valuation symbols.

■Sustainable finance of registration as an external assessor of sustainable finance

- Ministry of the Environment's external green bond reviewer registration
- ICMA (registered as an observer with the International Capital Markets Association)

■Status of registration as a credit rating agency, etc.

- Credit Rating Agency: the Commissioner of the Financial Services Agency (Rating) No.1
- EU Certified Credit Rating Agency
- NRSRO: JCR has registered with the following four of the five credit rating classes of the Securities and Exchange Commission's NRSRO(Nationally Recognized Statistical Rating Organization. (1)Financial institutions, broker dealers, (2) insurance companies, (3) general business corporations, and (4) government and local governments. If the disclosure is subject to Section 17g-7(a) of the Securities and Exchange Commission Rule, such disclosure is attached to the news releases posted on JCR website (<https://www.jcr.co.jp/en>).

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