

Japan Railway Construction, Transport and Technology Agency
JRTT Sustainability Finance

For Sustainability finance eligibility pre-issuance

DNV GL Verification Report



Jan. 2019

DNV GL Business Assurance Japan K.K.

Executive Summary of Verification and assessment

Japan Railway Construction, Transport and Technology Agency ("JRJT") intends to issue the JRJT Sustainability Finance^{*1} (including Bond and Loan, hereafter "Finance") and engaged DNV GL as external reviewer for Verification and Assessment. The Finance includes eligible projects portfolio and contribution to SDGs, as below and table;

*1: Sustainability Finance includes both environmental (green) benefit and social benefit, the proceeds of instruments both bond and loan.

Eligible projects portfolio:









01 Railway Construction

02 Joint Ownership Shipbuilding

DNV GL has performed the Pre-issuance Verification and Assessment of the Finance. It is DNV GL's responsibility to provide an independent verification statement on the compliance of the Finance with the Climate Bonds Standard and assessment of the Finance which is accordance with Green Bond Principles (2018), Social Bond Principles (2018), Sustainability Bond Guidelines (2018), Green loan Principles (2018) and Green Bond Guidelines (MOE, Japan 2017).

Based on the limited assurance procedures conducted, nothing has come to our attention that causes us to believe that the Finance is not, in all material respects, in accordance with the requirements described above.

This verification and assessment report summarizes the project portfolio and its general information against relevant criteria of the Finance which will be continuously issued in the future (as CBI Programmatic certification). All project in this report is not included in the subsequent Finance. DNV GL has confirmed that each project in this verification conforms the criteria and eligibility (e.g. technical sector criteria, rail distance, numbers of passenger). Necessary and sufficient information about each Finance will be provided publicly by JRJT before issuance.

Project portfolio	Green (Environmental) benefit	Social benefit	Linkage/Contribution to SDGs
No.01 Railway Construction	Eligible category : Clean Transportation -Mitigation of environmental load (Green house gas emission reduction, e.g. CO ₂)	Eligible category : -Essential and imperative transportation infrastructure -Low cost and easy access for various customers	-Goal 9 : Industry innovation and infrastructure -Goal 11 : Sustainable cities and communities -Goal 13 : Climate action   
No.02 Joint Ownership Shipbuilding	Eligible category : Clean Transportation, Pollution Prevention and Control -Mitigation of environmental load (Green house gas emission reduction, e.g. CO ₂) -Marine environment conservation	Eligible category : -Essential and imperative transportation infrastructure and various user convenience -Efficient distribution -Operation of routes to remote island	-Goal 8 : Decent work and economic growth -Goal 9 : Industry innovation and infrastructure -Goal 11 : Sustainable cities and communities -Goal 13 : Climate action -Goal 14 : Life below water     

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I Introduction (About issuer and Sustainability Finance)

(1) About JR TT

Japan Railway Construction, Transport and Technology Agency (hereafter JR TT) is an independent administrative organization and fully invested by government.

JR TT is only one independent administrative organization who develops and support transportation network through railway and ship assets. Its organization is divided into the following 5 accounts. Construction Account, Maritime Account, Special Operation Account, Local public transportation Account, and Subsidy Account.

1. Construction Account :

Railway construction including projected Shinkansen lines

2. Maritime Account :

Joint ownership shipbuilding

3. Special Operation Account :

Disposition of past national railway asset and payment of pensions

4. Local public transportation Account :

Investments in Local Public Transportation

5. Subsidy Account :

Railway Development Supports

(2) JRTT Corporate Principle

JRTT determined principle 'We contribute to build safe, secure, eco-friendly transportation networks.' for social contribution.

JRTT employees recognize the objectives stipulated by its regulation. JRTT established Basic Philosophy to achieve its objectives as one under the same understanding.

【JRTT's Basic Philosophy】

Contribute to Build Tomorrow's Transportation Networks.

- We contribute to build safe, secure, eco-friendly transportation networks
- Our transportation network building helps improve people's lives and further develop economies and societies
- In the course of building transportation networks, we use our reliable technical capacity, abundant experience, and advanced expertise to the fullest

JRTT has also established 'Basic Environmental Policy' and 'Environmental action plan' as environmental consideration policy to implement its business. JRTT publishes an 'Environmental report' merging above policies in accordance to the requirements by Article 9 'law of Promoting the environmental consideration business activities by supporting to provide environmental information (Law no.77, 2004).

(3) JRTT Basic Environmental Policy and Action Plan

【Basic Environmental Policy】

JRTT's mission is to provide smooth land and maritime transport, thereby contributing to the healthy development of the national economy and improving the lifestyles of Japanese people. To fulfill this mission, JRTT strives to contribute to society by proactively engaging in efforts to conserve the global environment and creating a transportation network for the future that seamlessly coexists with the abundant and beautiful natural environment.

1. We strive to reduce the environmental burden created in all areas of our business activity, including railway construction, assistance for promoting the improvement of transportation infrastructure by railway companies, maritime transport companies and others, along with other support.
2. We observe laws and regulations regarding environmental conservation as well as self-imposed standards.
3. We contribute to regional communities by actively participating in local environmental conservation activities.

JRTT has established their environmental policy as 'Basic Environmental Policy'. They also set 'Environmental Action Plan' as concrete actions in order to mitigate environmental load.

JRTT published annual report according to the regulation 'Law of Promotion of environmentally-friendly business activities by specified business operators by promoting provision of environmental information (law No. 77, article 9, 2004).

【Environmental Action Plan】 Summary, established 8th April 2014

Through engagement in better railway construction, subsidies for railway construction, joint ownership shipbuilding, and disposition of land inherited from the national railway system, JRTT contributes to an environmental transportation networks.

JRTT also works to reduce its CO₂ emission through efficient office activities and the recycling of construction waste. The organization advocates for co-existence with the local societies through its involvement in regional environment conservation activities

(4) JRTT Sustainability Finance









JRTT intends to issue the sustainability finance (bond and loan)^{*1} which contributes environmental benefit, social benefit, and SDGs.

Table-1 shows benefit and contribution of the JRTT sustainability Finance.

Schedule-1 shows lists of sustainability projects and assets as Project 01(R1-R4) and 02(S-1).

*1:sustainability finance means JRTT's general proceeds instruments including both bond and loan. Hereafter 'bond' also suggests both bond and loan.

Table-1 Benefit of the JRTT sustainability(green+social) finance and Linkage with SDGs

Project portfolio	Green (Environmental) benefit	Social benefit	Linkage/Contribution to SDGs
No.01 Railway Construction	Eligible category : Clean Transportation - Mitigation of environmental load(Green house gas emission reduction, e.g. CO ₂)	Eligible category : - Essential and imperative transportation infrastructure - Low cost and easy access for various customers	-Goal 9 : Industry innovation and infrastructure -Goal 11 : Sustainable cities and communities -Goal 13 : Climate action   
No.02 Joint Ownership Shipbuilding	Eligible category : Clean Transportation, Pollution Prevention and Control - Mitigation of environmental load(Green house gas emission reduction, e.g. CO ₂) - Marine environment conservation	Eligible category : - Essential and imperative transportation infrastructure and various user convenience - Efficient distribution - Operation of routes to remote island	-Goal 8 : Decent work and economic growth -Goal 9 : Industry innovation and infrastructure -Goal 11 : Sustainable cities and communities -Goal 13 : Climate action -Goal 14 : Life below water     

II Scope and Objectives

As per the description above “DNV GL verification report”, DNV GL Business Assurance Japan K.K. (henceforth referred to as “DNV GL”, “us”, “our” and “we”) has been commissioned by JRTT, to provide the Pre Issuance verification of the Finance as an independent and approved verifier under the CBS 2.1. DNV GL’s criteria and information covered to achieve this is described under ‘Work Undertaken’ below. DNV GL understand that this Pre Issuance Verification is proposed by JRTT to trigger the start of Programmatic Issuance under the CBS v2.1. DNV GL is also engaged to assess the Finance to conform the GBP2018, SBP2018 as Sustainability Bonds Guideline 2018 (SBG2018), GLP2018 and GBG2017.

In this paper, no assurance is provided regarding the financial performance of the Finance, the value of any investments and loan in the Finance, or the long term environmental benefits of the transaction. Our objective has been to provide an assessment as to whether the Finance has met the criteria set out in the CBS v2.1 and the associated Sector Technical Criteria on the basis set out below,

The scope of this DNV GL verification statement is limited to the CBS v2.1 and the following associated Sector Technical Criteria* :

• Low Carbon Land Transport and the Climate Bonds Standard (Version 1.0)

In addition to and separate from DNV GL performing a Pre-Issuance Verification on the compliance of the Finance with the CBS v2.1 and the associated Sector Technical Criteria, DNV GL has conducted a qualitative review of the of the Finance eligibility to consider their alignment with GBP2018, SBP2018, GLP2018, and GBG2017.

DNV GL acknowledges that Marine Transport (Water-borne) criteria is not yet available for verification under the Climate Bonds Standard. When the Marine Transport (Water-borne) criteria becomes available the Issuer and DNV GL will consider this for application to the Joint Ownership Shipbuilding projects and assets for certification additionally.

DNV GL holds no other engagements with JRTT including its direct shareholders, for which we foresee conflict of interest to carry out the Scope of Work as defined in the Request for Proposal.

JRTT intends to distribute any unallocated proceeds in line with the Use of Proceeds and Management of Proceeds sections set out in the JRTT Sustainability Finance Framework.

DNV GL has been commissioned by JRTT to provide a JRTT Sustainability Finance pre-issue verification against CBS v2.1 and assessment opinion related criteria. Our methodology to achieve this is described under 'V. Work Undertaken' below. We were not commissioned to provide independent assurance or other audit activities.

In this paper, no assurance is provided regarding the financial performance of the Finance, the value of any investments and loan in the Finance, or the long term environmental benefits of the transaction. Our objective has been to provide a verification and assessment that the Finance has met the criteria established on the basis set out below.

The scope of this DNV GL opinion is limited to the CBS v2.1, GBP2018(GLP2018, as well) and SBP2018 as SBG2018. DNV GL also considered the requirements of the GBG2017 (MOE, Japan 2017) during its verification and assessment, however at the time of review, Technical Criteria for - 'Low Carbon Land Transport and the Climate Bonds Standard (version 1.0)' (e.g. Public rail infrastructure) are available for Issuer use.

No opinion of conformance with the Standard is provided here and no Certification has been applied for at this time. Any future application for Certification under the Climate Bonds Standard would be at the discretion of the Issuer, JRTT.

III Responsibilities of the Directors of Issuer(JRTT) and the assurance providers, DNV GL

The management of JRTT has provided the information and data used by DNV GL during the delivery of this review. DNV GL's statement represents an independent opinion and is intended to inform JRTT management and other interested stakeholders in the Finance as to whether the established criteria have been met, based on the information provided to us. In our work we have relied on the information and the facts presented to us by JRTT.

DNV GL is not responsible for any aspect of the nominated assets referred to in this opinion and cannot be held liable if estimates, findings, opinions, or conclusions are incorrect. Thus, DNV GL shall not be held liable if any of the information or data provided by JRTT's management and used as a basis for this assessment were not correct or complete.

IV Basis of DNV GL's opinion

DNV GL has conducted the verification against the CBS v2.1 and associated Sector Technical Criteria through the creation and execution of a verification protocol addressing each requirements of the CBS v2.1^{*1} and the associated Sector Technical Criteria. The detail of areas covered in the DNV GL verification is summarized in Schedule 2 below.

As per DNV GL's Protocol for assessment, in addition to the CBS v2.1 above, DNV GL also considers the criteria against which the Finance has been reviewed are grouped under the four Principles (GBP2018^{*2}, SBP2018^{*3}, SBG2018^{*4}, GLP2018^{*5}, and GBG2017^{*6}) as follows:

- **Principle One: Use of Proceeds.** The Use of Proceeds criteria are guided by the requirement that an issuer of a sustainability finance must use the funds raised to finance eligible activities. The eligible activities should produce clear environmental benefits.
- **Principle Two: Process for Project Evaluation and Selection.** The Project Evaluation and Selection criteria are guided by the requirements that an issuer of a sustainability finance should outline the process it follows when determining eligibility of an investment using sustainability finance proceeds, and outline any impact objectives it will consider.
- **Principle Three: Management of Proceeds.** The Management of Proceeds criteria are guided by the requirements that a sustainability finance should be tracked within the issuing organization, that separate portfolios should be created when necessary and that a declaration of how unallocated funds will be handled should be made.
- **Principle Four: Reporting.** The Reporting criteria are guided by the recommendation that at least Sustainability Reporting to the finance stakeholders should be made of the use of finance proceeds and that quantitative and/or qualitative performance indicators should be used, where feasible.

*1: Climate Bonds Standard | version 2.1 (Climate Bonds Initiative)

*2: Green Bond Principles (June 2018, International Capital Market Association)

*3: Social Bond Principles (June 2018, International Capital Market Association)

*4: Sustainability Bond Guidelines (June 2018, International Capital Market Association)

*5: Green Loan Principles (2018, Loan Market Association, Asia Pacific LMA and LOAN SYNDICATION AND TRADING ASSOCIATION)

*6: Green Bond Guidelines, 2017 (March 2017, Ministry of the Environment, Japan)

V Work undertaken

Our work constituted a high level review of the available information, based on the understanding that this information was provided to us by JRTT in good faith. We have not performed an audit or other tests to check the veracity of the information provided to us. The work undertaken to form our opinion included:

Pre-Issue Verification against CBS v2.1

- Creation and execution of a Climate Bonds Standard Protocol, to include the relevant Sector Technical Criteria for the nominated projects and assets, as described above and in Schedule 2 to this Assessment;
- Assessment of documentary evidence provided by JRTT on the Finance and supplemented by a high-level desktop research, an onsite visit for documentation review and interview with key personnel from JRTT.
- Discussions with JRTT management, and review of relevant documentation;
- Documentation of findings against each element of the criteria. Our opinion as detailed below is a summary of these findings.

Also, consideration will be held regarding the alignment with relevant criteria GBP2018, SBP2018, SBG2018, GLP2018, and GBG2017 as described above, and contribution towards United Nations Sustainable Development Goals in this Finance.

Assessment for alignment with relevant criteria GBP2018, SBP2018, SBG2018, GLP2018 and GBG2017

- Principle One : Use of Proceeds
- Principle Two : Process for Project Evaluation and Selection
- Principle Three : Management of Proceeds
- Principle Four : Reporting

Consideration of the Use of Proceeds against the 17 UN SDGs;

- SDGs Goal 8 : Good job and Economic growth
- SDGs Goal 9 : Innovation and Infrastructure
- SDGs Goal 11 : Sustainable city and communities
- SDGS Goal 13 : Climate action
- SDGs Goal 14 : Life below water

<https://www.mofa.go.jp/mofaj/gaiko/oda/sdgs/about/index.html>

VI Findings and DNV GL's opinion

DNV GL has performed a Pre Issuance Verification of the Finance. It is DNV GL's responsibility to provide an independent verification statement on the compliance of the Finance with the CBS v2.1.

DNV GL conducted the verification in accordance with the CBS v2.1 and with International Standard on Assurance Engagements 3000 Assurance Engagements other than Audits or Reviews of Historical Information. The verification included i) checking whether the provisions of the CBS v2.1 were consistently and appropriately applied and ii) the collection of evidence supporting the verification.

DNV GL's verification approach draws on an understanding of the risks associated with conforming to the CBS v2.1 and the controls in place to mitigate these. DNV GL planned and performed the verification by obtaining evidence and other information and explanations that DNV GL considers necessary to give limited assurance that the Finance meet the requirements of the CBS v2.1. As relevant criteria GBP2018, SBP2018, SBG2018, GLP2018 and GBG2017 assessment based on the each criteria can be consolidated to evaluate with CBS v2.1, verification and assessment result are described as one in latter contents.

Based on the limited assurance procedures conducted, nothing has come to our attention that causes us to believe that the Finance is not, in all material respects, in compliance with the requirements of the CBS v2.1 and associated Sector Technical Criteria.

1. Principle One, Use of Proceed

DNV GL has confirmed that the proceeds from the finance issued by JRTT will be allocated to the two businesses [including 5 projects] which meet the green and social bond as sustainability bond criteria below;

Eligible projects portfolio:

01 Railway Construction

- Clean Transportation
- Essential and imperative transportation infrastructure
- Low cost and easy access for various customers

02 Joint Ownership Shipbuilding

- Essential and imperative transportation infrastructure and various user convenience
- Efficient distribution
- Operation of routes to remote island
- Clean Transportation and Pollution prevention and control

Schedule-1 shows lists of sustainability projects 01(R1-R4) and 02(S-1)

All the proceeds will be financed and/or refinanced to the sustainability projects. As for the finance, it will be allocated to new shipbuilding

Detail information about sustainability projects are followings

Project 01 R-1 : Public railway ; Railway Project under the Urban Railway

Convenience Improvement Law

Fig.-1 shows a representative project of R-1 “Public railway ; Railway Project under the Urban Railway Convenience Improvement Law”, Eastern Kanagawa Lines. These new projects are implemented under the Act on Enhancement of Convenience of Urban Railways, etc., which was enacted in 2005. Under these projects, JRTT builds new through lines while effectively using existing railway infrastructure to eliminate the need for transfers and improve promptness, thereby improving convenience for passengers. The national government, local governments and JRTT each provide 1/3 of the financing for these improvements. After lines open, JRTT retains ownership of the infrastructure and leases it to the entity of operation, which then remits rail access charges to JRTT.

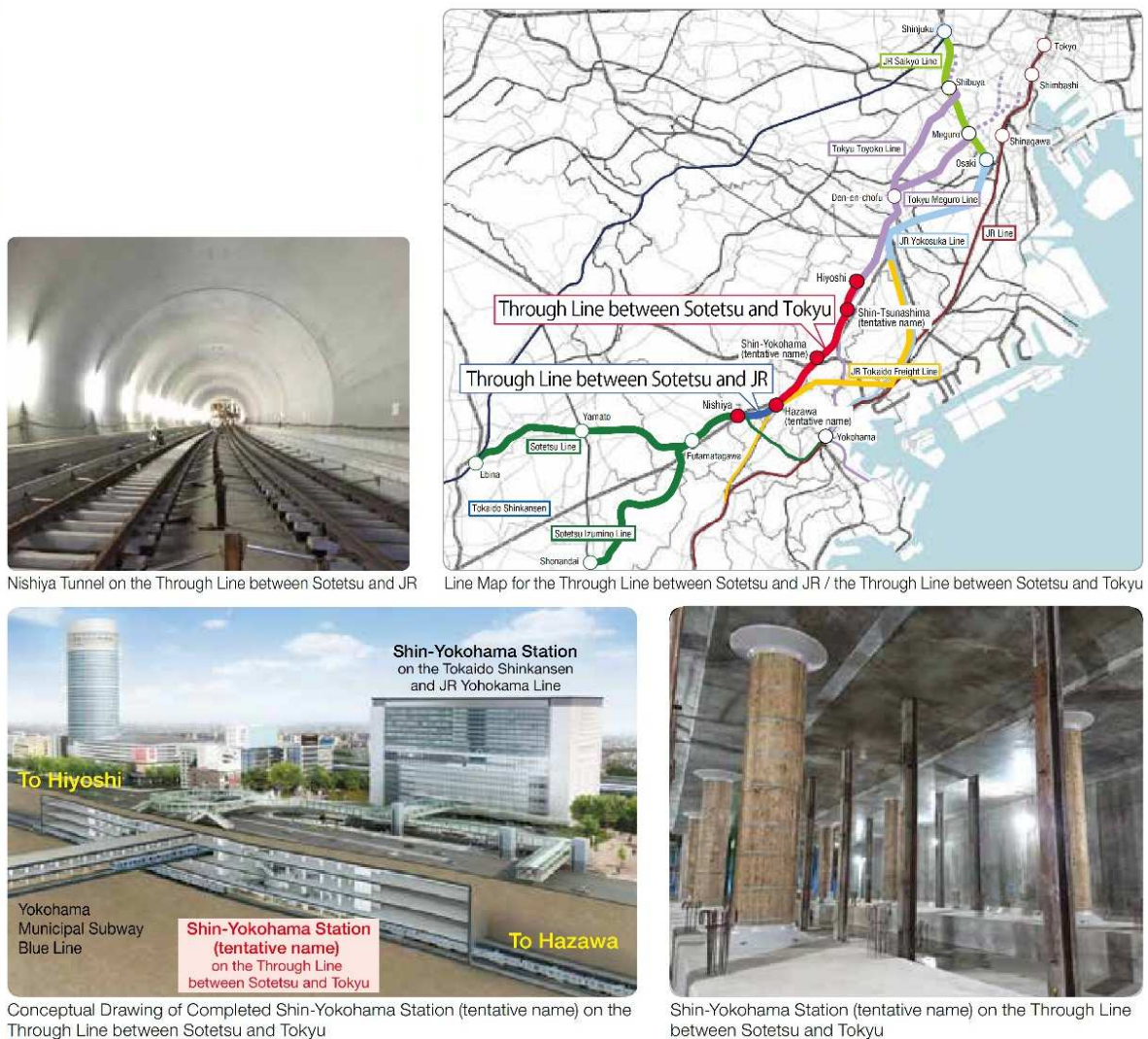


Fig-1 Project 01 R-1

[Eastern Kanagawa Lines (The Through Lines between Sotetsu and JR/Sotetsu and Tokyu)]

Project 01 R-2 : Public railway ; Leased railway

R-3 : Public railway ; Assigned railway

R-4 : Public railway ; Railway Project under the Act on Special Measures concerning Integrated Promotion of Residential Land Development and Railway Construction in Major Urban Areas

Fig.-2 shows a representative project from R-2 to R-4.

JRTT's engagement contributes to the achievement of the national policy, by establishing national land transportation system, maintaining the urban function, strengthening the economic foundation, and mitigating regional inequalities in rural areas. Sustainability finance eligible railway construction project includes project R-2 : Public railway ; Leased railway, R-3 : Public railway ; Assigned railway and R-4 : Public railway ; Railway Project under the Act on Special Measures concerning Integrated Promotion of Residential Land Development and Railway Construction in Major Urban Areas which are all public transportation electrified railway infrastructure.

DNV GL also executed on site visit and local interview (included in R-3 project, on Dec 2018), then confirmed its eligibility as sustainability (green and social) project.

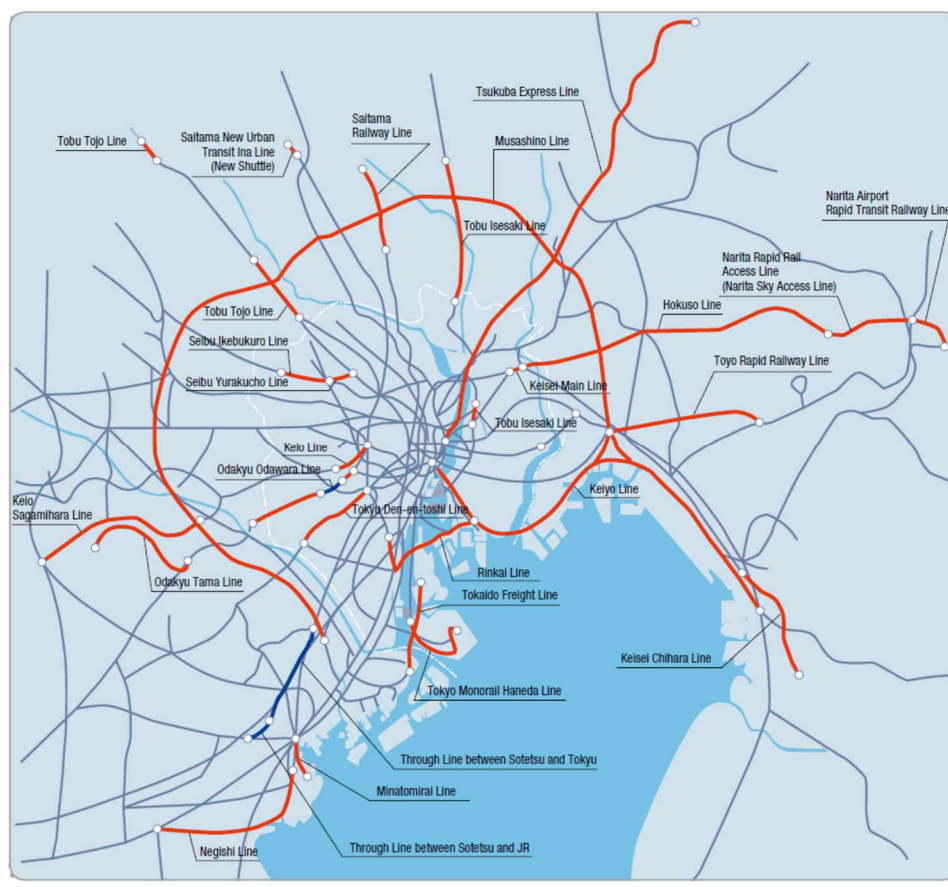


Fig-1 Project 01 from R-2 to R-4 (legend Red line : in operation, blue line : under construction)

Project 02 S-1: Joint Ownership Shipbuilding

Fig-3 and Fig-4 show representative Joint Ownership Shipbuilding project.

JRTT supports financial (low interest and long term lending) and technical aspect of shipbuilding of domestic passenger and freight ship. According to the policy 'Reorganization and Rationalization Plan for government-backed corporation' (Dec. 2001), JRTT has focused on the shipbuilding project which really political policy needs.

(1) Distribution system improvement :

Shipbuilding for large scale ship or freight and operation efficiency.

(2) Environmental Conservation :

Shipbuilding for modal shift (transferring from track to ship and railway) which promote environmental conservation avoiding traffic jam and CO₂ emission reduction.

(3) Countermeasure for declining birthrate and aging population :

Shipbuilding for barrier free ship addressing the society of aging population

(4) Ships for route to remote islands :

Shipbuilding for remote island citizens to provide the essential service such as safety and secured transportation.

JRTT continuously has reviewed their actions focusing on the Joint ownership shipbuilding which contributes further social impact (FY 2005), and overarching policy requirement (FY 2010). JRTT has conducted sustainability action (both environmental and social impact) through Joint ownership shipbuilding on FY 2017 based on the MLIT direction (environmental requirement for domestic marine transportation) and supporting continuous domestic social and economic growth as infrastructure provider. These social and environmental activities ensure that Joint ownership shipbuilding is eligible project as sustainability finance. Detail information is described in JRTT sustainability finance framework

JRTT will allocate the use of proceeds of finance to this project(finance to new shipbuilding and refinance) which was determined its eligibility as sustainability finance

DNV GL acknowledges that Marine Transport (Water-borne) criteria is not yet available for verification under the Climate Bonds Standard. Instead the Issuer's exposure to electrified rail transport and associated infrastructure is relied upon and the focus of this verification. When the Marine Transport (Water-borne) criteria becomes available the Issuer and DNV GL will consider this for application to the Joint Ownership Shipbuilding projects and assets for certification additionally.

● JRTT's Cargo Ships



The Choun Maru,
a 396-G/T general cargo ship



The Miyuki,
a 749-G/T container ship



The Fukuei Maru No. 2,
a 252-G/T oil tanker



The Kamikita Maru,
a 12,430-G/T RORO ship



The Ryusei Maru,
a 498-G/T chemical tanker

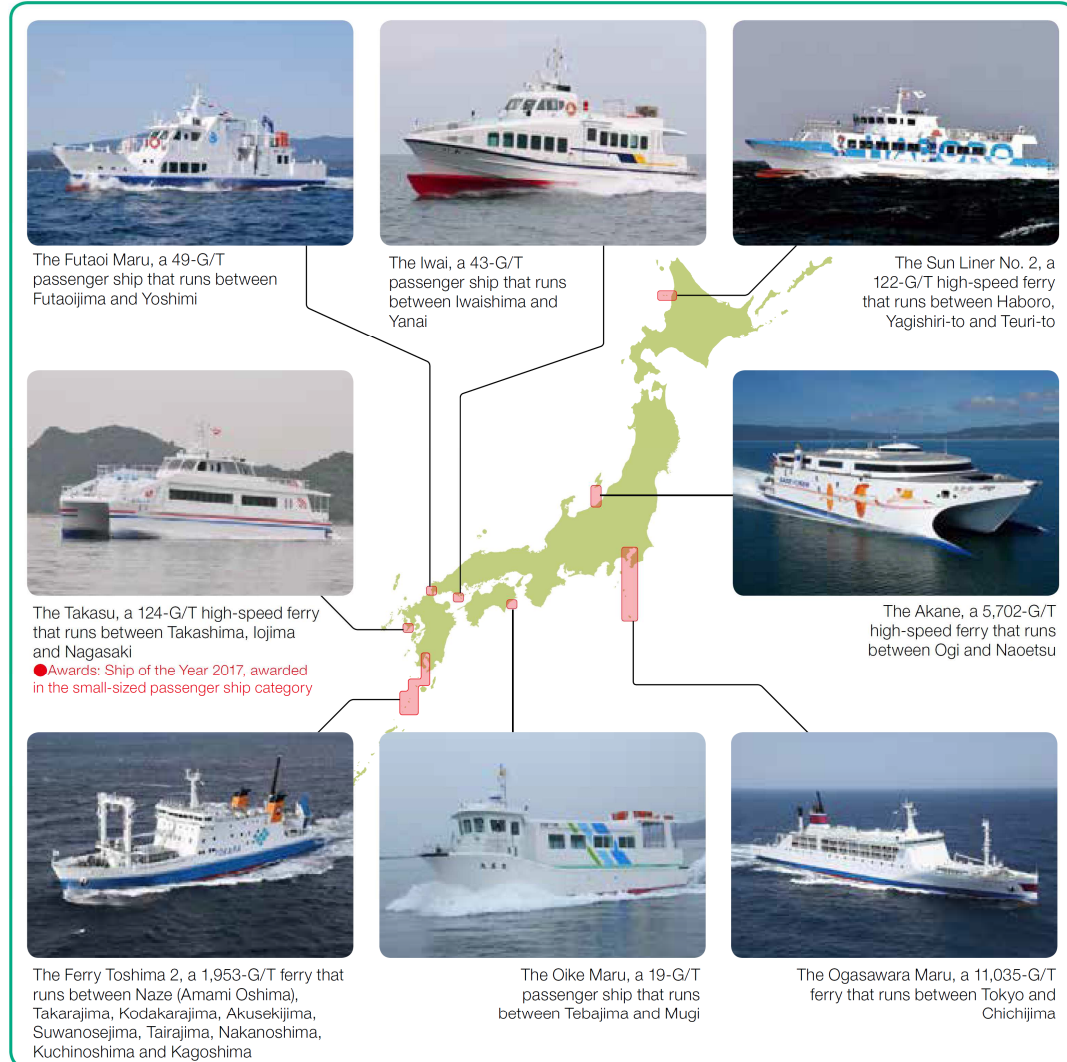


The Kousyu Maru No. 11,
a 747-G/T LPG tanker

Fig-3 Joint Ownership Shipbuilding(Cargo Ships) example

JRTT's Passenger Ships

Ships for Routes to Remote Islands



Long-Distance Ferries, etc.

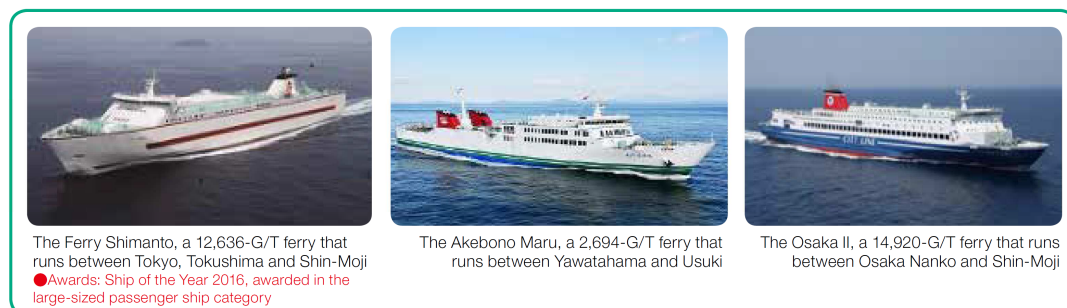


Fig-3 Joint Ownership Shipbuilding(Passenger Ships) example

2. Principle Two, Process for Project Evaluation and Selection

DNV GL has confirmed that the sustainability projects of both two businesses, including 5 projects described in the Schedule-1, were evaluated and selected through the appropriate process by the relevant department of JRTT, based on its corporate philosophy and basic environmental policy.

JRTT determines that implementation of these projects have environment benefits (low CO₂ emission compared with alternative category) based on the direction of MLIT. MLIT : Ministry of Land, Infrastructure, Transport and Tourism, Japan

Table-2 CO₂ emission per unit(passenger and freight) (2016)
reference : MLIT

category	passenger : g-CO ₂ /p-km	freight : g-CO ₂ /t-km
Private light vehicle	141	1,159
Airplane	98	240
Bus	67	-
<u>Ship</u>	-	<u>39</u>
<u>Railway</u>	<u>20</u>	<u>21</u>

As for the negative impact caused by these projects, appropriate countermeasures and practical action plans which comply with relevant regulations and laws have been taken and will be taken after the evaluation. DNV GL confirmed that JRTT resulted that its effect is limited and appropriate action will be executed if required.

3. Principle Three, Management of Proceeds

DNV GL has reviewed and confirmed JRTT's plans to trace/manage the proceeds from the Finance, from the time of issuance to the time of disbursement, as well as the appropriateness and clarity of their plan to manage total amount of the proceeds. JRTT will manage the cash or cash equivalents which equals to fund, until decision of the proceed allocation. DNV GL has confirmed that JRTT will periodically (at least annually) review the outstanding balance of the Finance.

Details are as below.

- JRTT can track how the proceed is allocated to the project by using a specific format which can trace details. The balance of the allocated fund and unallocated fund is also controlled by specific format which can display each Debt and Bond.
- JRTT accounting must be inspected by accountant's inspection as well as auditor secretary according to the 'Act on General Rules for Incorporated Administrative Agencies'. Internal process for accounting segment of the proceeds and its adequacy also is constantly checked by operating audit.
- The settlement of accounts of JRTT must be authorized annually by MLIT, competent authority. Above process of the settlement of accounts authorization is one of the internal management process.
- The corporate report including each project disbursement and if there are noted changes, the report is also disclosed after the evaluation by the business evaluation monitoring committee, which consists of external experts.
- JRTT must manage its unallocated proceeds according to the requirement of 'Act on General Rules for Incorporated Administrative Agencies' with safe, secured and high liquidity method such as bank deposit such as national bond, municipal bond, government guaranteed bonds and valuable securities.

As stated above, DNV GL provides no assurance regarding the financial performance of the Finance, the value of any investments and loan in the Finance, or the effects of the transaction.

4. Principle Four, Reporting

DNV GL has confirmed that JRTT has plans to report/disclose the specific information required by the Climate Bonds Standard(version2.1) and relevant criteria, on JRTT's homepage annually. These will include descriptions of the project lists, progress of refinance (amount or share), and management of the proceeds invested, as well as the associated qualitative or quantitative environmental impacts if possible.

As for the environmental benefit, DNV GL has confirmed that JRTT plans to report as requested by criteria. DNV GL will conduct periodic ongoing reviews and state about their report periodically.




Details are as below.

- JRTT will publish IR information (<http://www.jrtt.go.jp/05Ir/ir-index.html>) about JRTT's project and financial outline (double entry accounting). As for this sustainability finance, fund allocation after the issuance will be disclosed/revised in JRTT's homepage based on the framework until all the fund is allocated.
 - Environmental report
 - Annual business report
 - Annual financial report
 - Annual financial statement
 - project report
 - Bond information report
- JRTT will disclose environmental and social benefit and management proceeds through following report.
 - CO₂ emission per transportation unit
 - Information about shipbuilding which conform government direction
 - Numbers of passenger of eligible railway project (main line)
 - Project progress
 - Fund amount of allocation and outstanding
 - Refinance share

Considering all of the above assessments, DNV GL has confirmed that the nominated sustainability projects of JRTT are designed and are planned to be executed in accordance with related criteria (Climate Bonds Standard, Green Bond Principles 2018, Green Loan Principle 2018 and Green Bond Guidelines, 2017 by Ministry of the Environment, Japan).



Consideration of the Use of Proceeds against the 17 UN SDGs;

In addition to the Pre Issuance verification against the requirements of the CBS v2.1 and associated criteria, DNV GL has confirmed the Use of Proceeds and nominated projects & assets associated with the Finance for alignment with, and contribution towards, the UN SDGs^{*1} in the following table.

SDGs (goals and target)		JRTT sustainability finance contribution	
	8.9 : By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products	• Joint Ownership shipbuilding	• Domestic cruise ship alternative shipbuilding considering tourism vision based on tourism vision according to the government direction
	 9.1 : Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all 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 capabilities	• Railway Construction • Joint Ownership shipbuilding	• Contribution to MLIT ^{*2} plan 'Social capital development plan', strengthen international competition in metropolis and acceleration of global warming countermeasure.
	 11.2 : By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	• Railway Construction • Joint Ownership shipbuilding	• Providing safe and comfortable service to aged and disabilities people(barrier free transportation law) • Promoting smooth and convenient mobilization of inter-region, according to land transportation plan by MLIT ^{*2}

*1 Green and social bonds : A high-level mapping to the sustainable development goals (Jun, 2018 edition)

*2 MLIT : Ministry of Land, Infrastructure, Transport and Tourism, Japan

SDGs (goals and target)		JRTT sustainability finance contribution	
	<p>13.2 : Integrate climate change measures into national policies, strategies and planning</p> <p>13.3 : Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning</p>	<ul style="list-style-type: none"> • Railway Construction • Joint Ownership shipbuilding 	<ul style="list-style-type: none"> • Improvement of the efficiency of transportation by modal connection based on the integrated logistics framework by MLIT^{*2}. • Contribution to MLIT environmental action plan 'Promotion of modal shift' and 'Promotion to R&D and application for marine segment (including integrated countermeasure for mitigating the pollution substance such as Sox)'
	<p>14.1 : By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution</p>	<ul style="list-style-type: none"> • Joint Ownership shipbuilding 	<ul style="list-style-type: none"> • Marine pollution prevention shipbuilding to mitigate the environment load.

DNV GL Business Assurance Japan K.K.

31st . Jan. 2019



Mark Robinson

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Naoki Maeda

Managing Director

DNV GL – Business Assurance Japan K.K.



Masato Kanedome

Project Leader

DNV GL – Business Assurance Japan K.K.

About DNV GL

Driven by our purpose of safeguarding life, property and the environment, DNV GL enables organisations to advance the safety and sustainability of their business. Combining leading technical and operational expertise, risk methodology and in-depth industry knowledge, we empower our customers' decisions and actions with trust and confidence. We continuously invest in research and collaborative innovation to provide customers and society with operational and technological foresight.

With our origins stretching back to 1864, our reach today is global. Operating in more than 100 countries, our 16,000 professionals are dedicated to helping customers make the world safer, smarter and greener.

1. Schedule-1 Nominated assets & Sustainability Finance project outline

The Project portfolio described in table-1 are information at the pre-issuance stage(Jan. 2019, Project : 18 lines、Railway distance(length) : 231.6km) and may be possibility changed.

Table will be revised if important change is encountered, based on the CBI requirement of criteria and discussion with JRTT and DNV GL.

Table(1/2) JRTT Sustainability Finance Project portfolio (Project No. 01)

Project No.		Nominated Project/Asset Portfolio	Sustainability Project Category	Sustainability Project Sub-Category	Remarks
01	R-1	Public railway ; Railway Project under the Urban Railway Convenience Improvement Law	<ul style="list-style-type: none"> Clean transportation Affordable basic infrastructure 	<ul style="list-style-type: none"> rail (electric) transportation(public) 	Railway Construction (Construction Account) : Nominated Project • Eastern Kanagawa Lines • etc
	R-2	Public railway ; Leased railway	<ul style="list-style-type: none"> Clean transportation Affordable basic infrastructure 	<ul style="list-style-type: none"> rail (electric) transportation(public) 	Railway Construction (Construction Account) : Nominated Project • Keiyo line • Musashino line • etc
	R-3	Public railway ; Assigned railway	<ul style="list-style-type: none"> Clean transportation Affordable basic infrastructure 	<ul style="list-style-type: none"> rail (electric) transportation(public) 	Railway Construction (Construction Account) : Nominated Project • Tobu Isezaki line • Minatomirai 21 line • Odakyu Odawara line • etc
	R-4	Public railway ; Railway Project under the Act on Special Measures concerning Integrated Promotion of Residential Land Development and Railway Construction in Major Urban Areas	<ul style="list-style-type: none"> Clean transportation Affordable basic infrastructure 	<ul style="list-style-type: none"> rail (electric) transportation(public) 	Railway Construction (Construction Account) : Nominated Project • Joban new line (TX line)
			Total exposure : 1,842,598,910,755 JPY as installment amounts (FY2017)		
			Bond proceeds ; 114,000, 000,000 JPY(FY2019 government budget plan)		

Table(2/2) JRTT Sustainability Finance Project portfolio (Project No. 02)

Project No.		Nominated Project/Asset Portfolio	Sustainability Project Category	Sustainability Project Sub-Category	Remarks
02	S-1	Joint ownership shipbuilding (freight and passenger ship)	<ul style="list-style-type: none"> • Clean transportation • Affordable basic infrastructure 	<ul style="list-style-type: none"> • transportation(public) • Modal shift 	Joint Ownership Shipbuilding (Maritime Account) : <ul style="list-style-type: none"> • Passenger ferry : 1,020 ships (1,032k-ton) • Freight ferry : 2,999 ships (3,551k-ton) (31 st Mar. 2016)
Total exposure : The share of Finance allocation against Total exposure is determined by JRTT regulation between 70-90%. Every Finance amounts is confirmed to be less than total exposure Bond proceeds : 3,000,000,000JPY(FY 2019 government budget plan)					

2. Schedule-2 CBS v2.1 Verification criteria

Summary criteria for assertions of compliance with the CBS v2.1

The criteria against which the relevant projects and assets have been reviewed prior to their inclusion in the portfolio of eligible projects and assets for the Finance are grouped under the requirements as detailed within the CBS v2.1 and associated Sector Technical Criteria. DNV GL has verified that JRTT conforms with all requirements here based on the evidences provided JRTT's relevant documents and interview through verification. Hereafter 'bond' also suggests finance, both bond and loan. These requirements broadly include:

Part A: General Requirements

Area	Requirement
Nominated Projects & Assets	A decision-making process shall be maintained to determine the continuing eligibility of the nominated projects and assets.
Use of Proceeds	Net proceeds of the bond must be allocated to nominated projects and assets.
Non-Contamination of Proceeds	The net proceeds of the bond shall be credited to a sub-account, moved to a sub-portfolio or otherwise identified in an appropriate manner, and documented.
Confidentiality	Information about the nominated projects and assets shall be provided to the Verifier and to the Climate Bonds Standard Board to support the assessment of conformance with the Climate Bonds Standard. The information disclosed to the Verifier and the Climate Bond Standard Board may be subject to confidentiality arrangements.
Reporting	There are specific requirements in respect of reporting on use of proceeds and nominated projects and assets.

Part B: Low Carbon Contribution - Eligible projects and physical assets

Nominated projects and assets include financing of, or investments in, projects and assets which enable the mitigation of greenhouse gases, as detailed in Schedule 1.

Area	Requirement
Low Carbon Transport	All infrastructure, infrastructure upgrades, rolling stock and vehicles for electrified public transport pass this criterion, including electrified rail, trams, trolleybuses and cable cars

Part C: Bond structures

Area	Requirement
Project Holding	The issuer of a climate bond shall continue to hold nominated projects and assets which have a value at least equal to the original principal amount of the bond at the time of issuance or the amount outstanding as the case may be.
Earmarking	The Issuer of the bond shall maintain the earmarking process to manage and account for funding to the nominated projects and assets.

3. Schedule-3 Sustainability Finance Eligibility Assessment Protocol

Checklist Sustainability Finance Guideline (SBG) Eligibility checklist

Sustainability finance means JRTT's general proceeds instruments including both bond and loan. Hereafter 'bond' also suggests both bond and loan, official bond statement and loan document. JRTT Sustainability Finance Framework, official bond statement and loan document, etc. will be published for explanation to investor.

Following (1)~(4) are based on Sustainability Bond Guideline (ICMA, 2018) "SBG" referring to Green Bond Principle (ICMA, 2018), Social Bond Principle (ICMA, 2018). DNV GL established checklist according to the above guideline and principles. DNV GL describes our findings in the checklists based on the evidences provided JRTT's relevant documents and interview through verification.

(1) SBG-1 Use of proceeds

Ref.	Criteria	Requirements	DNV GL Findings
1a	Type of bond	The bond must fall in one of the following categories, as defined by the Sustainability (Green and Social) Bond Principles: <ul style="list-style-type: none">• Sustainability Use of Proceeds Bond• Sustainability Use of Proceeds Revenue Bond• Sustainability Project Bond• Sustainability Securitized Bond	The reviewed evidence confirms that the BOND falls in the category: Green/Social(Sustainability) Use of Proceeds Bond.
1b	Project	The cornerstone of a Sustainability Bond is the	As identified by the purpose of the BOND is to use the proceeds to finance and

Ref.	Criteria	Requirements	DNV GL Findings
	Categories	utilization of the proceeds of the bond which should be appropriately described in the legal documentation for the security.	<p>refinance for projects falling under the following categories ;</p> <p><Railway Construction></p> <ul style="list-style-type: none"> - Public railway ; Railway Project under the Urban Railway Convenience Improvement Law - Public railway ; Leased railway - Public railway ; Assigned railway - Public railway ; Railway Project under the Act on Special Measures concerning Integrated Promotion of Residential Land Development and Railway Construction in Major Urban Areas <p><Joint Ownership shipbuilding></p> <ul style="list-style-type: none"> - Joint ownership shipbuilding (freight and passenger ship) <p>DNV GL's assessment concluded that these asset and project would present eligible project against green and social bond principles (as sustainability bond) and green loan principles. Above information is included in official bond statements such as bond document issued by JRJT. DNV GL concluded that 1b requirement is satisfied. In case that new project is nominated, JRJT will evaluate and its eligibility and disclose it as official document.</p>
1c	Environmental and Social benefits	All designated Sustainability Project categories should provide clear environmentally sustainable benefits, which, where feasible, will be quantified or assessed by the issuer.	<p>DNV GL, as CBI verifier, assessed and verified eligibility of Railway construction project portfolio through relevant criteria such as Low carbon land transportation as well as CBS. Railway construction project portfolio also has social benefit. Joint ownership shipbuilding project portfolio aligns with mainly social benefit and also have environmental secondary benefit (CO₂ emission reduction and prevent marine pollution).</p> <p>DNV GL confirmed that JRJT evaluate its benefit qualitatively and quantitatively as much. DNV GL also confirmed that JRJT determines the relationship between those</p>

Ref.	Criteria	Requirements	DNV GL Findings
			<p>projects and SDGs mapping based on the MLIT policy and ICMA document/17/.</p> <p>DNV GL reviewed JRTT provided document and explanation that JRTT already identified the environmental risk and addressed appropriate countermeasures. DNV GL concluded that 1c requirement is satisfied.</p>
1d	Refinancing share	In the event that a proportion of the proceeds may be used for refinancing, it is recommended that issuers provide an estimate of the share of financing vs. re-financing, and where appropriate, also clarify which investments or project portfolios may be refinanced.	<p>The proceeds of the BOND, in their entirety (not fixed yet, will be allocated to sustainability project described schedule-1. Refinance plan is as follows</p> <ul style="list-style-type: none"> -Refinance to Railway construction project portfolio (all) -Refinance to Joint ownership shipbuilding (partially) <p>Finance and Refinance share will be disclosed to investor in official bond statement before issuance.</p>

(2) SBG-2 Process for Project Selection and Evaluation

Ref.	Criteria	Requirements	DNV GL Findings
2a	Investment-decision process	<p>The issuer of a Sustainability Bond should outline the decision-making process it follows to determine the eligibility of projects using Sustainability Bond proceeds. This includes, without limitation:</p> <ul style="list-style-type: none"> • A process to determine how the projects fit within the eligible Sustainability Projects categories identified in the Green Bond Principles and Social bond principle; • The criteria making the projects eligible for using the Sustainability Bond proceeds; and • The environmental and social sustainability objectives 	<p>As per the JRTT sustainability bond framework, the issuer has set out the following criteria for project selection. Eligible project (portfolio) means alignment with their corporate philosophy and basic environmental policy. In this sustainability bond, JRTT has decided eligible project portfolio overarching it and considering the compliance with relevant external criteria such as Climate bonds standards v2.1 (including sector criteria), listed below.</p> <p><reference criteria></p> <ol style="list-style-type: none"> 1. Climate Bonds Standard version 2.1 (Climate Bonds Initiative) and technical criteria (Low carbon land transportation) 2. Green Bond Principles (June 2018, International Capital Market Association) 3. Social Bond Principles (June 2018, International Capital Market Association) 4. Sustainability Bond Guidelines (June 2018, International Capital Market Association) 5. Green Loan Principles (2018, Loan Market Association, Asia Pacific LMA and LOAN SYNDICATION AND TRADING ASSOCIATION) 6. Green Bond Guidelines, 2017 (March 2017, Ministry of the Environment, Japan) <p><eligible project portfolio></p> <p>Railway Construction</p> <ul style="list-style-type: none"> - Clean Transportation - Essential and imperative transportation infrastructure - Low cost and easy access for various customers <p>Joint Ownership Shipbuilding</p> <ul style="list-style-type: none"> - Essential and imperative transportation infrastructure and various user convenience - Efficient distribution - Operation of routes to remote island - Clean Transportation and Pollution prevention and control <p>Those nominated project portfolio is discussed with JRTT's related department and</p>

Ref.	Criteria	Requirements	DNV GL Findings
			responsibilities (JRTT boards). DNV GL also confirmed that JRTT determines the relationship between those projects and SDGs mapping based on the MLIT policy and ICMA document/17/. DNV GL concluded that 2a requirement is satisfied through interview and document review.
2b	Issuer's environmental and social and governance framework	In addition to information disclosed by an issuer on its Sustainability Bond process, criteria and assurances, Sustainability Bond investors may also take into consideration the quality of the issuer's overall framework and performance regarding environmental sustainability.	As per the interview and review documents provided by JRTT, DNV GL confirmed that JRTT has addressed to achieve both sustainable green and social activities according to environmental action(https://www.jrtt.go.jp/01Organization/Csr/csr-kankyo.html) and domestic marine route for future creative plan published by MLIT(http://www.mlit.go.jp/common/001190904.pdf). DNV GL also confirmed that JRTT will issue the bond continuously based on their framework which aligns with CBS requirement and CBI certification (programmatic certification) https://www.climatebonds.net/certification/get-certified https://www.climatebonds.net/programmatic-certification . DNV GL concluded that 2b requirement is satisfied

(3) SBG-3 Management of proceeds

Ref.	Criteria	Requirements	DNV GL Findings
3a	Tracking procedure-1	The net proceeds of Sustainability Bonds should be credited to a sub-account, moved to a sub-portfolio or otherwise tracked by the issuer in an appropriate manner and attested to by a formal internal process that will be linked to the issuer's lending and investment operations for Sustainability Projects.	It is confirmed that each proceeds expense of JRTT is required to submit each use of proceeds and be approved by minister of MLIT according to the relevant laws. Deposit accounts of the proceeds are strictly managed by each project portfolio. The balance of the proceeds is also managed with subaccount spread sheet (divided each project unit). DNV GL concluded that 3a requirement is satisfied
3b	Tracking procedure-2	So long as the Sustainability Bonds are outstanding, the balance of the tracked proceeds should be periodically reduced by amounts matching eligible sustainability investments or loan disbursements made during that period.	It is confirmed balance of the bond and loan tracked proceeds (allocated and unallocated amount) has been managed at least annually during bond reimbursement or loan disbursement period. DNV GL concluded that 3b requirement is satisfied
3c	Temporary holdings 一時的な運用方法	Pending such investments or disbursements to eligible Sustainability Projects, the issuer should make known to investors the intended types of temporary investment instruments for the balance of unallocated proceeds.	According to the Japanese incorporated administrative agency general law, temporary investment instrument is limited to avoid risks. It is clearly described some options of the balance of the bond proceed will be managed safely instrument in framework. DNV GL concluded that 4a requirement is satisfied

(4) SBG-4 Reporting

Ref.	Criteria	Requirements	DNV GL Findings
4a	Periodical reporting	<p>In addition to reporting on the use of proceeds and the temporary investment of unallocated proceeds, issuers should provide at least annually a list of projects to which Sustainability Bond proceeds have been allocated including</p> <ul style="list-style-type: none">- when possible with regards to confidentiality and/or competitive considerations- a brief description of the projects and the amounts disbursed, as well as the expected environmentally and social sustainable impact.	<p>JRTT will publish the annual report including a dedicated section on the sustainability bond in JRTT website. This will include description of the project and value of the proceeds invested, as well as the associated environmental impact. DNV GL reviewed that JRTT has already reported such information and will utilize it. DNV GL confirmed it as per interview and framework document review, then concluded that 4a requirement is satisfied</p>