

**Komatsu Ltd.**

**Komatsu Green Bond**

**Green Bond eligibility pre-issue assessment report**

**DNV GL second party opinion**



Jun. 2020

DNV GL Business Assurance Japan K.K.

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## Executive Summary

Komatsu Ltd. (hereafter “Komatsu”), founded in Komatsu City, Ishikawa Prefecture in May 1921, engages in an extensive range of operations from research and development, production, marketing, sales and service to retail financing in three business segments of Construction, Mining and Utility Equipment, Retail Finance, and Industrial Machinery and Others in Japan and abroad. Under the three-year mid-term management plan, “DANTOTSU Value - FORWARD Together for Sustainable Growth”, to be completed in the fiscal year ending March 31, 2022, Komatsu is making efforts for sustainable growth through a positive cycle of improving earnings and solving ESG issues. Starting with this mid-term management plan, Komatsu has added new ESG management targets and clearly defined the relationships between the efforts of focus in three pillars of growth strategies and SDGs. Komatsu has established its ‘Komatsu Green Bond Framework’ (hereinafter “Framework”) and will raise the proceeds from the green bond to finance/refinance to “Responses to environmental problems resulting from the use of products” and “Responses to environmental problems resulting from manufacturing”. And JPY 10 billion planned to be raised from green bond in 2020 will be allocated to all or parts of the projects.

Komatsu engages DNV GL business assurance Japan K.K. (hereinafter “DNV GL”) as external reviewer to assess its eligibility as green bond. Eligible projects falling into this green bond are described in following table. The Komatsu Green Bond projects contribute to 4 UN Sustainable Development Goals (9. Industry Innovation and Infrastructure, 11. Sustainable Cities and Communications, 13. Climate Action and 17. Partnership for the Goals) directly and indirectly, as well.

Eligible Project	Green Project Category & fund amount	Green Project Outline
<b>Project A : Responses to environmental problems resulting from the use of products</b>	Category ; Renewable Energy Energy Efficiency (contributes to CO <sub>2</sub> Emission reduction from primary energy source)  Fund amount in 2020 ; JPY 10 billion (bond term : 5 years) (finance/refinance)	<ul style="list-style-type: none"> <li>- Outline</li> <li>Efforts designed to help reduce CO<sub>2</sub> emissions from products in use to 50% by 2030 from 2010 (Specifically, R&amp;D, the provision and wide use of products, services and solutions)</li> <li>- 1) Products: Hybrid hydraulic excavators, (applicable for low carbon-type construction equipment certification by MLIT) and electric construction equipment.</li> <li>- 2) Service: Support for fuel-economy machine operation by using IoT.</li> <li>- 3) Solutions: Reduction of CO<sub>2</sub> emissions by promoting wide use of ICT-intensive construction equipment and providing applications which support optimization of construction as a whole.</li> </ul>
<b>Project B : Responses to environmental problems resulting from manufacturing</b>		<ul style="list-style-type: none"> <li>- <b>Outline</b></li> <li>Efforts designed to help reduce CO<sub>2</sub> emissions in manufacturing to 50% and increase the ratio of using renewal energy to 50% of total energy use, both by 2030 from 2010 (capital investment in facilities and equipment, etc.).</li> <li>- 1) Energy-savings of factories and equipment in plants. (reduction of CO<sub>2</sub> emissions by 30% or more)</li> <li>- 2) Power generation by using solar panels and biomass as well as purchase of renewable energies.</li> </ul>

<b>SDGs Contribution</b>	9. Industry Innovation and Infrastructure 11. Sustainable Cities and Communications 13. Climate Action 17. Partnership for the Goals	   
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DNV GL provides its eligibility in our independent opinion against the Green Bond Principle (ICMA, 2018 hereinafter GBP), Green Bond Guidelines (MOEJ, 2020 hereinafter GBGLs) and sector criteria of CBSv3.0 (CBI hereinafter CBS) , if applicable, using DNV GL assessment protocol. Assessment summary against 4 core components are following.

- 1. Use of Proceeds** :Proceeds raised from green bond, JPY 10 billion, would be fully allocated to Renewable Energy and Energy Efficiency category. Proceeds will be disbursed as finance/refinance to Komatsu’s environmental initiatives for products and services and production which include products (hybrid hydraulic excavators and electric construction equipment), services (IoT technology) solution (ICT-intensive construction equipment and which support optimization of construction as a whole), energy efficiency of production sites and facilities, and installation of renewable energy. Eligible projects contribute to CO<sub>2</sub> emission reduction from primary energy source through overarching value chain of Komatsu business.
- 2. Process for Project Evaluation and Selection** :Projects would aligned with Komatsu ESG management target and intention for contribution of SDGs, based on its mid-term management plan “DANTOTSU Value- FORWARD Together for Sustainable Growth”. Projects which have been selected and evaluated by Environmental Affairs Department and Finance & Treasury Department based on the Komatsu internal protocol. Projects are considered the mitigation of environmental and social negative impacts and risks.
- 3. Management of Proceeds** :Komatsu would manage the proceeds based on its internal protocol. Net proceeds from green bond will be allocated as finance/refinance according to project progress within approx. 3 years (most of the proceeds) from bond issuance. Proceeds will be managed by Finance & Treasury Department, as cash or cash equivalent until disbursement, based on the account procedure of Komatsu.
- 4. Reporting** :Komatsu will disclose annual report/information on the Komatsu website, Komatsu Report (Integrated Report) or ESG data book include status of fund allocation and environmental impact, with external review by DNV GL for its conformance with integrity and objectivity against green bond (at least 2 year).

DNV GL confirmed Framework, related documents and information that Komatsu Green Bond conforms relevant criteria then is supposed to be appropriately executed.

## I Introduction

### Basic Information

Komatsu Ltd. (hereafter “Komatsu”), founded in Komatsu City, Ishikawa Prefecture in May 1921, engages in an extensive range of operations from research and development, production, marketing, sales and service to retail financing in three business segments of Construction, Mining and Utility Equipment, Retail Finance, and Industrial Machinery and Others in Japan and abroad. Under the three-year mid-term management plan, “DANTOTSU Value - FORWARD Together for Sustainable Growth”, to be completed in the fiscal year ending March 31, 2022, Komatsu is making efforts for sustainable growth through a positive cycle of improving earnings and solving ESG issues. Starting with this mid-term management plan, Komatsu has added new ESG management targets and clearly defined the relationships between the efforts of focus in three pillars of growth strategies and SDGs. Komatsu has established its ‘Komatsu Green Bond Framework’ (hereinafter “Framework”) and will raise the proceeds from the green bond to finance/refinance to “Responses to environmental problems resulting from the use of products” and “Responses to environmental problems resulting from manufacturing”. And JPY 10 billion planned to be raised from green bond in 2020 will be allocated to all or parts of the projects.

Komatsu engages DNV GL as external reviewer to assess and provides its eligibility in our independent opinion against the GBP, GBGLs and sector criteria of CBS, if applicable, using DNV GL assessment protocol.

DNV GL confirmed Framework, related documents and information that Komatsu Green Bond conforms relevant criteria then is supposed to be appropriately executed.

**Issuer name:** Komatsu Ltd.

**Framework Name:** Komatsu Green Bond Framework

**Review provider’s name:** DNV GL business assurance Japan K.K.

**Completion date of this form:** 15<sup>th</sup> June. 2020

**Publication date of review publication:** 10<sup>th</sup> July. 2020

## About the Issuer

### -1- Overview of Issuer

Komatsu Ltd. (hereafter “Komatsu”), founded in Komatsu City, Ishikawa Prefecture in May 1921, engages in an extensive range of operations from research and development, production, marketing, sales and service to retail financing in three business segments of Construction, Mining and Utility Equipment, Retail Finance, and Industrial Machinery and Others in Japan and abroad. Komatsu upholds the management principle of maximizing its corporate value, i.e., the total sum of trust from society and all its stakeholders, as it remains committed to Quality and Reliability. Through its business operations, together with its customers, Komatsu is working to achieve safe, highly productive, smart and clean workplaces of the future.

### -2-Issuer’s ESG responses

Under the three-year mid-term management plan, “DANTOTSU Value - FORWARD Together for Sustainable Growth”, to be completed in the fiscal year ending March 31, 2022, Komatsu is upholding three pillars of growth strategies, namely, “Value Creation by Means of Innovation”, “Growth Strategies Based on Business Reforms”, and “Structural Reforms for Growth.” Komatsu is making efforts for sustainable growth through a positive cycle of improving earnings and solving ESG issues. Starting with this mid-term management plan, Komatsu has added new ESG management targets and clearly defined the relationships between the efforts of focus in three pillars of growth strategies and SDGs. Please refer to the section -4- for details.

### -3-Issuer’s environmental responses

With the increasing frequency of abnormal weather events, climate change is having an ever-greater impact on our lives. The adoption of the Paris Agreement sparked a large global movement toward the realization of a low-carbon society. In recognition of this issue, Komatsu has added new ESG management targets in the current mid-term management plan, upholding the targets of reducing environmental impact. Specifically, Komatsu is working to reduce CO<sub>2</sub> emissions to 50% in 2030 from 2010 and to increase the ratio of using renewable energy to 50% of total energy use in 2030.

For four consecutive years until 2019, Komatsu has been identified as a Climate "A" List company by CDP\*, the non-profit global environmental disclosure platforms.

\*CDP: CDP is a global non-profit that drives companies and governments to reduce their greenhouse gas emissions, safeguard water resources and protect forests. Voted number one climate research provider by investors and working with institutional investors with assets of US\$96 trillion, we leverage investor and buyer power to motivate companies to disclose and manage their environmental impacts. Over 8,400 companies with over 50% of global market capitalization disclosed environmental data through CDP in 2019. This is in addition to the over 920 cities, states and regions who disclosed, making CDP’s platform one of the richest sources of information globally on how companies and governments are driving environmental change.

-Reference: Komatsu website, Identified CDP “A” List [https://home.komatsu/en/press/2020/others/1204902\\_1845.html](https://home.komatsu/en/press/2020/others/1204902_1845.html)

**-4-Issuer’s SDGs contribution**








The Komatsu Green Bond projects which consist of “Responses to environmental problems resulting from the use of products” and “Responses to environmental problems resulting from manufacturing” in 3 CSR theme, being focused on ‘Enhancing Quality of Life -Providing Products Required by Society-’ defined in ESG management plan also contribute to 4 UN Sustainable Development Goals directly and indirectly, as well.

In this green bond CSR theme and SDGs relationship can be summarized below. SDGs contribution is confirmed to correspond to Komatsu’s core sustainable business within mid-term management plan\*1.

\*1 : Komatsu Report (Integrated Report) <https://home.komatsu/en/ir/library/annual/>

**CSR theme : ‘Enhancing Quality of Life -Providing Products Required by Society-’**

- 9. Industry Innovation and Infrastructure
- 11. Sustainable Cities and Communications
- 13. Climate Action
- 17. Partnership for the Goals

Relevant SDGs	CSR Themes	ESG Solutions through Three Pillars of Growth Strategies
   	<p>Enhancing Quality of Life —Providing Products Required by Society—</p>	<ul style="list-style-type: none"> <li>• Provide products, service and solutions contributing to sustainable development of infrastructure, natural resources and circular environmental protection (remanufacturing*2 and forestry).</li> <li>• Improve productivity, efficiency, safety and environmental impact (lower CO<sub>2</sub> emissions and higher ratio of renewable energy use) through innovations, such as automation in the entire value chain.</li> <li>• Make commitment to DANTOTSU Value which will realize better Earth and future by means of technology and reliability (creation and maximization of customer value).</li> </ul>
	<p>Developing People</p>	<ul style="list-style-type: none"> <li>• Develop a diverse workforce with a high level of productivity and technical skills.</li> <li>• Strengthen and develop diverse and global-scope talent to help achieve sustainable workplaces.</li> <li>• Develop talent with cross-value chain capabilities.</li> </ul>
 	<p>Growing with Society</p>	<ul style="list-style-type: none"> <li>• Offer resolutions for social issues through collaboration with stakeholders.</li> <li>• Act as a responsible corporate citizen ensuring corporate governance, compliance, and human rights.</li> </ul>

\*2: Remanufacturing : Business for re-producing from used engine, transmission and other components to mint-conditioned products.

## II Scope and Objectives

Komatsu has commissioned DNV GL to conduct green bond assessment of Komatsu Green Bond (hereinafter "BOND"), pre-issuance assessment and periodical review. The objective of DNV GL's assessment is to implement an assessment to confirm that the BOND meets the identified criteria of the GBP, GBGLs and the associated technical criteria in CBS if applicable, as set out below, and to provide the issuer with independent second-party opinion on the eligibility of the BOND.

DNV GL Business Assurance, as independent external reviewer, has identified no real or perceived conflict of interest associated with the delivery of this second-party opinion for Komatsu.

In this report, no assurance is provided regarding the financial performance of the BOND, the value of any investments in the BOND, or the long-term environmental benefits of the transaction.

### (1) Scope of review

The review assessed the following elements and confirmed their alignment with the gist of GBP:

- Use of Proceeds
- Management of Proceeds
- Process for Project Evaluation and Selection
- Reporting

### (2) Role(s) of review provider

- Consultancy (incl. 2<sup>nd</sup> opinion)
- Verification
- Certification
- Rating
- Other (*please specify*): DNV GL provides second-party opinion as registered external reviewer of green bond support programme by Ministry of Environment, Japan

### (3) Standards/guidelines to be applied

No.	Standards/guidelines	Scheme owner	Applied level
1.	The Green Bond Principles 2018	International Capital Market Association	Apply
2.	Green Bond Guidelines	Ministry of Environment Japan, 2020	Apply
3.	Climate Bonds Standard version 3.0 (Sector criteria)	Climate Bond Initiative	Apply (Available sector)
4.	Green and Social Bonds: A High Level Mapping to the Sustainable Development Goals (June 2018)	International Capital Market Association	Reference
5.	Handbook Harmonized Framework for Impact Reporting June 2019	International Capital Market Association	Reference



## Basis of DNV GL's opinion

To provide as much flexibility for the issuer, Komatsu as possible, we have adapted our green bond assessment methodologies, which incorporates the requirements of the GBP and GBGLs, to create a Komatsu-specific Green Bond Eligibility Assessment Protocol (henceforth referred to as "Protocol"). The Protocol has the capacity for potential application of the Bond under the GBP and GBGLs.

Our Protocol includes a set of suitable criteria that can be used to underpin DNV GL's opinion. The overarching principle and guidelines behind the criteria are that a green bond should "enable capital-raising and investment for new and existing projects with environmental benefits".

As per our Protocol, the criteria against which the BOND has been reviewed are grouped under the four Principles:

- **Principle One: Use of Proceeds.** The Use of Proceeds criteria are guided by the requirement that an issuer of a green bond must use the funds raised to bond 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 green bond should outline the process it follows when determining eligibility of an investment using green bond 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 green bond 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 bond investors should be made of the use of bond proceeds and that quantitative and/or qualitative performance indicators should be used, where feasible.
-

### III Work Undertaken

Our work constituted a high level of review of the available information, based on the understanding that this information was provided to us by the issuer 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:

#### Initial (Pre-Issuance) Assessment:

- Creation of the issuer-specific Protocol, adapted to the purpose of the BOND, as described above and in Schedule-2 to this Assessment.
- Assessment of documentary evidence provided by the issuer on the BOND and supplemented assessment by a high-level desktop research. These checks refer to current assessment best practices and standards methodology;
- Discussions with the issuer, and review of relevant documentation;
- Documentation of findings against each element of the criteria.

#### Periodic (Annual) Assessment: *\*periodic assessment is not included in this report*

- Evaluation of the supporting documents provided by the issuer related to the BOND, high-level desktop surveys, document reviews, and interviews with key personnel of the issuer. These checks refer to current assessment best practices and standard methodologies.
- Discussion with the issuer management and review of relevant documentation.
- Field survey and inspection, if required.
- Review of the nominated projects and assets as described in Schedule-2 as at the time of periodic assessment
- Review and testing where possible of reporting data;
- Documentation of findings for Periodic assessment as detailed in this document.

Our opinion as detailed below is a summary of these findings.

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## IV Findings and DNV GL's opinion

DNV GL's findings are listed below:

### (1) Use of Proceeds


DNV GL has confirmed that the net proceeds raised by the BOND (JPY 10 billion, fully be disbursed as finance and refinance) is planned to be allocated to the nominated two nominated green projects (Table-1) that meet the representative green project category in GBP and GBGLs criteria below:

- **Renewable Energy**
- **Energy Efficiency**

This green project category is divided into 2 projects;

- **Project A : Responses to environmental problems resulting from the use of products**
    - 1) **Products** : Hybrid hydraulic excavators, (applicable for low carbon-type construction equipment certification by Japan's Ministry of Land, Infrastructure, Transport and Tourism) and electric construction equipment
    - 2) **Services** : Support for fuel-economy machine operation by using IoT
    - 3) **Solution** : Reduction of CO<sub>2</sub> emissions by promoting wide use of ICT-intensive construction equipment and providing applications which support optimization of construction as a whole
  
  - **Project B : Responses to environmental problems resulting from manufacturing**
    - 1) **Energy-savings of factories and equipment in plants** (reduction of CO<sub>2</sub> emissions by 30% or more)
    - 2) **Power generation by using solar panels and biomass as well as purchase of renewable energies**
-

Table-1 Komatsu green projects (details are shown in Schedule-1)

Eligible Project	Green Project Category & fund amount	Green Project Outline
<p><b>Project A : Responses to environmental problems resulting from the use of products</b></p>	<p>Category ; Renewable Energy Energy Efficiency (contributes to CO<sub>2</sub> Emission reduction from primary energy source)</p> <p>Fund amount in 2020 ; JPY 10 billion (bond term : 5 years) (finance/refinance)</p>	<ul style="list-style-type: none"> <li>- <b>Outline</b> Efforts designed to help reduce CO<sub>2</sub> emissions from products in use to 50% by 2030 from 2010 (Specifically, R&amp;D, the provision and wide use of products, services and solutions).</li> <li>- 1)Products : Hybrid hydraulic excavators, (applicable for low carbon-type construction equipment certification by MLIT) and electric construction equipment</li> <li>- 2)Services : Support for fuel-economy machine operation by using IoT</li> <li>- 3)Solution : Reduction of CO<sub>2</sub> emissions by promoting wide use of ICT-intensive construction equipment and providing applications which support optimization of construction as a whole</li> </ul>
<p><b>Project B : Responses to environmental problems resulting from manufacturing</b></p>		<ul style="list-style-type: none"> <li>- <b>Outline</b> Efforts designed to help reduce CO<sub>2</sub> emissions in manufacturing to 50% and increase the ratio of using renewal energy to 50% of total energy use, both by 2030 from 2010 (capital investment in facilities and equipment, etc.).</li> <li>- 1)Energy-savings of factories and equipment in plants (reduction of CO<sub>2</sub> emissions by 30% or more)</li> <li>- 2)Power generation by using solar panels and biomass as well as purchase of renewable energies</li> </ul>
<p><b>SDGs Contribution</b></p>	<p>9. Industry Innovation and Infrastructure 11. Sustainable Cities and Communications 13. Climate Action 17. Partnership for the Goals</p>	

Exclusion : Products and services designed for exclusive use in mining fossil fuels is excluded in this green bond

**Project A : Responses to environmental problems resulting from the use of products**

Approximately 90% of the CO<sub>2</sub> emissions in the lifecycle of construction equipment is generated by machines in use. Accordingly, Komatsu is of course working to not only make its products fuel efficient by developing high-efficiency engines, hybrid systems and electric models, but also reduce total CO<sub>2</sub> emissions from construction sites by automating construction or promoting autonomous operation of construction equipment to make the entire process of construction efficient. In other words, Komatsu works to reduce CO<sub>2</sub> emissions from construction equipment in use by not only improving hardware but also innovating processes.

As for Project A, Komatsu which efforts designed to help reduce CO<sub>2</sub> emissions from products in use to 50% by 2030 from 2010, will allocate the proceeds from the green bond to R&D, the provision and wide use of products, services and solutions. Nominated projects of Project A are followings ;

**1) Products : Hybrid hydraulic excavators, (applicable for low carbon-type construction equipment certification by MLIT) and electric construction equipment**

From 2008, Komatsu began to sell the world's first hybrid construction machinery, Hybrid Hydraulic excavator, "PC200-8 Hybrid" which has contributed energy efficiency of construction equipment. Komatsu has introduced 16 certified products (MLIT, low carbon-type construction equipment\*<sup>1</sup>) such as HB335-3 (see picture-1), as of Apr. 2019.

The Proceeds from green bond will be allocated to R&D and offering expenditure for electric (see picture-2) construction equipment, as well as hybrid hydraulic excavators are also nominated project here.

\*1 MLIT defines its fuel efficiency criteria named "top runner" to promote global warming countermeasure in the construction sector from 2013.



Picture-1 Project A-1) Hybrid hydraulic excavator HB335-3(example)



Picture-2 Project A-1) Electric Mini excavator PC30E-5(example)

**2) Services : Support for fuel-economy machine operation by using IoT**

Machine tracking system (named KOMTRAX, see figure-1) installed on construction equipment to transmit information concerning the location, cumulative hours of operation and operating condition of vehicles which supports its efficient operation to customers would reduce fuel consumption and result CO<sub>2</sub> emission reduction.

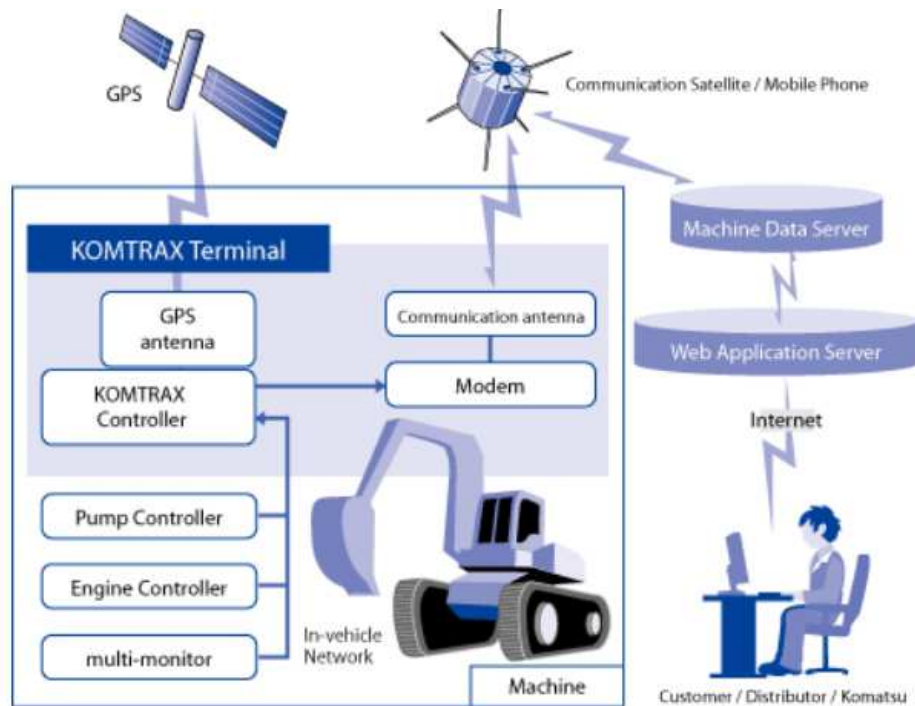


Figure-1 Project A-2) KOMTRAX (Komatsu Machine Tracking System)

3) Solution :

**Reduction of CO<sub>2</sub> emissions by promoting wide use of ICT-intensive construction equipment and providing applications which support optimization of construction as a whole**

\*1 : Construction machine equipped with 3D machine guidance(3D-MG) and 3D machine control(3D-MC) stipulated in “i-Construction” by MLIT, Japan.

This nominated project provides both application (including R&D) and ICT-intensive construction equipment which are essential for utilizing this application (Digital Transformation). Combination of application and ICT-intensive construction equipment contributes optimization of construction work efficiency (shorten work duration) which results CO<sub>2</sub> emission reduction during whole construction work process (see figure-2).

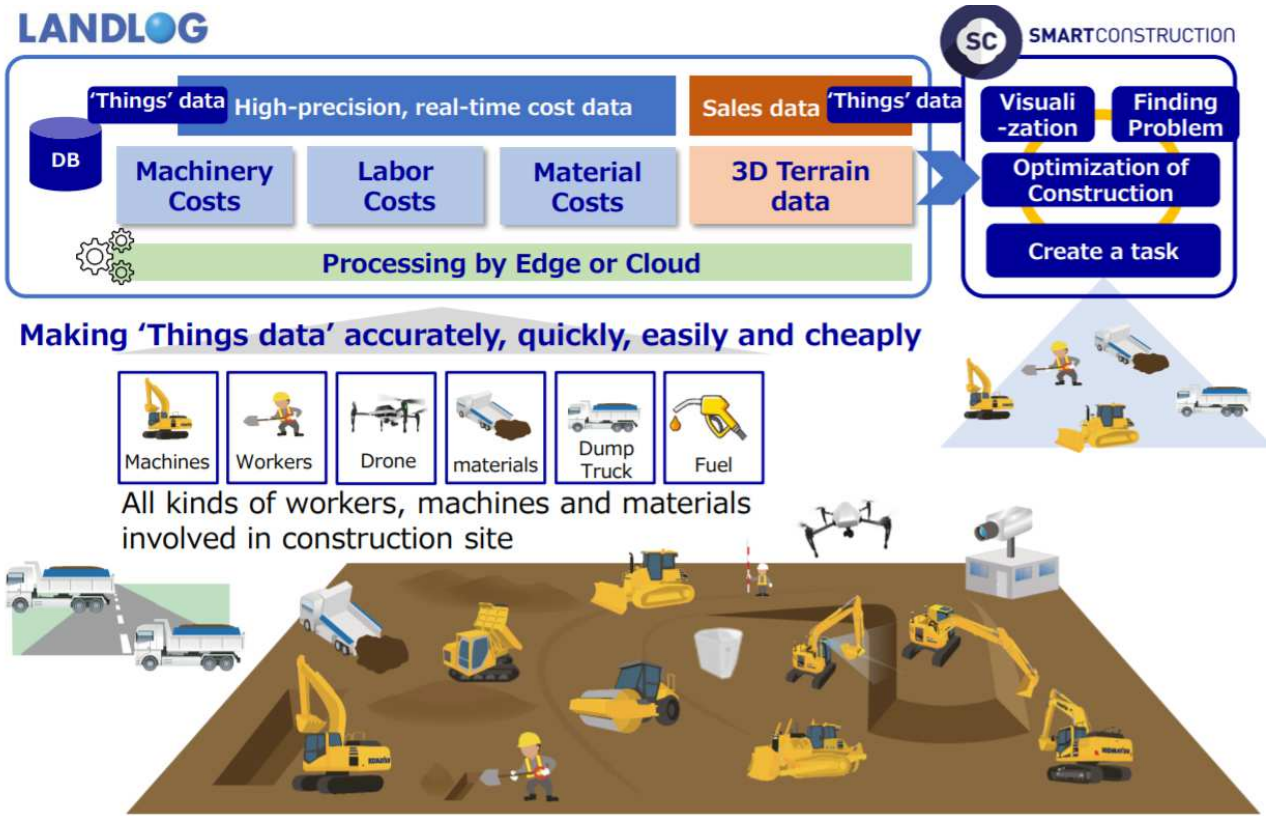


Figure-2 Project A-3)  
Digital Transformation of Smart construction overview

**- Project B : Responses to environmental problems resulting from manufacturing**

Nominated project contributes to reduce CO<sub>2</sub> per unit or production site by 50% in 2030 from 2010 and to increase renewable energy use to 50% of total energy use in 2030.

**1) Energy-savings of factories and equipment in plants****(reduction of CO<sub>2</sub> emissions by 30% or more)**

Nominated project intends to contribute to reduce CO<sub>2</sub> emission reduction due to electricity usage, through installation of energy efficiency facilities such as lightening, Air-conditioning and control equipment, high-efficient heat insulation, natural lightening and low-emissivity glass, etc.



Pcture-3 Project B-1)

Energy Efficiency improvement of Production sites and facilities  
(Komatsu Oyama Plant, Smart Line)



**2) Power generation by using solar panels and biomass as well as purchase of renewable energies**

**( i ) Solar PVs**

Introduction of Solar PVs which are utilized for its production site would contribute CO<sub>2</sub> emission reduction due to its electricity usage.



Picture-4 Project B-2)( i ) Solar PVs  
(example, Awazu Plant, Roof top type)

**( ii ) Biomass power plant**

Introduction of Biomass Power Facility(located in its production site) would contribute CO<sub>2</sub> emission reduction due to its electricity usage.



Picture-5 Project B-2)( i ) Biomass Power Plant  
(example, Awazu Plant)

**( iii ) Purchasing renewable energy**

Purchasing Green certified electricity (Tradable Green Certificates) which regards as electricity is generated by renewable energy, which contribute CO<sub>2</sub> emission reduction due to its electricity usage.

**Use of proceeds categories as per GBP:**

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Renewable energy   | <input checked="" type="checkbox"/> Energy efficiency                       |
| <input type="checkbox"/> Pollution prevention and control  | <input type="checkbox"/> Sustainable management of living natural resources |
| <input type="checkbox"/> Terrestrial and aquatic biodiversity conservation   | <input type="checkbox"/> Clean transportation                               |
| <input type="checkbox"/> Sustainable water management  | <input type="checkbox"/> Climate change adaptation                          |
| <input type="checkbox"/> Eco-efficient products, production technologies and processes   | <input type="checkbox"/> Other ( <i>please specify</i> ):                   |
| <input type="checkbox"/> Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBPs |   |

## (2) Process for Project Evaluation and Selection

DNV GL has confirmed that the nominated two green projects A and B described in the Schedule-1, were evaluated and selected through the appropriate determined process by the relevant sections of the issuer (Environmental Affairs dep. and Finance & Treasury dep., approved by CFO), considering Komatsu Group principle and its vision.

Issuer applies eligibility criteria listed Section II (3) and considers the negative effect to environment or society described below.

<Compliance with environmental laws determined by nation, municipality where business location. Environmental effects are investigated and provision countermeasures, if any>

- Soil, underground water pollution
- Waste management of PCB
- Chemical substance management and prevention of pollution.
- Reduction of environmental load
- Water risk control

<Environmental Initiatives for its Supply-chain>

- Compliance with Komatsu procurement policy
- Support supplier for its ISO 14001 certification and its holdings

### Evaluation and selection

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Credentials on the issuer's green objectives                                    | <input checked="" type="checkbox"/> Documented process to determine that projects fit within defined categories               |
| <input checked="" type="checkbox"/> Defined and transparent criteria for projects eligible for Social Bond proceeds | <input checked="" type="checkbox"/> Documented process to identify and manage potential ESG risks associated with the project |
| <input checked="" type="checkbox"/> Summary criteria for project evaluation and selection publicly available        | <input type="checkbox"/> Other ( <i>please specify</i> ):   |

### Information on Responsibilities and Accountability:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Evaluation / Selection criteria subject to external advice or verification | <input checked="" type="checkbox"/> In-house assessment |
| <input type="checkbox"/> Other ( <i>please specify</i> ):  |   |

### (3) Management of Proceeds

DNV GL has reviewed and confirmed evidence showing how the issuer has traced/managed the proceeds from the BOND, from the time of issuance to the time of disbursement. DNV GL has confirmed that the issuer would allocate the proceeds to the green project finance/refinance. Issuer's Finance & Treasury dept. will manage the fund based on the internal account protocol. Issuer periodically reviews the outstanding balance of the BOND at the end of each financial year for disclosure.

Unallocated proceeds will be managed by cash or cash equivalent. Most of the proceeds will be allocated within 3 years.

Note that, as stated above, DNV GL provides no assurance regarding the financial performance of the BOND, the value of any investments in the BOND, or the long-term environmental benefits of the transaction.

#### Tracking of proceeds:

- Green bond proceeds segregated or tracked by the issuer in a systematic manner
- Disclosure of intended types of temporary investment instruments for unallocated proceeds
- Other (*please specify*):

#### Additional disclosure:

- |  |   |
|--|---|
| <input type="checkbox"/> Allocations to future investments only                  | <input checked="" type="checkbox"/> Allocations to both existing and future investments   |
| <input type="checkbox"/> Allocation to individual disbursements                  | <input checked="" type="checkbox"/> Allocation to a portfolio of disbursements  |
| <input type="checkbox"/> Disclosure of portfolio balance of unallocated proceeds | <input checked="" type="checkbox"/> Other ( <i>please specify</i> ): details of the allocation will be disclosed in periodical review |

## (4) Reporting

DNV GL has confirmed that the issuer would report to stakeholders the specific information required by the GBP and GBGLs annually in the issuer's website. These include description of the allocation and management of the proceeds (until all proceeds are allocated), project lists and their progress, as well as the associated qualitative and quantitative environmental impacts with consolidated report including issuer's global environmental activities (until redemption period).

The annual Reporting will be disclosed in Komatsu website, Komatsu Report, or ESG Data Book. Initial annual reporting will be reported in 2021 which includes green bond information in 2020

The environmental impact will be evaluated and disclosed referring to the GBP's reporting section reference 'Handbook Harmonized Framework for Impact Reporting June 2019'. Details are planned as follows ;

### -1- Fund Allocation and management of the proceeds

- (1) Funds amount of the capital investment to eligible projects (amount/percentage).
- (2) Outline of the allocated eligible projects
- (3) Ratio of finance and refinance share
- (4) The amount of unallocated proceeds.

### -2- Project lists and their progress

- (1) CO<sub>2</sub> emission reduction by products use (amount or ratio) in comparison with 2010
- (2) CO<sub>2</sub> emission reduction by production process (amount or ratio) in comparison with 2010
- (3) Ration of renewable energy usage (%) and annual usage (MWh/GWh or GJ/TJ/PJ)

Noted that, project progress will be reported if the projects have started to be allocated and during implementation before environmental benefit has not been appeared.

Komatsu engages DNV GL as external reviewer to conform its eligibility as green bond with integrity and objectivity for 2 years. DNV GL will conduct annual assessment and provide independent opinion.

**Use of proceeds reporting:**

- Project-by-project  On a project portfolio basis
- Linkage to individual bond(s)  Other (*please specify*):

**Information reported:**

- Allocated amounts  GB refinanced share of total investment
- Other (*please specify*):

**Frequency:**

- Annual  Semi-annual
- Other (*please specify*): *Initial annual reporting will be reported in 2021 including green bond information in 2020, until fully allocated*

**Impact reporting:**

- Project-by-project  On a project portfolio basis
- Linkage to individual bond(s)  Other (*please specify*): *qualitative and quantitative environmental impacts with consolidated report including issuer's global environmental activities.*

**Frequency:**

- Annual  Semi-annual
- Other (*please specify*): *Initial annual reporting will be reported in 2021 including green bond information in 2020, during redemption period.*

**Information reported (expected or ex-post):**

- GHG Emissions / Savings  Energy Savings
- Other ESG indicators (*please specify*): *Ration of renewable energy usage (%) and annual usage (MWh/GWh or GJ/TJ/PJ)*

**Means of Disclosure**

- Information published in financial report  Information published in sustainability report
- Information published in ad hoc documents  Other (*please specify*): *Komatsu web site*
- Reporting reviewed (*if yes, please specify which parts of the reporting are subject to external review*): *Komatsu engages DNV GL as external reviewer to conform its eligibility as green bond with integrity and objectivity for 2 years.:*

## Assessment Conclusion

On the basis of the information provided by Komatsu and the work undertaken, it is DNV GL's opinion that the Komatsu green bond meets the criteria established in the Protocol and that it is aligned with the stated definition or purpose of green bond within the GBP and GBGLs, which is to "enable capital-raising and investment for new and existing projects with environmental benefits".

DNV GL Business Assurance Japan K.K.

15<sup>th</sup> June. 2020



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#### 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.

#### Disclaimer

Responsibilities of the Management of the Issuer and the Second-Party Opinion Providers, DNV GL: The management of Issuer has provided the information and data used by DNV GL during the delivery of this review. Our statement represents an independent opinion and is intended to inform the Issuer management and other interested stakeholders in the Bond 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 the Issuer. 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 the Issuer's management and used as a basis for this assessment were not correct or complete



## Schedule-1 Komatsu Green Bond Nominated Projects and Assets

No.	Green Project Portfolio	Green Project Category	Green project Outline	Fund Amount (Plan)	Remarks (Green Project example, detail)
A	Responses to environmental problems resulting from the use of products	Category ; Renewable Energy Energy Efficiency (contributes to CO <sub>2</sub> Emission reduction from primary energy source)	<ol style="list-style-type: none"> <li>1) <b>Products</b> : Hybrid hydraulic excavators, (applicable for low carbon-type construction equipment certification by MLIT) and electric construction equipment</li> <li>2) <b>Services</b> : Support for fuel-economy machine operation by using IoT</li> <li>3) <b>Solution</b> : Reduction of CO<sub>2</sub> emissions by promoting wide use of ICT-intensive construction equipment and providing applications which support optimization of construction as a whole.</li> </ol>	10 billion JPY (bond term : 5 years) (will be allocated both finance and refinance)	<ul style="list-style-type: none"> <li>- <b>Outline</b> Efforts designed to help reduce CO<sub>2</sub> emissions from products in use to 50% by 2030 from 2010 (Specifically, R&amp;D, the provision and wide use of products, services and solutions)</li> <li>- <b>1)Products</b> : Hybrid hydraulic excavators ( applicable for low carbon-type construction equipment certification by MLIT) and electric construction equipment powered by batteries.</li> <li>- <b>2)Services</b> : Systems designed to help reduce CO<sub>2</sub> emissions as a result of understanding fuel consumption conditions of construction equipment in use by using IoT and offering proposals to improve fuel economy based on fuel-economy machine operations.</li> <li>- <b>3)Solution</b> : Development and use of applications designed to support improved overall productivity of on-site construction operations by digital transformation as well as the provision and dissemination of ICT-intensive models.</li> </ul>
B	Responses to environmental problems resulting from manufacturing		<ol style="list-style-type: none"> <li>1) <b>Energy-savings of factories and equipment in plants</b> (reduction of CO<sub>2</sub> emissions by 30% or more)</li> <li>2) <b>Power generation by using solar panels and biomass as well as purchase of renewable energies</b></li> </ol>		<ul style="list-style-type: none"> <li>- <b>Outline</b> Efforts designed to help reduce CO<sub>2</sub> emissions in manufacturing to 50% and increase the ratio of using renewable energy to 50% of total energy use, both by 2030 from 2010 (capital investment in facilities and equipment, etc.).</li> <li>- <b>1)Energy Efficiency</b> : installation of energy efficiency facilities such as lightening, Air-conditioning and control equipment, high-efficient heat insulation, natural lightening and low-emissivity glass, etc to the production site.</li> <li>- <b>2)( i ): Solar PVs</b> to Komatsu production site</li> <li>- <b>2)( ii ): Biomass Power Plant</b> using unused/residue wood as biomass fuel to Komatsu Production site</li> <li>- <b>2)( iii ): Purchasing Green certified electricity</b> (Tradable Green Certificates)</li> </ul>

## Schedule-2 Green Bond Eligibility Assessment Protocol

Following check list (GBP-1 ~ GBP-4) is based on DNV GL's green bond eligibility assessment protocol referred to the Green Bond Principle 2018

### GBP-1 Use of proceeds

Ref.	Criteria	Requirements	Work Undertaken	DNV GL Findings
1a	Type of bond	<p>The bond must fall in one of the following categories, as defined by the Green Bond Principles:</p> <ul style="list-style-type: none"> <li>• Green Use of Proceeds Bond</li> <li>• Green Use of Proceeds Revenue Bond</li> <li>• Green Project Bond</li> <li>• Others</li> </ul>	<p>Document reviewed :</p> <ul style="list-style-type: none"> <li>- Komatsu Green Bond Framework (hereinafter Framework)</li> <li>- Amendment to Shelf Registration Statement (draft)</li> <li>- Discussions with Komatsu management</li> </ul>	<p>The reviewed evidence confirms that the Bond falls in the category:</p> <ul style="list-style-type: none"> <li>• Green Use of Proceeds Bond</li> </ul>
1b	Green Project Categories	<p>The cornerstone of a green bond is the utilization of the proceeds of the bond which should be appropriately described in the legal documentation for the BOND.</p>	<p>Document reviewed :</p> <ul style="list-style-type: none"> <li>- Framework</li> <li>- Amendment to Shelf Registration Statement (draft)</li> <li>- Discussions with Komatsu management</li> </ul>	<p>As identified by the Bond project list in Framework, the purpose of the Bond is to use the proceeds to bond eligible projects falling under the following categories as representative project category in GBP and GBGLs:</p> <p><b><u>“Renewable Energy”</u></b> <b><u>“Energy Efficiency”</u></b></p> <p>The green projects category is divided into 2 projects portfolios and 5 projects;</p> <ul style="list-style-type: none"> <li>- <b>Project A : Responses to environmental problems resulting from the use of products</b> <ol style="list-style-type: none"> <li>1)Products : Hybrid hydraulic excavators, (applicable for low carbon-type construction equipment certification by MLIT) and electric construction equipment</li> <li>2)Services : Support for fuel-economy machine operation by using IoT</li> </ol> </li> </ul>

Ref.	Criteria	Requirements	Work Undertaken	DNV GL Findings
				<p>3)Solution : Reduction of CO<sub>2</sub> emissions by promoting wide use of ICT-intensive construction equipment and providing applications which support optimization of construction as a whole</p> <p>- <b>Project B : Responses to environmental problems resulting from manufacturing</b></p> <p>1)Energy-savings of factories and equipment in plants (reduction of CO<sub>2</sub> emissions by 30% or more)</p> <p>2)Power generation by using solar panels and biomass as well as purchase of renewable energies</p>
1c	Green benefits	All designated Green Project categories should provide clear greenly sustainable benefits, which, where feasible, will be quantified or assessed by the issuer.	Document reviewed : - Framework - Project Documents Discussions with Komatsu management	<p>DNV GL considers that eligible projects contribute to CO<sub>2</sub> emission reduction from primary energy source. DNV GL assessment considered that some assets (especially Solar PVs and Biomass power plant) may have negative risk but concluded to present a low risk of GHG emission and following environmental impact then be inclusion under the eligibility of GBP and GBGLs</p> <p>- Solar PVs : Solar PVs are introduced to roof top of Komatsu production site facilities (without any land development for Solar PVs).</p> <p>- Biomass power plant : Biomass fuel comes from unused/residue of forest near the production site. Additional GHG emission related to such as fuel transporting is negligible.</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	Document reviewed : - Komatsu Framework Discussions with Komatsu management	<p>The net proceeds of the Bond, will be fully financed and refinanced to the nominated projects listed in schedule-1. Issuer will provide share of financing vs. re-financing, and clarify which investments or project portfolios may be refinanced in annual reporting after bond issuance.</p>

Ref.	Criteria	Requirements	Work Undertaken	DNV GL Findings
		appropriate, also clarify which investments or project portfolios may be refinanced.		

### GBP-2 Process for Project Selection and Evaluation

Ref.	Criteria	Requirements	Work Undertaken	DNV GL Findings
2a	Investment-decision process	<p>The issuer of a Green bond should outline the decision-making process it follows to determine the eligibility of projects using Green bond proceeds. This includes, without limitation:</p> <ul style="list-style-type: none"> <li>• A process to determine how the projects fit within the eligible Green Projects categories;</li> <li>• The criteria making the projects eligible for using the Green bond proceeds; and</li> <li>• The environmental sustainability objectives</li> </ul>	<p>Document reviewed :</p> <ul style="list-style-type: none"> <li>- Framework</li> <li>- Komatsu internal document(process of project selection)</li> </ul> <p>Discussions with Komatsu management</p>	<p>As per the Framework, the issuer has set out the following criteria for project selection:</p> <p>Eligible Green Project means :</p> <ul style="list-style-type: none"> <li>- were evaluated and selected through the appropriate determined process by the relevant sections of the issuer (Environmental Affairs dep. and Finance &amp; Treasury dep., approved by CFO), considering Komatsu Group principle and its vision.</li> <li>- Issuer applies eligibility criteria listed Section II (3) and considers the negative effect to environment or society described below.</li> </ul> <p>&lt;Compliance with environmental laws determined by nation, municipality where business location. Environmental effects are investigated and provision countermeasures, if any&gt;</p> <ul style="list-style-type: none"> <li>- Soil, underground water pollution</li> <li>- Waste management of PCB</li> <li>- Chemical substance management and prevention of pollution.</li> <li>- Reduction of environmental load</li> <li>- Water risk control</li> </ul> <p>&lt;Environmental Initiatives for its Supply chain&gt;</p> <ul style="list-style-type: none"> <li>- Compliance with Komatsu procurement policy</li> <li>- Support supplier for its ISO 14001 certification and its holdings</li> </ul>

Ref.	Criteria	Requirements	Work Undertaken	DNV GL Findings
2b	Issuer's environmental, social and governance framework	In addition to information disclosed by an issuer on its Green bond process, criteria and assurances, Green bond investors may also take into consideration the quality of the issuer's overall framework and performance regarding green sustainability.	Document reviewed : - Framework - Komatsu corporate philosophy, medium-term management plan, etc - Komatsu IR 2019, ESG data book 2019, website Discussions with Komatsu management	DNV GL reviews and notes that issuer demonstrates that issuer intends to contribute environmentally sustainability through its medium term management plan including "Responses to environmental problems resulting from the use of products" and "Responses to environmental problems resulting from manufacturing" DNV GL confirmed that BOND aligns its plan, principle(group vision and principle). Issuer has already disclosed environmental impact and related Responses to environmental problems in its website  Komatsu Report <a href="https://home.komatsu/en/ir/library/annual/">https://home.komatsu/en/ir/library/annual/</a>  Komatsu ESG data book <a href="https://komatsu.disclosure.site/en/themes/121">https://komatsu.disclosure.site/en/themes/121</a>  Komatsu website, Identified CDP "A" List <a href="https://home.komatsu/en/press/2020/others/1204902_1845.html">https://home.komatsu/en/press/2020/others/1204902_1845.html</a>  Also based on the discussion and document review we had with Komatsu, we found nothing to suggest that Komatsu's green projects and its framework are not in line with good practice of the sustainable industry business in which it operates.

### GBP-3 Management of Proceeds

Ref.	Criteria	Requirements	Work Undertaken	DNV GL Findings
3a	Tracking procedure-1	The net proceeds of Green bond 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 Green Projects.	Document reviewed : <ul style="list-style-type: none"> <li>- Framework</li> <li>- Komatsu internal process documents (management of proceeds, procurement, etc)</li> </ul> Discussions with Komatsu management	The evidence reviewed shows how Komatsu plans to trace the BOND’s proceeds from the time of issuance to the time of disbursement The full amount of the proceeds will be deposited into an account which Komatsu manages, and thereafter managed its internal account procedure which can identify the project and disbursed in accordance with the obligations. Komatsu Finance & Treasury Dep. has established appropriate work flow to manage the proceeds and reconciliation spread sheets for tracking.
3b	Tracking procedure-2	So long as the Green bond outstanding, the balance of the tracked proceeds should be periodically reduced by amounts matching eligible green investments made until green benefit appearance or completion of proceeds allocation.	Document reviewed : <ul style="list-style-type: none"> <li>- Framework</li> <li>- Komatsu internal process documents (reconciliation sheet, etc)</li> </ul> Discussions with Komatsu management	The evidence reviewed shows that Komatsu plans to trace the proceeds from the BOND periodically (every quarterly period) by reconciliation spread sheet, from the time of disbursement, and reduce the net balance of proceeds by amounts in line with the assets as scheduled. DNV GL confirmed that the outstanding balance of the BOND will be reviewed at the end of each financial period.
3c	Temporary holdings	Pending such investments or disbursements to eligible Green Projects, the issuer should make known to investors the intended types of temporary investment instruments for the balance of unallocated proceeds.	Document reviewed : <ul style="list-style-type: none"> <li>- Framework</li> <li>- Komatsu internal process documents (reconciliation sheet, etc)</li> </ul> Discussions with Komatsu management	The unallocated proceeds from the BOND will be managed reconciliation spread sheet for the BOND. The unallocated proceeds will be managed as cash or cash equivalent. These procedures are determined in Framework and will be known to investors.

## GBP-4 Reporting

Ref.	Criteria	Requirements	Work Undertaken	DNV GL Findings
4a	Periodical reporting	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 Green bond proceeds have been allocated including <ul style="list-style-type: none"> <li>- when possible with regards to confidentiality and/or competitive considerations</li> <li>- a brief description of the projects and the amounts disbursed, as well as the expected greenly sustainable impact.</li> </ul>	Document reviewed : <ul style="list-style-type: none"> <li>- Framework</li> <li>- Komatsu corporate philosophy, medium-term management plan, etc</li> <li>- Komatsu IR 2019, ESG data book 2019, website</li> </ul> Discussions with Komatsu management	Komatsu will disclose information as annually which includes a dedicated section on the Green Bond in its website. This will include description of the project and value of the proceeds invested, as well as the associated qualitative and quantitative environmental impacts. Komatsu plans to disclose CO <sub>2</sub> emission reduction (t-CO <sub>2</sub> ) evaluation results according to the performance (output) of the renewable energy business listed in schedule-1.