



Japan Finance Organization for Municipalities (JFM)

Green Bond Framework

December, 2022

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1. Introduction

Japan Finance Organization for Municipalities (JFM) is a joint funding organization, the objective of which is to provide Japanese local governments with long-term funding at low interest rates and to contribute to the sound financial operation of local governments and improve the welfare of citizens. JFM was originally established in 1957 as a government financial institution, and as part of governmental reform in 2008, a new JFM was established under a special law and wholly capitalized through capital contributions from 1,789¹ local governments². Although its ownership structure changed after the reform, JFM continues to play a key role in the public sector finance in Japan.

Japan's public services are jointly provided by the national government and local governments. The national government is responsible for foreign affairs, national defense, monetary policy and other matters related to the nation's existence. On the other hand, based on the principle of residents' self-governance, local governments, which mainly consist of prefectures, cities, towns and villages, provide local services. JFM's role is to fund such municipalities based on its founding principles.

2. Approach to Sustainability

Local Governance in Japan and JFM's contribution

In Japan, the legislature creates and decides the national level basic legal frameworks. In the administration phase, based under the laws set by the National Diet, the national government is responsible for matters related to the nation's existence and sets policy goals and more detailed standards within the frameworks. Local governments act in line with such frameworks and are in charge of a wide range of public services that are closely related to the daily lives of citizens such as public health, social welfare and education. These local governments require substantial funds to build and maintain public facilities such as water supply and sewerage systems, roads, schools and hospitals and cover around 60% of the total public expenditure in Japan.

JFM only funds municipalities through the Local Government Borrowing Programme (LGBP), which is an important guideline to secure the funding source for local governments in Japan. The Programme consists of long-term borrowing guidelines for local governments prepared by the national government. It specifies the amount and sources of local government fundraising each fiscal year in parallel with the national budget, and each local government raises funds in accordance with the LGBP.

As of 31 March 2022, JFM's total outstanding loans stood JPY 23.5tn (USD 192.4bn)³, of which over JPY 6.8tn (USD 56.1bn)³ was for sewerage, i.e., projects that are characterized as sustainable water and waste management and which JFM believes contributes to a sustainable economy and promotes public health. As shown in figure 1, sewerage is the largest loan category accounting for 29.2% of total loans as of 31 March 2022⁴.

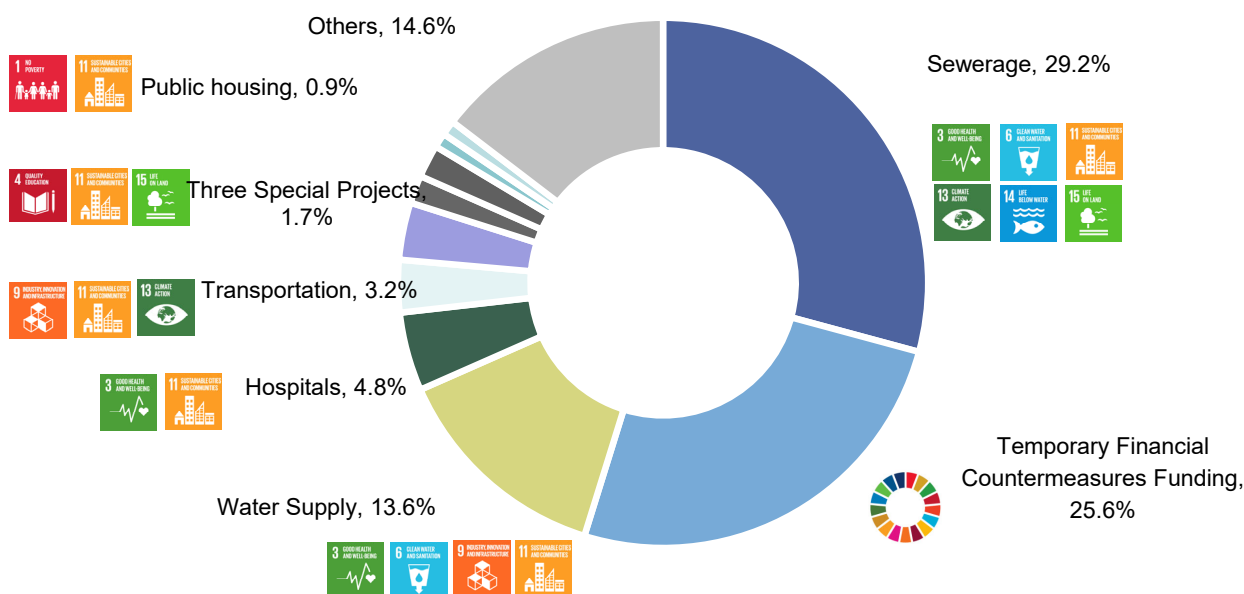
¹ As of 31 March 2022. References to fiscal years are to the years ending on 31 March of the year following the year indicated (e.g. fiscal year 2021 = fiscal year ended 31 March 2022).

² Local governments comprise all of the prefectures, cities and special wards, government-designated cities, towns and villages, as well as some local government associations.

³ USD 1 = JPY 122.40 as of 31 March 2022

⁴ JFM Annual Report 2022

Figure 1: SDGs Mapping – Fund Usage by JFM^{5, 6}



The Development of Sewerage System in Japan

In Japan, historically human waste generally had not been directly drained to rivers or thrown outside, but instead had been used as manure for agriculture. However, as people started to gather in cities such as Tokyo towards the end of the 19th century, insufficient drainage of sewage and flooding from heavy rainfall caused the spread of cholera and other diseases. This led to the construction of the first sewerage system in Japan in 1884, with the aim of improving living conditions through maintaining public health. Similarly, prevention of floods was a major role of the sewerage, especially in a country with abundant rainfall including seasonal typhoons. Japan experienced rapid economic growth in the 1950s-70s, and during this time the sewerage system in Japan expanded rapidly. However, this period of economic growth also led to water pollution in rivers and bodies of water across the country. These water quality issues led to revision of the Sewerage Act in 1970 in which a paragraph on “maintaining the water quality of public waters” was added and became the foundation for today’s Sewerage Act. Additionally, the Water Pollution Prevention Act was established in 1971 to prevent pollution and disease caused by water contamination. Further, the Water Pollution Prevention Act and the Sewerage Act prescribes the standards on the water quality of effluent by a sewerage business for over 40 substances. In meeting the standards of water quality of final effluent prescribed by each of the Acts, sewerage projects have played a vital role environmentally and socially in Japan by contributing to the improvement of public health and the preservation of living conditions and water quality of public waters.

⁵ As of 31 March 2022

⁶ Three Special Projects includes development projects for local roads, rivers and other waterways, and high school buildings

Today, the sewerage system in Japan is well established, with a penetration rate of 92.1% as of the end of fiscal year 2020, and approximately 490,000 km (300,000 miles) in total sewer pipe installed. The number of sewerage treatment plants was approximately 2,200 as of the end of fiscal year 2020⁷. With such a high penetration rate, the need for the maintenance of sewer pipes and treatment plants is growing. Many of the sewer pipes and facilities were rapidly constructed during the 1960s-80s, meaning that the number of pipes aged 50 years and over is expected to grow, while more than half of the water treatment facilities are now over 15 years old. As a result, the demand for reconstruction is strong. In addition, Japan has seen a rise in natural disasters such as typhoons and earthquakes in recent years, leading to an increased need to protect and upgrade lifeline water facilities to be able to minimize the impact of such natural disasters. The Japanese Government and local municipalities are working together to establish sustainable sewerage systems through upgrading and protecting the system by applying new technologies.

Further initiatives and towards the achievement of SDGs

In a broader context, the Japanese Government is moving to create a sustainable and a recycling-oriented society, by reducing CO2 emission by 46% in fiscal year 2030 from its fiscal year 2013 levels and furthermore continuing strenuous efforts in its challenge to meet the lofty goal of cutting by 50%, in line with the Paris Agreement⁸. Sewerage is not an exception, and the Japanese Government has set a policy goal of achieving a recycle rate of sewage sludge of 85% by fiscal year 2025. Moreover, in accordance with the Act on Promoting of Global Warming Countermeasures and its related policies, Japan has set a policy goal of achieving the utilization rate of sewage sludge as energy of 37% by fiscal year 2030. The main form of energy recycling for this purpose is biomass power generation using sewerage remains, which has been promoted in accordance with the Basic Act for the Promotion of Utilization of Biomass⁹. In light of this, with the objective of providing local governments with long-term funding at low interest rates, JFM is funding the reconstruction and upgrade of sewerage systems through the Local Government Borrowing Programme. This programme specifies the amount and source of fundraising of sewerage business as well as other businesses. In fiscal year 2020, the total amount of funding plan in respect of the sewerage business in Japan was approximately JPY1.30tn (USD 10.7bn)¹⁰, of which funding JFM was expected to cover approximately 30.3% of the sewerage business.

The sewerage business contributes to the improvement of living conditions, prevention of floods through waste water treatment and rain water drainage, and preservation of water quality in area of public waters. In Japan, the sewerage business is operated as a municipal enterprise and the quality of water is regulated under the laws of Japan.

3. Rationale for Issuance

JFM recognizes the important role that the sewerage industry can contribute to a sustainable economy and public health. Through the issuance of Green Bonds in accordance with this framework, JFM hopes to continue to broaden its investor base by attracting like-minded investors that seek to manage their

⁷ Ministry of Land, Infrastructure and Transport

⁸ Agency for Natural Resources and Energy

⁹ Ministry of Land, Infrastructure and Transport

¹⁰ USD 1 = JPY 122.40 as of 31 March 2022

investments in a responsible manner by prioritizing potential investments which value environmental and social priorities.

4. Alignment with the Green Bond Principles 2021 (GBP)

The Green Bond Principles, 2021 (GBP) as administered by the International Capital Market Association (ICMA) are voluntary process guidelines that recommend transparency and disclosure and promote integrity for best practices when issuing Green Bonds. JFM’s Green Bond Framework is aligned with the four core components of the GBP.







4.1 Use of Proceeds

JFM finances a broad spectrum of activities for municipalities, however, for the Green Bonds JFM will only include loans made to finance sewerage projects for which the purposes are the conservation of water resources through the improvement of water quality and the reduction of greenhouse gas emissions through the efficient use of energy and the recycling of sewage sludge.

JFM will use an amount equal to the net proceeds of the Green Bonds to finance or refinance, in whole or in part, existing or future projects that satisfy the eligibility criteria set forth below (together, the Eligible Projects) by way of loans made by JFM to local municipalities. Such loans made by JFM to local municipalities shall include those made to finance or refinance Eligible Projects up to 36 months preceding the issue date of a relevant series of Green Bonds.

JFM will allocate an amount equal to the net proceeds to finance or refinance Eligible Projects before the end of the fiscal year when the Green Bonds are issued.

Eligibility Criteria:

| GBP Eligible Green Project Category | Eligibility Criteria | Environmental Objective | Alignment with UN SDGs |
|--|---|---|---|
| Sustainable water and wastewater management | Development, construction, maintenance, updates, operation of sewerage related assets, which comply with sewage drainage standards set by Japanese law ¹¹ including: <ul style="list-style-type: none"> • Sewerage Management-Related Facilities • Facility/Equipment • Pipes | Pollution Prevention and Control Water Resource Conservation Energy use of sewage sludge, sewage sludge recycle |       |

¹¹ Sewerage Act (Act No. 79 of 1958, as amended) :

<http://www.japaneselawtranslation.go.jp/law/detail/?id=2810&vm=04&re=01>

Water Pollution Prevention Act (Act No. 138 of 1970, as amended):

<http://www.japaneselawtranslation.go.jp/law/detail/?vm=04&re=01&id=2815>

Purification Tank Act (Act No. 43 of 1983, as amended):

<http://www.japaneselawtranslation.go.jp/law/detail/?printID=&re=01&id=1111&vm=03>

4.2 Process for Project Evaluation and Selection

JFM's Green Bond Working Group consists of members of the corporate planning department, administration department, finance department, loan department and the local government support department including members who have experience in local government projects related to the environment, and is responsible for ensuring that the allocation of the net proceeds (or an amount equal to the net proceeds) of the issuance of the Green Bonds is in alignment with the eligibility criteria set forth in its Green Bond framework. The loan department will confirm that the borrower has obtained consent or approval on the borrowing, in accordance with the requirements of Japanese law. Following the extension of loans by JFM to the Eligible Projects, JFM's Green Bond Working Group will conduct surveys with the relevant local governments to gain impact metrics. The net proceeds (or an amount equal to the net proceeds) of the issuance of the Green Bonds will only be allocated to Eligible Projects, and a portfolio (the Effective Portfolio) will then be selected from the Eligible Projects based on projects run by local governments which return effective responses to a follow-up survey.

Figure 2: Process for Project Funding¹²

Step 1. Local government will consult with either the national government or prefecture as appropriate¹³ and formulate sewerage business plan, compliant with applicable laws



Step 2. Local government will seek consent or approval on the borrowing from either the national government or prefecture accordingly, in order to conduct its business plan



Step 3. Local government will receive consent or approval from the relevant national government or prefecture



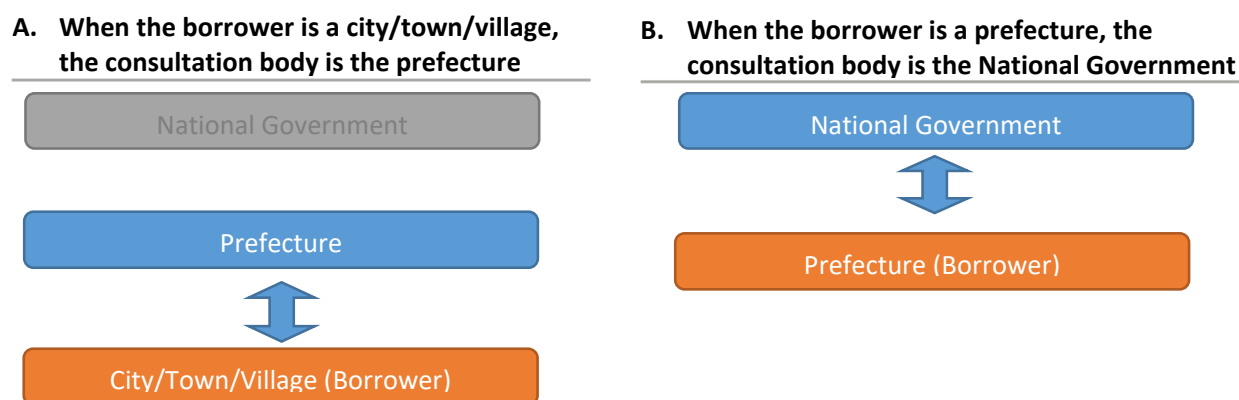
Step 4. Local government will apply to JFM for funding, and be funded the approved amount



Step 5. Evaluation and selection by JFM Green Bond Working Group

¹² As shown in figure 3

Figure 3: Consultation, consent/approval process between local governments and the national government or prefecture



4.3 Management of Proceeds

JFM's Green Bond Working Group will track, monitor and account for the allocation of the net proceeds (or an amount equal to the net proceeds) of the issuance of the Green Bonds. Prior to allocation of an amount equal to the net proceeds to loans for Eligible Projects, the net proceeds of the issuance of the Green Bonds will be invested in JFM's liquidity portfolio in cash and cash equivalents.

In addition, JFM will conduct inspections and examinations on projects which JFM has funded to make sure that the net proceeds (or an amount equal to the net proceeds) of the issuance of the Green Bonds is allocated to Eligible Projects.

4.4 Reporting

JFM's Green Bond Working Group will conduct a survey of its local government borrowers in respect of the environmental impact of their sewerage projects which JFM finances. Projects with respect to which the relevant local government returns effective responses will form the Effective Portfolio, and JFM will select such projects up to the full amount of the net proceeds of the Green Bonds. The Green Bond Working Group will then report on the Effective Portfolio as set out below.

JFM will report annually on its website (https://www.jfm.go.jp/en/investors/bond/international/green_bond2.html) the following information until full allocation of the net proceeds (or an amount equal to the net proceeds) from the issuance of the Green Bonds:

- (i) The amount of net proceeds (or an amount equal to the net proceeds) from the issuance of the Green Bonds that has been allocated to Eligible Projects in the Effective Portfolio;
- (ii) A breakdown of the Effective Portfolio by project type (expected to include sewerage treatment plants, advanced treatment plants, sludge treatment plants, pump stations and pipes, as well as others);
- (iii) Certain expected or estimated key performance indicators for each Eligible Project in the Effective Portfolio (expected to include project descriptions, total project costs, population of

the covered area, water management capacity and water quality impact (where relevant), absolute amount of sludge treated and disposed of (where relevant), newly constructed pipe length and/or total pipe length (where relevant), and other positive environmental impacts of new construction or update of sewerage management-related facilities, sewerage facilities or equipment and sewerage pipes);

- (iv) Case studies of certain specific Eligible Projects in the Effective Portfolio; and
- (v) Refinancing rate (in % of the total amount of proceeds).

Projects which are subject of such reporting are expected to be in line with the Green Bond Principles eligible Green Project category "Sustainable water and wastewater management". A sample image of reporting is specified in the Appendix hereto.

5. External Review

5.1 Second Party Opinion

JFM had retained Vigeo Eiris to provide a Second Party Opinion (SPO) on the environmental benefits of JFM's Green Bond Framework as well as the alignment to the GBP. As Vigeo Eiris was reorganized into Moody's in October 2022, JFM concluded a contract with Moody's to provide a SPO thereafter. The SPO is available on our website

https://www.jfm.go.jp/en/investors/bond/international/green_bond2.html

5.2 Compliance Review

Until the net proceeds (or an amount equal to the net proceeds) of the issuance of the Green Bonds has been fully allocated, JFM will have Moody's (or any other party appointed by JFM as a successor for Moody's) conduct a compliance review on an annual basis to provide assurance as to the amount of net proceeds that has been allocated in compliance with all material respects of the eligibility criteria set forth in this Green Bond Framework. *As Vigeo Eiris was reorganized into Moody's in October 2022, compliance reviews will be integrated into SPO thereafter

Appendix

Image of Reporting

(i) Amount of net proceeds of the Notes allocated

| Total lending to sewerage projects | | | | | |
|------------------------------------|---------|-----------|---------|-----------|-----------|
| | JPY2bn+ | JPY1.5bn+ | JPY1bn+ | JPY0.5bn+ | JPY0.1bn+ |
| Number of Projects by Volume | | | | | |

Effective Portfolio = Selected from Eligible Projects in respect of which local governments return survey responses. Survey will be conducted mainly on projects with large loan amount.

(ii) Break down of Effective Portfolio

| | Sewerage Treatment Plant | Advanced Treatment Plant | Purification Center | Pump Station | Pipes | Others |
|----------------------------|--------------------------|--------------------------|---------------------|--------------|-------|--------|
| Number of Projects by Type | | | | | | |
| Loan Amount by Type | | | | | | |
| | New | | | Renewal | | |
| Number of Projects by Type | | | | | | |
| Loan Amount by Type | | | | | | |

(iii) Project-by-project reporting on Effective Portfolio and expected or estimated KPIs (list of environmental impact on each project)

| New Construction / Update of Sewerage Management Related Facilities | | | | | | | | | |
|---|--------|---------------------|-----------------------------------|--------------------------------|-------------------------------------|-------------------------|---|----------------------|-----------------------------------|
| Borrowing Entity | Region | Project Description | Total Project Cost (thousand JPY) | JFM loan amount (thousand JPY) | JFM Loan Amount/ Total Project Cost | Covered area population | Water Management Capacity (m ³) | Water Quality Impact | Other Positive Environment Impact |
| | | | | | | | | | |

| New Construction / Update Facility/Equipment | | | | | | | | | |
|--|--------|---------------------|-----------------------------------|--------------------------------|-------------------------------------|-------------------------|---|-----------------------------------|--|
| Borrowing Entity | Region | Project Description | Total Project Cost (thousand JPY) | JFM loan amount (thousand JPY) | JFM Loan Amount/ Total Project Cost | Covered area population | Absolute amount of sludge treated and disposed of | Other Positive Environment Impact | |
| | | | | | | | | | |

| New Construction / Update of Pipes | | | | | | | | | |
|------------------------------------|--------|---------------------|-----------------------------------|--------------------------------|-------------------------------------|--|-------------------------|-----------------------------------|--|
| Borrowing Entity | Region | Project Description | Total Project Cost (thousand JPY) | JFM loan amount (thousand JPY) | JFM Loan Amount/ Total Project Cost | Newly constructed pipe length (m) and/or Total Pipe length (m) | Covered area population | Other Positive Environment Impact | |
| | | | | | | | | | |

Note: Projects reported are in line with GBP Eligible Green Project Category; "Sustainable water and wastewater management"

(iv) Case studies of JFM's lending to sewerage projects

(v) Refinancing rate (in % of the total amount of proceeds)

For illustrative purposes only

Disclaimer

The information and opinions contained in this JFM Green Bond Framework (the Framework) are provided as at the date of the Framework and are subject to change without notice. None of JFM or any of its affiliates assume any responsibility or obligation to update or revise such statements, regardless of whether those statements are affected by the results of new information, future events or otherwise. The Framework represents current JFM policy and intent, is subject to change and is not intended to, nor can it be relied on, to create legal relations, rights or obligations.

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No representation is made as to the suitability of any Green Bonds to fulfil environmental and sustainability criteria required by prospective investors. Each potential purchaser of bonds should determine for itself the relevance of the information contained or referred to in the Framework or the relevant bond documentation for such Green Bonds regarding the use of proceeds and its purchase of Green Bonds should be based upon such investigation as it deems necessary. JFM has set out its intended policy and actions in the Framework in respect of use of proceeds, project evaluation and selection, management of proceeds and reporting, in connection with the Green Bonds. However, it will not be an event of default or breach of contractual obligations under the terms and conditions of any such Green Bonds if JFM fails to adhere to the Framework, whether by failing to fund or complete Eligible Projects or by failing to ensure that proceeds do not contribute directly or indirectly to the financing of the excluded activities as specified in the Framework, or by failing (due to a lack of reliable information and/or data or otherwise) to provide investors with reports on uses of proceeds and environmental impacts as anticipated by the Framework, or otherwise.

In addition, it should be noted that all of the expected benefits of the Eligible Projects as described in the Framework may not be achieved. Factors including (but not limited to) market, political and economic conditions, changes in government policy (whether with a continuity of the government or on a change in the composition of the government), changes in laws, rules or regulations, the lack of available Eligible Projects being initiated, failure to complete or implement projects and other challenges, could limit the ability to achieve some or all of the expected benefits of these initiatives, including the funding and completion of Eligible Projects. Each environmentally focused potential investor should be aware that Eligible Project may not deliver the environmental or sustainability benefits anticipated, and may result in adverse impacts.