March 2021

Climate Bonds Initiative

JAPAN

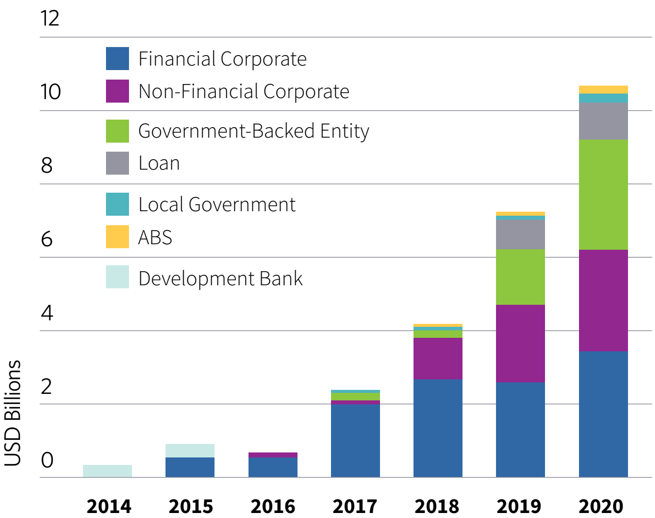
Green Finance State of the Market – 2020

Cumulative green bond issuance: USD26.15bn, 9th in global country rankings

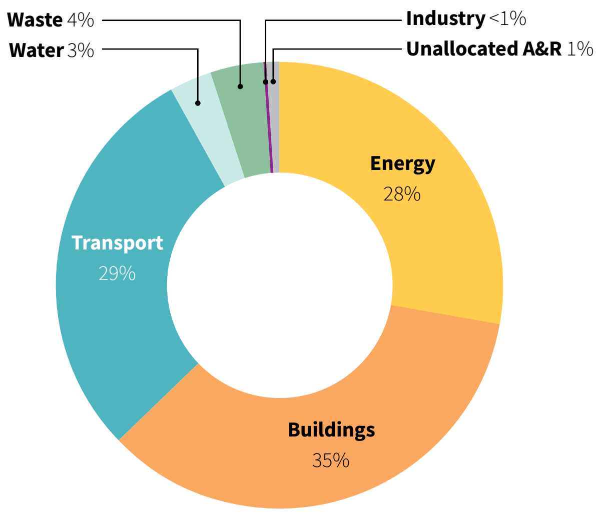
2020 green bond issuance: USD10.6bn, 7th in 2020 country rankings

Green bond market growth expected from public transport projects and land use

Japan green bond market grows by a third in 2020[A]



Buildings dominate use of proceeds



The Japanese green bond market continues to expand. **Financial corporates** and **government-backed entities** led green bond issuance in 2020, with 32% (USD3.4bn) and 29% (USD3bn) of market share, respectively. **Non-financial corporates** followed at 26% (USD2.8bn). The largest deal in 2020 was issued by **Toyota Motor Credit Corporation** (USD750m).

Government-backed entities play an increasingly important role. In 2020, repeat issuers **Japan Housing Finance Agency** and **Japan Railway Construction, Transport and Technology Agency** (JRTT) continued issuing green bonds in 2020 for a total of USD1.8bn and USD680m, respectively.

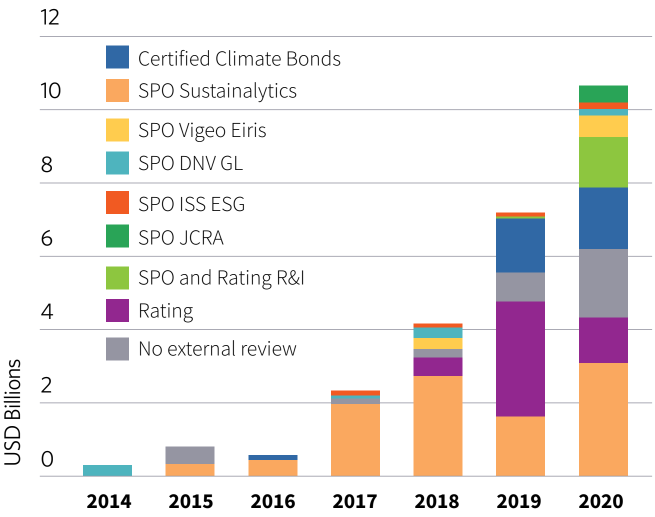
Debut issuer **Japan Finance Organization for Municipalities** came to the market with a EUR denominated benchmark size deal (EUR500m/USD546m) financing water projects for local governments.

Buildings dominate cumulative proceed allocations at 35%. **Japan Housing Finance Agency** (USD2.5bn) represents the top issuer in the sector, followed by **Mitsubishi UFG** (USD800m). Other contributions to the sector came from financial and non-financial corporates.

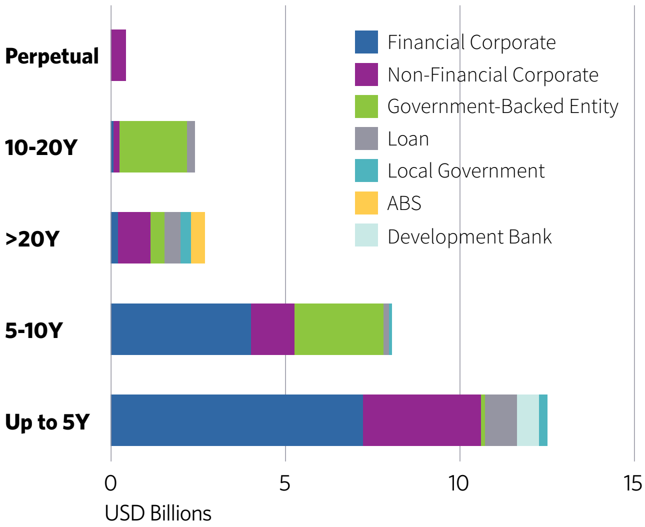
Transport and energy account for an almost equal cumulative share of the market, with financial corporates including contributing the most to both categories. Government-backed entity **JRTT** (USD3.15bn) remains the top issuer for transport, while non-financial corporate **Renewable Japan** (USD553m) ranks second after **Mitsubishi UFG** (USD2bn) for renewable energy.

Most green bond proceeds in 2020 were also allocated to buildings (36%), transport (32%) and energy (23%). The top 2020 debut issuers include **Japan Finance Organization for Municipalities** and **Central Nippon Expressway**. The latter issued a bond financing climate resilience infrastructure.

86% of issuance has an external review



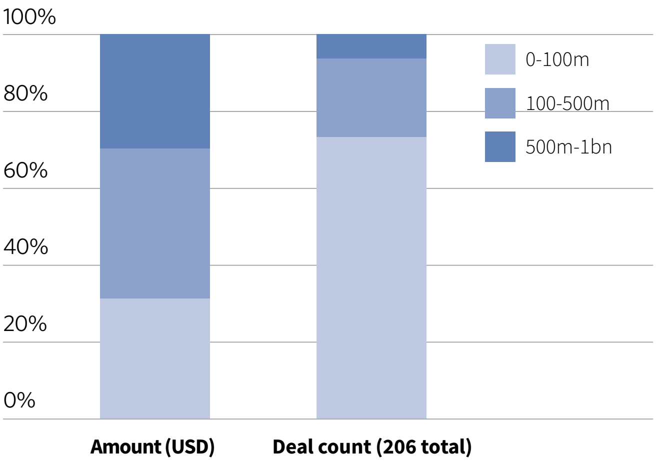
Most issuers favour tenors up to 10 years



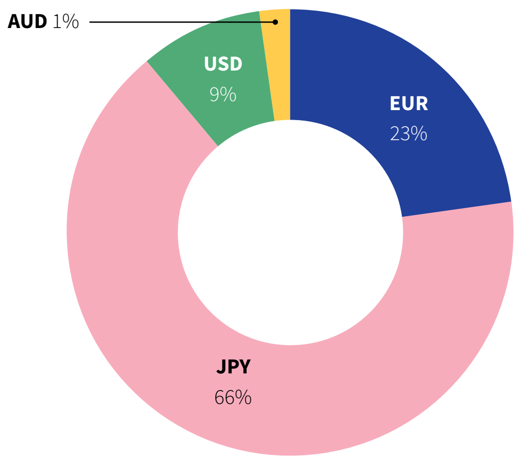
The Japanese green bond market continues to have an outstanding record of external reviews: 50% of cumulative deals by volume benefit from a Second Party Opinion (SPO), 24% from at least a green bond rating (including **R&I**) and 12% from Certification under the Climate Bonds Standard. The latter has increased by 4% in 2020, with a cumulative USD1.7bn of new Certified Climate Bonds. In addition to DNV GL, **Japan Credit Rating Agency** has gained the status of Approved Verifier for the Climate Bonds Certification scheme. **JRTT** has obtained the largest number of Certified bonds: 13 in total for a cumulative amount of USD2.7bn. SPOs were the most popular review form in 2020 too.

Japanese issuers prefer short tenors: 50% of deals mature in up to five years, while 30% fall within the five-to-10-year tenor bucket. Longer tenors, including those grouped into 10 to 20 years and more than 20 years each account for 10% of cumulative volumes. Financial corporates favour shorter tenors as 97% of their volumes fall in the up to 10 years bucket; this is similar to the 75% of volumes from non-financial corporates with such terms. ABS deals tend to have longer tenors (more than 20 years), such as deals from **AEON Product Finance** (USD383m). Government-backed entities favour different ranges of tenor, with example from **JRTT** .

70% of deals are up to USD100m



66% of volume is JPY-denominated



In cumulative terms, smaller-sized deals are the most frequent by number (150), with USD8.2bn of volume (32%) falling within the 'up to100m' size bucket. These are popular amongst financial and non-financial corporates which have issued 60 and 55 deals, respectively. Proceeds from small-sized deals have mostly been allocated towards low-carbon buildings and renewable energy.

Deals within the USD100-500m size bucket are the most frequent by volume with almost 40% of the total (USD10.3bn). **JRTT** and **Japan Housing Finance Agency** have issued USD2.6bn and USD1.8bn falling within the above size bucket. Benchmark-size deals are rarer, with only 13 deals by number and USD7.7bn by volume. These are favoured by financial corporates, with **Mitsubishi UFG** and **Toyota Motor Credit Corporation** being the top two issuers by volume. Last year's debut issuer **Japan Finance Organization for Municipalities** is the only government-backed entity to have issued a benchmark-sized deal (EUR500m/USD546m). In 2020, almost 50% of volumes fell within the '100-500m' bucket, with 74% of deals being 'up to100m'-sized.

JPY-denominated deals prevail at 66% of cumulative issuance. Non-financial corporates account for a third of the total JPY denominated issuance, followed by government-backed entities. **JRTT** is the top entity issuing in local currency (JPY341.4bn).

Financial corporates issue in different currencies, favouring EUR (42%) and JPY (38%). **Mitsubishi UFG** has issued two thirds of its cumulative volumes in EUR, with the remaining amounts in JPY, USD and AUD. **Sumitomo Mitsui Banking Corp** has favoured issuance in foreign currency, with EUR and USD accounting for 95% of its issuance, and the remaining 5% in AUD.

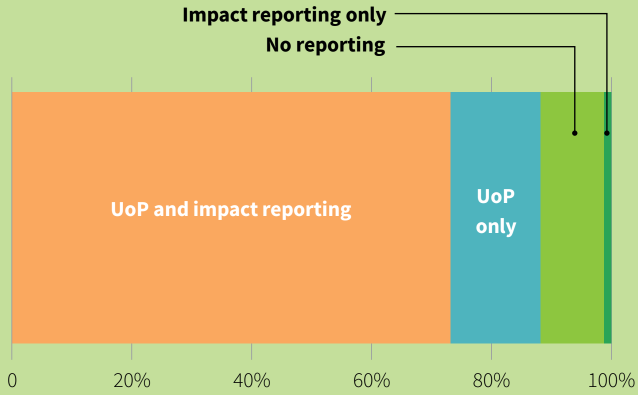
2020 follows similar trends to cumulative amounts, with JPY being the most favoured currency at almost 80%. EUR and USD follow, each with approximately 10% of market share. 2020 debut issuer Central Nippon Expressway is the only non-financial corporate issuing in foreign currency, with USD400m.

Post-issuance reporting in Japan[B]

Climate Bonds has developed a methodology to assess how green bond issuers report post-issuance. The following section focuses on results from the Japanese market only. More details on the methodology will be available in the upcoming updated edition of the Climate Bonds 'Post-Issuance Reporting in the Green Bond Market' report.

Nearly three-quarters (73%) of green bond volume benefits from both use of proceeds as well as impact reporting; 15% of volumes benefits from use of proceeds reporting only, while 10% has no post-issuance reporting.

Financial corporates perform better at post-issuance reporting, with 84% of their deals by number having at least one form of post-issuance reporting. Non-financial corporates follow at 70%.



Top 5 underwriters for Japanese GBs

Underwriter	Number of deals	Amount (USD)
Mitsubishi UFJ Morgan Stanley	50	5bn
Mizuho Securities	49	3.8bn
SMBC NIKKO Securities	46	3.2bn
Nomura Securities	31	2.5bn
Mitsubishi UFJ Financial Group	8	1.3bn

Source: Refinitiv; cut-off date: 31 December 2020.

Four of the top five underwriters of Japanese deals are headquartered in Japan. US-based Morgan Stanley, however, ranks first, accounting for around 25% of underwritten volumes and with participation in 50 deals. Mizuho follows with 49 deals.

Top 5 trading venues for Japanese GBs

Trading venue	Number of deals	Amount (USD)
LuxSE	8	1.7bn
All German SE	5	1.3bn
SGX	3	846.1m
LSE	4	741.6bn
Stuttgart	4	676.1bn

Source: Bloomberg, Refinitiv. Note: Amount is split equally among venues

Cumulatively, USD8.6bn worth of Japanese green bonds have been listed on a variety of trading venues. This accounts for around 33% of total issuance. Luxembourg Stock Exchange tops trading venue rankings with eight listed deals worth USD1.7bn. All German SE follow with five listed deals.

The broader labelled universe

The labelled green bond market has witnessed an increased level of label diversification in recent years. Lately, social and sustainability bonds have drawn particular attention with governments increasingly focusing on green recovery plans and the transition to net-zero economies by 2050.

The overall Japanese labelled bond universe amounts to USD64.8bn, including bonds which have been excluded from the Climate Bonds Green Bond Database.

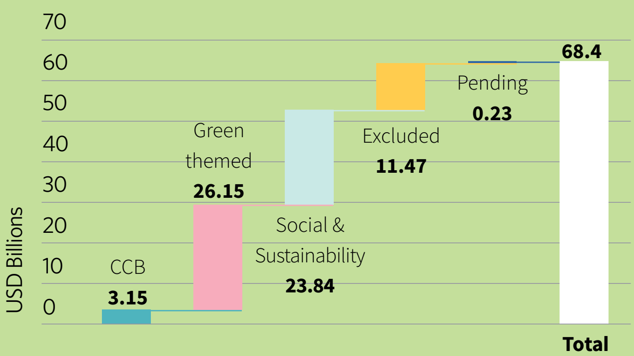
Social and sustainability themed bonds issued in Japan have experienced exceptional growth, reaching 16% of the labelled universe, not considering excluded bonds. This is a remarkable achievement and a positive signal with regards to building back after the Covid-19 pandemic: funding for social and environmental projects is key for building a resilient society and economy to withstand similar shocks in the future.

Certified Climate Bonds (CCB) are also growing, with 14 new deals being certified in 2020. **JRTT** is the top issuer (9 deals, USD1.3bn) followed by **Tohoku Electric Power** (2 deals, USD140.6m).

Methodology

Climate Bonds assesses green, social and sustainability bonds and evaluates which activities their proceeds are allocated to:

Cumulative labelled issuance in Japan



- Only bonds with 100% of net proceeds dedicated to green projects that are aligned with the Climate Bonds Taxonomy are eligible for inclusion in the Climate Bonds Green Bond Database. If net proceeds are partially allocated to non-eligible categories, or if there is insufficient information, the bond is classified as excluded.
- Labelled bonds whose proceeds are mostly allocated to social and sustainability projects are captured in the Climate Bonds Social and Sustainability Bond Database and reported on separately.
- Pending bonds are deals in the process of being evaluated, namely due to missing information which prevents inclusion or exclusion of a bond.

Unlabelled climate-aligned bonds

Methodology[C]

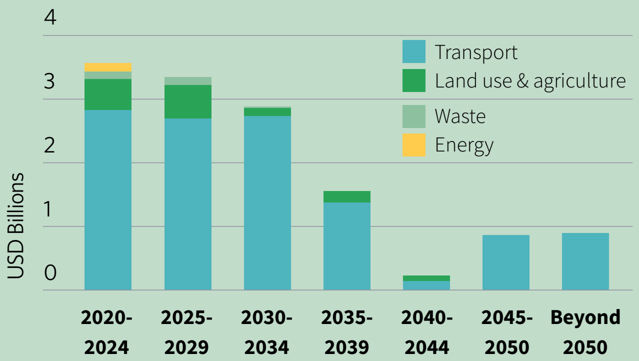
The unlabelled **climate-aligned (CA) universe** highlights investment opportunities which are not explicitly labelled as 'green' by the issuer, but finance climate-aligned assets and activities. Climate-aligned bonds are identified at the issuer level:

- bonds from **fully-aligned issuers** that derive 95% or more of revenues from climate-aligned business lines,
- bonds from **strongly-aligned** issuers that derive 75-95% of revenue from climate-aligned business lines

The identification of such instruments is crucial to shed light on capital flows financing green assets which may not be as visible and transparent as labelled bonds, as well as to identify opportunities to scale-up the labelled green bond market.

Climate Bonds has identified eight climate themes: renewable energy, transport, buildings, water, waste, land use & agriculture, climate adaptation, and ICT.

Maturity profile



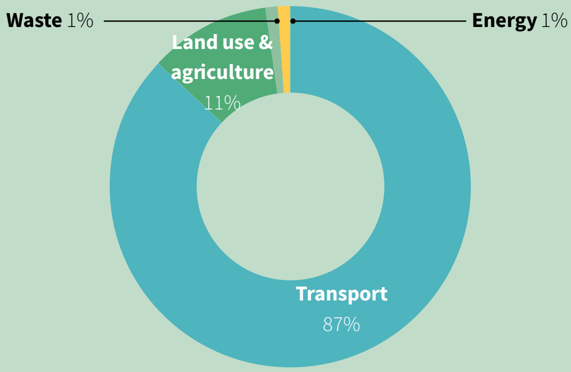
Opportunities to scale up labelled issuance

There are substantial opportunities for Japanese issuers to refinance their debt with labelled green bonds in the short term. Almost 30% (USD3.6bn) of the country's climate-aligned outstanding debt will mature by 2024, offering climate-aligned issuers operating in transport, land use, waste and energy the ability to refinance their operations with labelled green bonds. More opportunities arise from 2025, with additional USD3.4bn maturing by 2029.

Public transport is the top avenue to scale up green bond issuance in Japan, followed by land use. The latter, which accounts for only 1% of the labelled green bond market, shows significant opportunities to grow and to benefit from the extra visibility and transparency offered by the green label, as well as to attract investors with a clear green mandate.

Hitachi Zosen Corp, the largest issuer of climate-aligned debt in the waste sector, has already entered the labelled green bond market to raise funds for their waste to energy plant business.

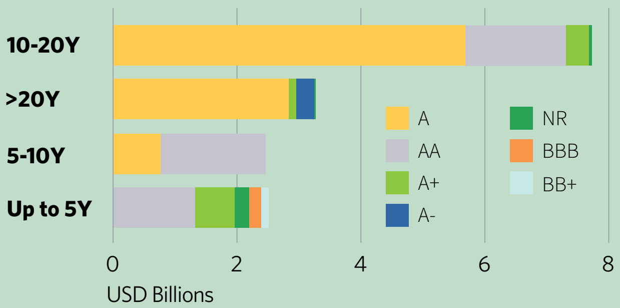
Transport is the top climate-aligned theme



With 114 bonds issued, Japan's climate-aligned outstanding debt amounts to **USD13.3bn**. Transport is the top climate-aligned theme with three issuers being responsible for the whole sector's climate-aligned debt: **Central Japan Railway Co** (USD7.4bn), **Tokyo Metro Co** (USD3.7bn) and **Kansai Rapid Railway Co** (USD467m).

Land use and agriculture follow with **USD1.4bn** of climate-aligned outstanding bonds; **Oji Holdings Corp** is the top issuer, which accounts for 66% of the sector's climate aligned outstanding debt.

98% of the CA universe is investment grade[D]



Almost the entire Japanese unlabelled climate-aligned universe is investment grade, with 98% of all bonds issued having obtained at least a BBB rating. Only 2% of the universe is non-rated.

Just below 60% of the climate-aligned universe is A-rated, followed by AA at 29%. Almost 60% of the universe has been rated by international rating agencies, with USD9.3bn receiving an A grade. Such bonds exclusively finance transport projects and tend to have shorter tenors (up to five years).

Climate-aligned issuers favour longer tenors, with the 10 to 20 years category being the most popular at 48%, and the more than 20 years bucket accounting for 16% of the climate-aligned universe. Bonds with shorter tenors are found across all the climate themes, with land use accounting for 13% of the proceeds maturing within five years.

Top Japanese climate-aligned issuers

Top 3 issuers	Sector	Amount (USD)	Market share	No. of issuers
1. Central Japan Railway Co, Tokyo Metro Co Ltd, Kansai Rapid Railway Co Ltd	Transport	11.5bn	86.8%	3
2. Oji Holdings Corp, Hokuetsu Corp, Nippon Paper Industries Co Ltd	Land-use & Agriculture	1.4bn	10.6%	4
3. Hitachi Zosen Corp, Takeei Corp, Shintokyo Group Co Ltd	Waste	<1bn	1.6%	3

Japan Green Finance Policy Landscape

In October 2020, Japanese Prime Minister Yoshihide Suga announced Japan's **commitment to net-zero emissions by 2050**. This represents a key milestone for the country which aligns its climate ambition with that of the UK and other European countries. Japan is also one of three East Asian countries – accompanying South Korea and China – to formally commit to net-zero targets.[1]

In the pursuit of carbon neutrality, a **Green Growth Strategy** was laid out in December 2020 by the Ministry of Economy, Trade and Industry (METI).[2] The strategy sets an action plan for 14 priority areas with the objective of boosting green power generation. The latter includes the development of hydrogen as a source of energy, as well as the expansion of offshore wind power generation to generate annual green growth worth approximately USD2 trillion.[3]

In the run to carbon neutrality, METI also intends to phase out new gasoline-powered vehicles by mid-2030, perhaps suggesting the government support for road transport electrification.[4] Japan's climate commitment has prompted efforts on several fronts, including the establishment of market development taskforces, an intention to boost green finance, as well as recognition and proper management of climate change related risks.

Market development Committee

Under the **ESG Finance High Level Panel**, two taskforces have been established in 2020:

- the **ESG Regional Finance Task Force** with a focus on financial institutions and the role they can play in the shift towards sustainability via ESG regional finance programmes;[5]
- the **Positive Impact Finance Task Force** which aims to promote the implementation of impact finance by major financial institutions and institutional investors.[6] It also aims to develop impact assessment methods.as set in the 'Concept Note on Impact Finance'.[7]

Improving climate data

In March 2020, the Japan Exchange Group and Tokyo Stock Exchange jointly published the **Practical Handbook for ESG Disclosure** with the objective of setting ESG reporting practices for listed companies.[8] The Handbook highlights challenges that companies may encounter on the path to voluntary ESG disclosure and proposes solutions and processes to overcome them.[9]

In recent years, pressure has been mounting on companies to properly account for and report on their environmental impacts. In Japan, 317 companies have committed to reporting according to the recommendations from the **Taskforce on Climate-Related Financial Disclosures** (TCFD). This significant development is partly due to the establishment of the **Japan TCFD Consortium**, a public–private partnership backed by METI, MOEJ and FSA, which supports dialogue and cooperation amongst organisations to improve their climate-related financial disclosures.[10]

The **Expert Panel on Sustainable Finance** was established by the Financial Services Agency (FSA) to drive domestic and foreign investments into Japanese companies to facilitate their transition to carbon-neutrality.[11] The panel is composed of business, financial and academic experts as well as officials from relevant ministries and agencies.

Low-carbon transition

Based on the ICMA Climate Transition Handbook, the FSA, METI and the Ministry of Environment (MOE) jointly organised a Study Group on Environmental Improvement for Effective Transition-Finance in January 2021 with the objective to formulate basic principles for transition finance in Japan. The group focused particularly on raising funds through transition bonds and loans.

Management of systemic and monetary climate risk

Japan's FSA and the Bank of Japan joined the Network for Greening the Financial System (NGFS) to evaluate and address risks posed by climate change on the Japanese financial system. As part of this commitment, the Financial System and Bank Examination Department at the Bank of Japan will hold a virtual International Research Workshop on climate-related financial risks taking place March 25th-26th 2021.[12] The Japanese regulator FSA has already taken action in this regard, conducting climate stress tests on the country's major financial institutions.[13]

What are Sustainability Linked Loans?

Sustainability Linked Loans (SLLs) support borrowers in sustainability performance improvements. These can include for example significant GHG emissions reductions from manufacturing processes; or reductions in waste or water usage. If targets are met, borrowers are rewarded with a reduced loan margin, resulting in cheaper cost of capital. SLLs are different from Green Loans in that proceeds are not linked to green projects/assets, but are intended for general corporate purposes.

Existing market guidance, including the LMA Sustainability-linked Loan Principles, states that targets should be ambitious, specific and time-bound. Importantly they should also be linked to sector-wide decarbonisation pathways and/or other improvement trajectories. In practice, however, most SLLs relate to the borrowers' own entity-specific sustainability improvements. A key lesson from the green bond market is that it should also be possible to assess ambition against global targets such as net-zero by 2050 to ensure rapid decarbonisation.

Market development

The Green Finance Portal was introduced to support and educate green finance stakeholders, including issuers and investors on the latest market developments.[14] A new subsidy scheme has also been launched to boost issuance of green loans and bond for adaptation project.[15] The 'Financial Support Programme for Green Bond Issuance' launched in 2018 continues to provide subsidies for issuance of green labelled bonds.[16]

In March 2020, MOE released the Green Loan and Sustainability Linked Loan Guidelines to set the process for structuring sustainability-linked loans. MOEJ has identified exemplar sustainability-linked loans and bonds to highlight good practice and set benchmarks for companies issuing SLL.[17,18]

Revision of Japan's Stewardship Code

The second version of Japan's Stewardship Code was finalised in March 2020. It lays out a framework to promote the sustainable growth of companies through improved corporate governance.

Notes:

A. *All green bond data as of 31 December 2020 unless otherwise stated. Issuer type classified with Climate Bonds definitions.*

B. UoP: Use of Proceeds. The chart presents analysis of post- issuance reporting for green bonds issued between Q4 2017 and Q1 2019.

C. Note, all unlabelled climate-aligned data as of Q3 2020, starting from January 1st, 2005.

D. Climate Bonds collects ratings from both international and local rating agencies; entity-level ratings are used when bonds are non-rated. Consolidated ratings are used for the chart below.

Endnotes

1. https://www.reuters.com/article/climate-japan-policy-shift-idUSKBN2780RN
2. https://www.meti.go.jp/english/press/2020/1225_001.html
3. https://www.reuters.com/article/us-japan-economy-green-factbox/factbox-japans-green-growth-strategy-to-help-achieve-carbon-neutral-goal-idINKBN28Z0IR
4. https://www.reuters.com/article/us-japan-autos-gasoline/japan-may-ban-sale-of-new-gasoline-powered-vehicles-in-mid-2030s-media-idUKKBN28D044?edition-redirect=uk
5. http://greenfinanceportal.env.go.jp/en/policy_budget/esg_highlevelpanel/esg_taskforce.html
6. http://greenfinanceportal.env.go.jp/en/policy_budget/esg_highlevelpanel/pif_taskforce.html
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10. https://www.cdsb.net/task-force/964/leading-framework-provider-joins-japan-tcfd-consortium-“knowledge-partner”
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17. http://www.env.go.jp/policy/guidelines_set_version_with%20cover.pdf
18. https://www.env.go.jp/press/108001.html

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