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Sustainable Finance – Asia-Pacific

Policy and regulatory focus on transition to support sustainable bond issuance in 2023

» **Policy and regulatory focus on green and transition finance will drive recovery in Asia-Pacific sustainable bond volumes in 2023**, despite difficult market conditions. Asia-Pacific (APAC) sustainable[1] bond issuance dropped 20% to $205 billion in 2022 – broadly in line with global trends – on the back of rising yields, a strengthening dollar and weaker economic activity. The decline was particularly pronounced in the second half of 2022, with cross-border issuance decreasing 52% from the year before; onshore volumes fell a more muted 10%. Stabilizing macroeconomic conditions in the region, coupled with policy and regulatory focus on green and transition finance, will bolster ESG-labeled bond volumes in 2023, with annual issuance bouncing back to around $230 billion.

» **Stronger domestic economic prospects and advancing green policies will support China's sustainable bond market.** We expect Chinese cross-border sustainable bond issuance to slowly recover, following a significant drop in the second half of 2022. An acceleration in activity in China (A1 stable) in 2023 kindled by the relaxation of pandemic-related controls and provision of policy support will underpin the rebound, although stress in China's property sector, if protracted, could dampen prospects. In addition, we expect green policy developments, including the China Green Bond Principles, to support sustainable bond issuance volumes over the medium term.

» **Focus on carbon transition will keep sustainable bond activity robust in Japan and Southeast Asia** and further diversify the APAC market. In Japan (A1 stable), the Ministry of Economy, Trade and Industry (METI)'s transition financing guidelines and road maps will encourage corporate issuance of sustainable bonds that support decarbonization. In Southeast Asia, the public sector, particularly sovereigns and government agencies, will continue to drive robust issuance in 2023 as the region sharpens its focus on transitioning to a low-carbon economy.

» **Just transition will gain more prominence across Asian emerging markets.** Carbon transition is likely to be more difficult for emerging markets (EMs) given their higher exposure to transition risks, placing increasing importance on financing just transition[2] initiatives. As EMs become more active in sustainable bond markets, mobilizing climate finance through innovative solutions such as blended finance,[3] loss and damage financing,[4] and ramping up investment in adaptation and resilience measures will become important enablers to scaling up transition financing in the region.

Policy and regulatory focus on green and transition finance will drive recovery in APAC sustainable bond volumes in 2023

Against a backdrop of stabilizing economic growth, we expect policy and regulatory focus on green and transition finance to bolster sustainable bond issuance to around $230 billion in 2023, below the peak of $260 billion in 2021, but stronger than $205 billion in 2022 (see Exhibit 1). This is broadly in line with our forecast for global sustainable bond issuance, which we expect to rise to $950 billion in 2023 from $862 billion in 2022.

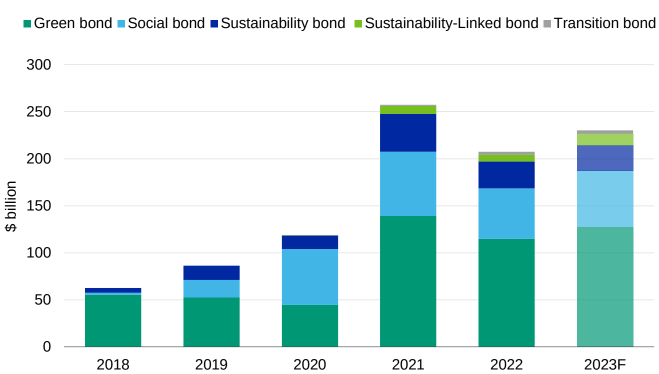
APAC issuance of sustainable bonds accounted for about one-quarter of the global total in 2022, with $115 billion of green bonds, $54 billion of social bonds, $29 billion of sustainability bonds, and $7 billion of sustainability-linked bonds. Cumulative sustainable bond issuance in APAC reached $835 billion at the end of December 2022.

The decline in sustainable bond issuance in APAC in 2022 was particularly pronounced in the second half given rising bond yields, a strengthening dollar and weaker economic activity. Cross-border issuance of APAC sustainable bonds dropped 52% in 2022 from 2021 on a substantial increase in interest payments and hedging costs (see Exhibit 2). Onshore volumes fell a more muted 10% in the same period. As a result, quarterly overall volumes slipped 31% and 24% in both the third and fourth quarters, respectively, compared to corresponding quarters of the previous year, while the decline in volume in the first half of 2022 was milder at 12%.

Exhibit 1

APAC sustainable bonds will bounce back in 2023 amid policy support, despite difficult market conditions

Annual APAC sustainable bond issuance by type

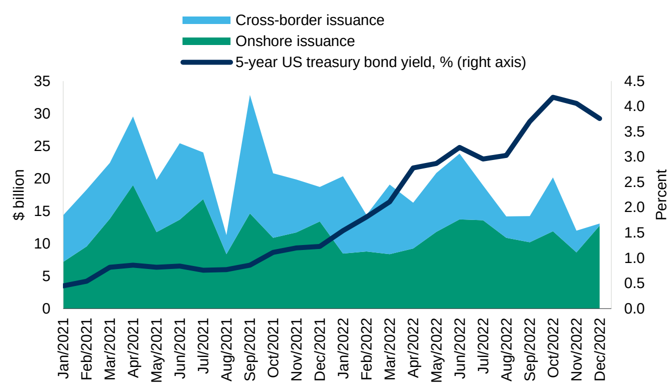


Sources: Environmental Finance Data, Korea Exchange (KRX) and Moody's Investors Service

Exhibit 2

Rapidly rising bond yields in the latter half of 2022 drove down cross-border issuance

Monthly onshore and cross-border APAC sustainable bond issuance and five-year US treasury bond yield



Sources: Environmental Finance Data, Korea Exchange (KRX), FRED, and Moody's Investors Service

Across Asia, governments have continued to focus efforts on developing policies and regulatory frameworks to support national carbon reduction ambitions. This is most notable in the areas of sustainable finance taxonomies, mandatory environmental, social and governance (ESG) disclosure requirements, decarbonization road maps, environmental regulations and green bond support schemes and guidelines (see Appendix for regional summary).

ESG and green finance regulations are at different stages of advancement across the region. Singapore (Aaa stable) and Australia (Aaa stable) have already released centralized frameworks to boost cooperation on regional climate investment through their negotiation of a Green Economy Agreement (GEA) in October 2022. Elsewhere, including in Malaysia (A3 stable), Thailand (Baa1 stable) and Vietnam (Ba2 stable), regulations are still taking shape. Overall, we expect developments in this area to add momentum to sustainable bond markets in the year ahead.

Green bond issuance totaled $115 billion in 2022, down 18% from 2021

Green bond issuance volumes contracted by 18% in 2022 from the previous year, driven by weaker corporate issuance, especially in the latter half of 2022. Nonetheless, green bonds accounted for 55% of the sustainable bond market.

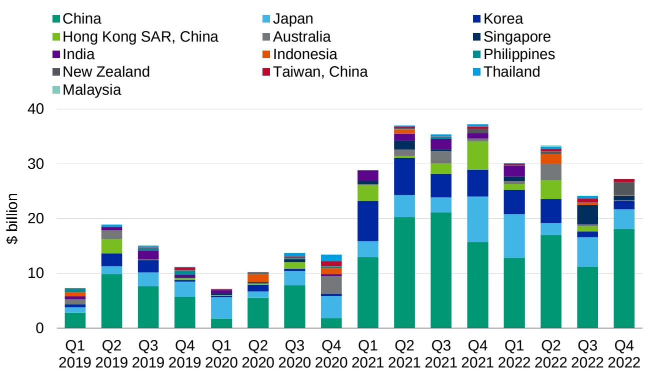
From a regional perspective, China still dominates green bond issuance (see Exhibit 3), contributing 50% of APAC volumes in 2022, followed by Japan (16%), Korea (Aa2 stable, 11%), Singapore (5%), Hong Kong SAR, China (Aa3 stable, 5%) and Australia (3%). In mainland China, onshore green bond issuance surged in the third and fourth quarters, partly offsetting the large decline in cross-border issuance, as tighter global financial conditions prompted Chinese issuers to raise capital in the domestic bond and loan markets.

From a sectoral standpoint, nonfinancial companies still led green bond issuance in 2022, accounting for 42% of the total, although that marked a large decline from their 63% share in 2021 (see Exhibit 4). Financial institutions were also significant contributors, with the top four largest issuers of green bonds, by issuance volume, all state-owned Chinese banks. While government agencies and municipal issuers accounted for about 10% of the total, notable green bonds in 2022 included a $2.5 billion transaction by the government of Hong Kong in May 2022 and a series of issuances by Singapore's Housing and Development Board (HDB, Aaa stable) over 2022, raising a total of SGD3.3 billion ($2.5 billion).

Exhibit 3

China still dominates green bond issuance

Quarterly APAC green bond issuance by region

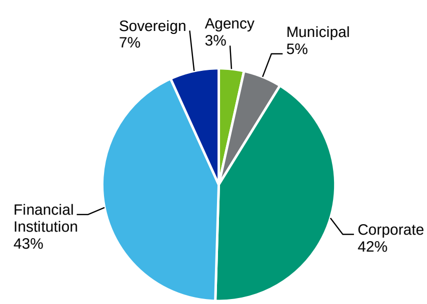


Sources: Environmental Finance Data, Korea Exchange (KRX), and Moody's Investors Service

Exhibit 4

Companies and financial institutions were the major green bond issuers in 2022

Share of 2022 APAC green bond issuance by issuer type



Source: Environmental Finance Data, Korea Exchange (KRX), and Moody's Investors Service

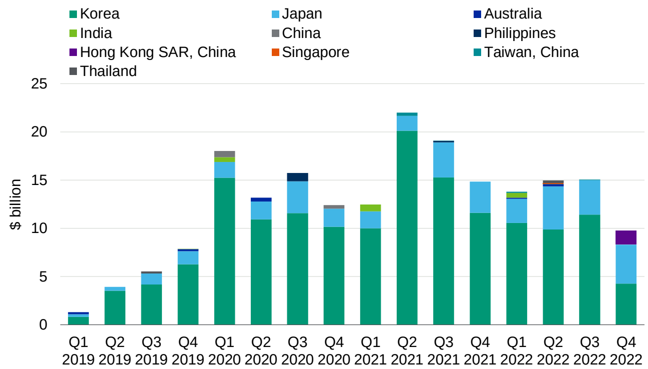
Social bond issuance totaled $54 billion in 2022, down 21% from 2021

Social bond issuance declined by 21% in 2022, with quarterly volumes in October-December falling to their lowest in three years (see Exhibit 5). This was driven by tight conditions in the Korean onshore bond market, which has provided the bulk of social bond issuance in APAC to date, with widening credit spreads deterring transactions by Korean government agencies and companies.

Still, Korea dominated APAC social bond volumes in 2022 with 67% of the total, followed by Japan (27%), Hong Kong (3%), Australia (1%) and India (Baa3 stable, 1%). Government agencies made up 55% of the total, followed by financial institutions (24%) and companies (21%) (see Exhibit 6).

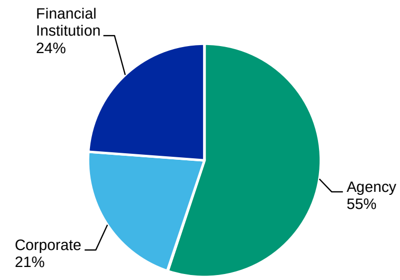
One of the largest social bond issuers is the Korea Housing Finance Corporation (KHFC, Aa2 stable), a Korean government agency that facilitates housing finance in the form of mortgage loans and securitization of mortgage-backed securities. KHFC raised about $17 billion in social bonds in 2022, accounting for about 32% of total APAC social bond volumes. Other frequent APAC issuers of social bonds include Industrial Bank of Korea (Aa2 stable), West Nippon Expressway Company Limited (A1 stable), Korea SMEs & Startups Agency (Aa2 stable) and Japan Student Services Organization.

Exhibit 5
Korea continued to dominate APAC social bond volumes in 2022
Quarterly APAC social bond issuance by region



Sources: Environmental Finance Data, Korea Exchange (KRX), and Moody's Investors Service

Exhibit 6
Government agencies were the largest social bond issuers in 2022
Share of 2022 APAC social bond issuance by issuer type



Sources: Environmental Finance Data, Korea Exchange (KRX), and Moody's Investors Service

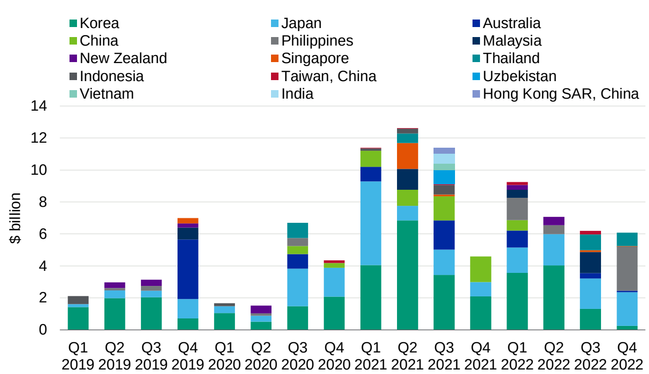
Sustainability bond issuance totaled $29 billion in 2022, down 28% from 2021

Sustainability bond issuance dropped by 28% in 2022 (see Exhibit 7). Although APAC issuers continued to focus on combined financing of environmental and social projects through labeled sustainability bonds, broader market conditions in 2022 weighed on issuance of sustainability bonds overall.

No single region or sector dominates sustainability bond volumes in APAC, but Korea and Japan accounted for large shares of 32% and 26% respectively in 2022, followed by the Philippines (Baa2 stable, 16%), Thailand (6%), Malaysia (6%), Australia (5%), and China (2%).

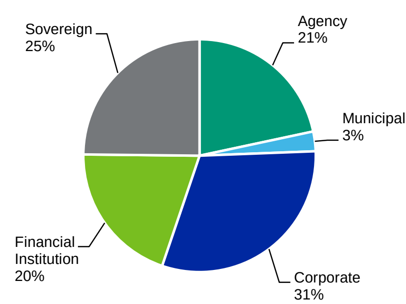
Issuance became more diverse from a sectoral perspective in 2022 (see Exhibit 8), with a higher share from sovereigns (rising to 25% from 8% in 2021) and agencies (21% from 9% in 2021). This was driven by the Philippines' landmark issuance of sustainability bonds in March and October 2022, which raised a total $3.5 billion, and Thailand's $840 million issuance in November 2022.

Exhibit 7
Sustainability bond issuance dropped by almost one-third in 2022
Quarterly APAC sustainability bond issuance by region



Sources: Environmental Finance Data, Korea Exchange (KRX), and Moody's Investors Service

Exhibit 8
Sustainability bond issuance was diverse
Share of 2022 APAC sustainability bond issuance by issuer type



Sources: Environmental Finance Data, Korea Exchange (KRX), and Moody's Investors Service

Sustainability-linked bond issuance down 18% from 2021

APAC sustainability-linked bond (SLB) issuance totaled $7 billion in 2022, down by 18% from 2021 (see Exhibit 9). Issuance volumes fell in the second half of 2022 amid weaker corporate issuance and growing investor scrutiny of the credibility and robustness of the key performance indicators (KPIs) and sustainability performance targets (SPTs) embedded in SLBs globally.

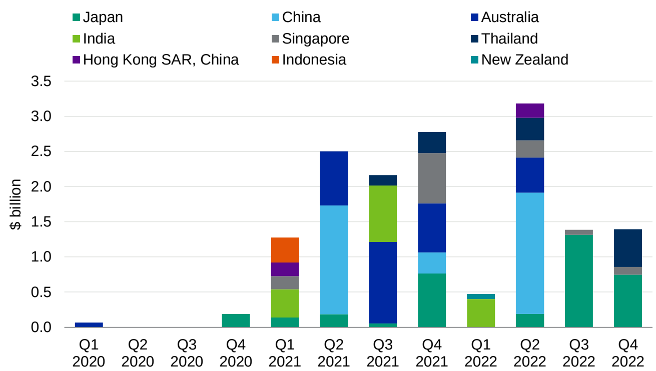
Sustainability-linked instruments are still at a nascent stage in APAC, with SLBs accounting for less than 4% of total sustainable bond volumes. Although more established use-of-proceeds structures remain the preferred financing method for sustainable bonds in the region, sustainability-linked instruments are gaining traction given the strong focus on green and transition financing.

SLB issuance from Japan, the largest issuer of SLBs with 40% of the total, doubled in 2022 from the previous year. This was followed by China (24%), Thailand (12%), Australia (7%), Singapore (6%) and India (6%). The corporate sector dominates the issuance of SLBs, with 74% of the total, while financial institutions account for 22% (see Exhibit 10).

Exhibit 9

Japan is APAC's largest issuer of sustainability-linked bonds

Quarterly APAC sustainability-linked bond issuance by region

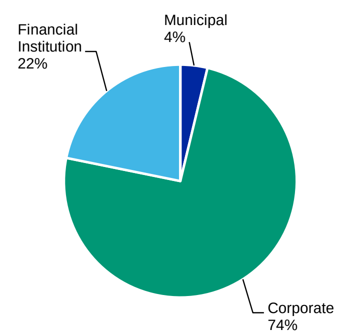


Sources: Environmental Finance Data, Korea Exchange (KRX) and Moody's Investors Service

Exhibit 10

Companies dominate APAC sustainability-linked bond issuance

Share of 2022 APAC sustainability-linked bond issuance by issuer type



Sources: Environmental Finance Data, Korea Exchange (KRX) and Moody's Investors Service

Stronger domestic economic prospects and advancing green policies will support China's sustainable bond market

An acceleration in activity in China in 2023 amid the government's relaxation of pandemic-related controls and policy support will underpin a rebound in sustainable bond issuance in 2023, following a 21% drop in 2022. However, stress in China's property sector, if protracted, could dampen prospects, while increased investor scrutiny of transactions' green credentials could also curb growth in issuance.

As China's regulatory framework for sustainable financing steadily takes shape with support from local policy developments in line with the national climate strategy, we expect sustainable bond issuance volumes in the country to rise over the next several years.

Notable policy developments in 2022 included the launch of the China Green Bond Principles, which reference the International Capital Market Association's Green Bond Principles, and which we expect will play an important role in aligning domestic green issuance with international practices. The publication of the second version of the EU-China Common Ground Taxonomy will also enhance alignment between these two major economies, facilitating Chinese issuers' access to offshore capital and debt markets, and international issuers' access to onshore markets. In the area of transition finance, we expect the National Association of Financial Markets Institutional Investors' guidance for transition bonds issued in May 2022, as well as the People's Bank of China's effort in the last quarter of 2022 to develop a draft Transition Finance Taxonomy will further support transition-related financing activities in China.

In light of these developments, we expect Chinese cross-border sustainable bond issuance to slowly recover in 2023. However, following strong momentum in sustainable finance issuance in recent years, greenwashing concerns have been on the rise. This has led to tightening regulations and greater investor scrutiny of green credentials, which we expect will intensify from 2023, and could check the pace of recovery.

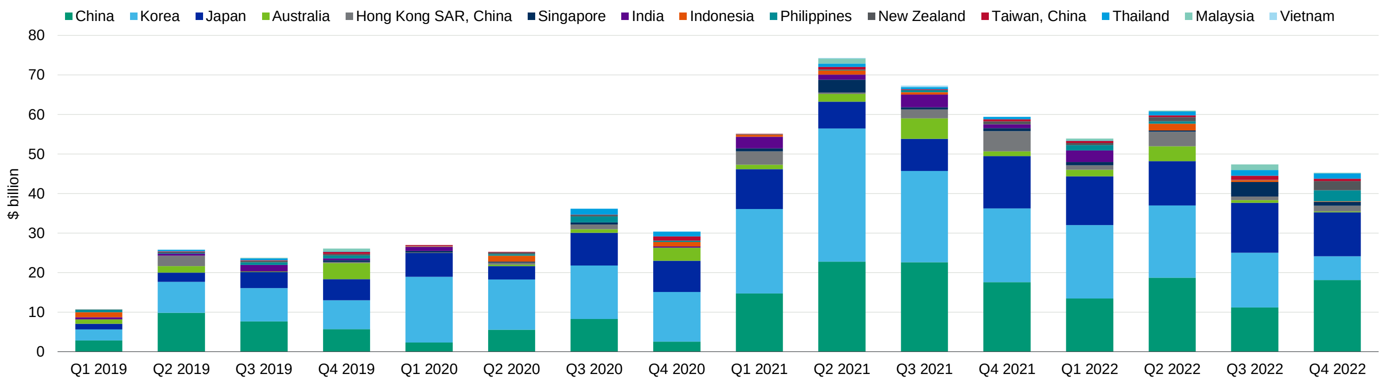
Focus on carbon transition will keep sustainable bond activity robust in Japan and Southeast Asia

In Japan and Southeast Asia, we expect sustainable bond issuance to continue to grow in 2023, after rising 24% and 47% respectively in 2022, bucking the declining trend in most APAC markets (see Exhibit 11).

Exhibit 11

Sustainable bond issuance from Japan and Southeast Asia rose in 2022, bucking the overall falling trend

Quarterly APAC sustainable bond issuance by region



Sources: Environmental Finance Data, Korea Exchange (KRX), and Moody's Investors Service

In **Japan**, while the central bank's less restrictive monetary policy compared to global peers may have supported issuance volumes, the government's policy push on green and transition finance will remain the primary driver for sustainable bond issuance as the country strives to meet its 2050 carbon neutrality goal. The most notable policies include METI's publication of the Basic Guidelines on Climate Transition Finance in May 2021 and sector-specific technology road maps that support climate transition finance for hard-to-abate sectors. This is further supported by METI's subsidy scheme which provides subsidies for third-party evaluations on financing programs that follows the basic guidelines to further facilitate transition financing in the country.

In line with the government's policy drive on green transition, issuance of labeled bonds are on the rise in Japan. In particular, the issuance of SLB and transition bonds remained strong in 2022. Combined, the two instruments accounted for 13% of the total in 2022, compared to just 1% in 2021. Some notable transactions included NEC Corporation's ¥110 billion ($847 million) SLB issuance in July 2022 and Tokyo Gas Group's (A1 stable) ¥20 billion issuance of transition bonds in March and December 2022, respectively.

In **Southeast Asia**, the public sector, particularly sovereigns and government agencies, will continue to drive robust issuance in 2023 as the region sharpens its focus on transitioning to a low-carbon economy through an active push on green policy and taxonomy developments. As reporting standards and taxonomies strengthen in the coming years, scaling green and transition finance via sustainable instruments including bonds and loans from the public sector will further gain momentum. In addition, local taxonomy developments and the ASEAN taxonomy for sustainable finance will encourage companies to promote carbon transition as such frameworks provide clarity on what constitutes transition activities by classifying economic activities into green (environmentally sustainable), amber (transition) and red (harmful) categories.

Sustainable bond issuance from Southeast Asia grew 47% in 2022, on the back of strong sovereign and government agency issuances. Notable transactions include the Philippines' sustainability bond, Singapore's debut sovereign green bond and those from HDB, and issuances from Indonesia's and Thailand's governments.

Elsewhere in APAC, a recovery in issuance in Korea – the region's second-largest market for sustainable bonds – and transactions by the Indian government could add further momentum to volumes in 2023.

Korean transactions are slowly picking up, after plummeting 41% in 2022 as a widening in credit spreads in the latter half of the year stymied issuance. Notable deals in January 2023 have included a sustainable bond from KHFC and the $1 billion debut issuance of SLB from SK Hynix (Baa2 stable) in Korea's first cross-border sustainability-linked issuance. Meanwhile, the Korean Green Taxonomy (K-Taxonomy) which took effect on 1 January 2023 and an associated grant scheme for issuers who fully comply will promote sustainable finance, while curbing concerns of potential greenwashing.

For **India**, the debut $1 billion green bond issuance by the sovereign in January 2023 could spur further green bond issuance from other sectors including companies or financial institutions as the country strives to meet its 2060 carbon neutrality goals.

Just transition will gain more prominence across Asian emerging markets

The global push toward a net-zero economy is likely to put the most strain on EMs, largely because they have higher exposure to social risks, weaker governance and lower financial buffers compared to advanced economies. This is particularly so for EMs that are highly reliant on hydrocarbon resources.

Such considerations point to the increasing importance of addressing socioeconomic aspects associated with carbon transition, and a greater need for financing just transition initiatives in the region. As EMs start to play a bigger role in sustainable bond markets, mobilizing climate finance through innovative solutions such as blended finance, loss and damage financing, and ramping up investment in adaptation and resilience measures will become important enablers to scaling up transition financing.

During the 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27) in 2022, governments for the first time agreed to set up a loss and damage fund to provide payouts to developing countries that suffer from climate-driven natural disasters. Other notable landmark agreements included the establishment of a just transition work program, and the Organisation for Economic Co-operation and Development, and Group of Seven governments forming several Just Energy Transition Partnerships, such as those recently announced in Indonesia and Vietnam.

While EM governments are likely to continue issuing sustainable instruments to support their individual just-transition efforts, many face fiscal constraints. This gap can potentially be filled by private sector participation, through support from external parties such as multilateral development banks with expertise in specific regions and the ability to allocate public and private capital efficiently through blended finance solutions.

Appendix

Exhibit 12

Policy and regulatory focus on green and transition finance will bolster ESG-labeled bond volumes

Latest ESG and green finance policy and regulatory developments in APAC

Countries	Policy Developments
Australia	- In October 2022, the Australian Sustainable Finance Initiative (ASFI) published a framing paper as part of efforts to develop a green taxonomy framework, with plans to include transition activities that reflect local conditions. - In December 2022, the Australian Department of the Treasury released a consultation paper regarding the introduction of mandatory climate-related financial risk disclosure that could require companies in Australia to report on climate-related financial risks.
China	- In April 2021, the Chinese authorities issued the final version of the Green Bond Endorsed Project Catalogue. - In June 2021, the People's Bank of China's (PBoC) rolled out a new Green Finance Evaluation Plan that covers 24 major Chinese banks, including the largest state-owned entities, and will grade financial institutions (FIs) according to their green bond holdings and the year-on-year change in the total value of green bonds held. - In May 2022, the National Association of Financial Market Institutional Investors (NAFMII) issued guidance for transition bonds, and also launched a pilot program for companies in eight carbon intensive sectors to issue transition bonds. - In June 2022, the International Platform on Sustainable Finance (IPSF) launched an updated version of the EU-China Common Ground Taxonomy (CGT), mapping out commonalities between the EU Taxonomy and China Taxonomy for users to reference when developing and labelling green financial products. - In July 2022, China launched a new Green Bond Principles framework, applying to green bonds, green asset backed securities, and carbon neutral bonds.
Hong Kong SAR, China	- In December 2021, the Green and Sustainable Finance Cross-Agency Steering Group signalled plans to develop a green classification framework to facilitate easy navigation of the EU-China Common Ground Taxonomy in local market. - In June 2022, the Hong Kong Monetary Authority (HKMA) announced its two-year plan to integrate climate risk into its banking supervisory processes. - In August 2022, the mandatory climate risk disclosure framework developed by the Securities and Futures Commission (SFC) took effect for asset managers and will start to apply in phases. The rules largely build on the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations.
India	- In May 2021, the Securities and Exchange Board of India (SEBI) issued a new Business Responsibility and Sustainability Report (BRSR) with disclosure requirements for the top 1,000 largest listed companies by market capitalization. - In September 2021, SEBI approved the framework of a new Social Stock Exchange (SSE) which aims to promote fund-raising activities for social enterprises. It is considering developing a new social taxonomy in support of the SSE.
Indonesia	- In January 2022, the Financial Services Authority (OJK) launched its Green Taxonomy, which includes a traffic-light system to classify economic activities, building on efforts to attract more capital towards sustainable finance in the country. - In November 2022, Indonesia announced the launch of its Just Energy Transition Partnership (JETP), which will mobilize $20 billion over the next three to five years to help the country increase its use of renewable energy and reduce its reliance on coal.
Japan	- In May 2021, the Ministry of Economy, Trade and Industry (METI) published the Basic Guidelines on Climate Transition Finance with the aim of promoting climate transition finance in the country. Also, METI released detailed sector-specific technology roadmaps for hard-to-abate sectors, providing further guidance on the industries' decarbonization plans. - In December 2021, the Bank of Japan (BoJ) launched a green loans scheme providing zero-interest finance to lenders supporting projects that tackle climate change. - In April 2022, the Japanese Financial Services Authority (FSA) mandated companies listed on the Tokyo Stock Exchange's new Prime Market to start disclosing climate risks and opportunities according to the TCFD. - In July 2022, the Ministry of the Environment of Japan (MOE) published an updated version of its Green Bond Guidelines, which serves as the main source of guidance for Japanese companies planning to issue green bonds in domestic markets.
Korea	- In July 2020, the Korean Green New Deal was launched with the goal of strengthening climate action and realizing a green economy by focusing investment on green infrastructure, renewable energy, and fostering green industry. - In January 2021, the Financial Services Commission (FSC) announced mandatory ESG disclosure requirements which will be phased in from 2025 for companies with total assets of KRW2 trillion, and from 2030 for all listed issuers. - On 1 January 2023, the Korean Green Taxonomy (K-Taxonomy) took effect. The government announced a corresponding grant scheme for issuers fully complying with the K-Taxonomy upon the completion of third-party assessment from a recognized institution by the Ministry of Environment; detailed guidelines will be unveiled in early 2023.
Malaysia	- In April 2021, Bank Negara Malaysia (BNM) implemented the Climate Change and Principles-based Taxonomy (CCPT) and the Value-based Intermediation Guidelines (VBI), and announced plans to launch a voluntary carbon market exchange at the end of 2023. - In August 2022, Singapore and Malaysia agreed on a Framework of Cooperation on the green economy, promoting collaboration on low-carbon solutions. - In November 2022, BNM published its final rules for the inclusion of climate risks in banks' and insurers' risk management processes, aligned with TCFD climate recommendations. - In December 2022, the Securities Commission Malaysia released Principle-based Sustainable and Responsible Investment (SRI) Taxonomy for the Malaysian capital market, which builds on BNM's Climate Change and Principle-Based Taxonomy (CCPT).

Countries	Policy Developments
Philippines	- In October 2021, the Central Bank of the Philippines (BSP), published the Sustainable Finance Guiding Principles which serve as a taxonomy, providing principles-based guidance on identifying economic activities that contribute to supporting sustainable development. - In October 2021, the government released the Philippines Sustainable Finance Roadmap, laying out the high-level action plans and inter-agency approach to promote sustainable finance in the Philippines.
Singapore	- In May 2022, the Green Finance Industry Taskforce (GFIT) published a second version of its Green and Transition Taxonomy for public consultation, which details thresholds and criteria for economic activities in the energy, transport and real estate sectors, and incorporates a user guide for financial institutions and companies to apply the taxonomy. - In June 2022, the Monetary Authority of Singapore (MAS) launched a Green Bond Framework to provide further guidance on public sector issuance. - In October 2022, Singapore and Australia signed a Green Economy Agreement (GEA), which combines trade, economic and environmental objectives with 17 joint initiatives aimed at transitioning toward a green and sustainable future under common rules and standards and interoperable policy frameworks.
Thailand	- In August 2022, the government submitted a Climate Change Bill to the Cabinet for approval; if enacted, it will be the first set of direct legislation on climate change mitigation and adaptation, including emissions reductions in Thailand. - In December 2022, the Bank of Thailand and Thailand's Securities and Exchange Commission issued a consultation on their pilot sustainable finance taxonomy, which includes objectives largely drawn from the EU taxonomy and includes a traffic light system to categorize activities.
Vietnam	- In May 2022, the Ministry of Natural Resources and Environment (MoNRE) and the State Bank of Vietnam (SBV) partnered with the International Finance Corporation (IFC) to develop and implement a policy and regulatory framework with an initial focus on green procurement, green taxonomy and waste management, aiming to spur private sector participation in the country’s climate goals and sustainable growth. - In July 2022, the government issued its National Climate Change Strategy to 2050, formally approving a net-zero pledge.

Source: Moody's Investors Service

Sustainable debt instruments defined

Throughout this report, we refer to a variety of sustainable debt instruments. These include use-of-proceeds green bonds, social bonds and sustainability bonds, whose proceeds are typically earmarked to finance specific eligible environmental and/or social projects; and sustainability-linked bonds, whose proceeds can typically be used for general corporate purposes but whose interest rates are tied to the achievement of various sustainability targets. These instruments include:

» **Green bonds** – Bonds where the proceeds will be exclusively applied to finance or refinance new and/or existing eligible green projects, such as renewable energy, energy efficiency, clean transportation, sustainable water management and green buildings. Typically issued in accordance with the Green Bond Principles.

» **Social bonds** – Bonds where the proceeds will be exclusively applied to finance or refinance new and/or existing eligible social projects, such as affordable basic infrastructure, access to essential services, affordable housing and food security. Typically issued in accordance with the Social Bond Principles.

» **Sustainability bonds** – Bonds where the proceeds will be exclusively applied to finance or refinance a combination of new and/or existing eligible green and social projects. Typically issued in accordance with the Sustainability Bond Guidelines.

» **Sustainability-linked bonds** – Bonds that incentivize the issuer's achievement of material, quantitative, predetermined, ambitious, regularly monitored and externally verified sustainability objectives through KPIs and SPTs. Typically issued in accordance with the Sustainability-Linked Bond Principles.

Note on our sources

Our primary source for sustainable debt data throughout this report is Environmental Finance Data, with such data referenced in this report downloaded as of 17 January 2023. Under the Environmental Finance Data methodology, all issuers are tagged as one of six types of issuer: corporate, financial institution, sovereign, government agency and supranational. Financial institutions include all forms of banks and asset managers; agency refers to all government agency-affiliated companies; and sovereign issuers are sovereign governments.

Moody's related publications

Topic page

» ESG Credit and Sustainable finance

Second party opinions

» SK hynix Inc.: Sustainability-Linked Financing Framework Assigned SQS2 Sustainability Quality Score, 2 January 2023

» Japan Financing Organization for Municipalities: Green Bond Framework Assigned SQS2 Sustainability Quality Score, 27 December 2022

» Japan Student Services Organization: Social Bond (70th) Assigned SQS2 Sustainability Quality Score, 29 November 2022

» Government of Egypt: Sustainable Financing Framework Assigned SQS2 Sustainability Quality Score, 9 November 2022

» Kunming Rail Transit Group Co., Ltd.: Green Finance Framework Assigned SQS2 Sustainability Quality Score, 1 November 2022

» Framework to Provide Second Party Opinions on Sustainable Debt, 3 October 2022

Sector research

» China's growth, tighter funding and geopolitics will define 2023 conditions, 1 February 2023

» Sustainable bond issuance to rebound 10% in 2023 to $950 billion, short of record high, 31 January 2023

» 2023 Outlook – Macroeconomic challenges to exacerbate ESG credit risks, 9 January 2023

» 2023 outlook stable on debt sustainability but social risks will curb fiscal consolidation, 9 January 2023

» JETP provides framework to kick-start decarbonization, but hurdles abound, 15 December 2022

» Climate finance tops COP27 agenda as talks focus on implementation of pledges, 20 November 2022

» Sustainable bonds fare better than broader market, despite third quarter decline, 2 November 2022

» Carbon Transition – Governments have made policy progress toward net zero, but energy crisis will complicate implementation(Slides), 1 November 2022

» Sovereigns' readiness for a "just transition" varies, as does associated credit impact, 20 October 2022

» Green and transition financing in APAC resilient despite market headwinds, 2 August 2022

» China Green Bond Principles will support the domestic sustainable finance market's development and align with international standards, 30 August 2022

Endnotes

1 We define sustainable bonds as green, social, sustainability and sustainability-linked (GSSS) bonds.

2 The International Labour Organization defines a just transition as a "process toward an environmentally sustainable economy that needs to be well managed and contribute to the goals of decent work for all, social inclusion and the eradication of poverty."

3 The use of development finance to mobilize additional funding, especially from the private sector.

4 Financial assistance to low-income countries facing climate change-induced natural disasters today by advanced economies responsible for carbon emissions in the past.

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