REPORT

Emerging Market Green Bonds

IFC-Amundi Joint Report

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Amundi ASSET MANAGEMENT
IFC International Finance Corporation WORLD BANK GROUP

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IFC — a member of the World Bank Group — is the largest global development institution focused on the private sector in emerging markets. We work in more than 100 countries, using our capital, expertise, and influence to create markets and opportunities in developing countries. In fiscal year 2023, IFC committed a record $43.7 billion to private companies and financial institutions in developing countries, leveraging the power of the private sector to end extreme poverty and boost shared prosperity as economies grapple with the impacts of global compounding crises. For more information, visit www.ifc.org.

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Amundi, the leading European asset manager, ranking among the top 10 global players, offers its 100 million clients—retail, institutional and corporate—a complete range of savings and investment solutions in active and passive management, in traditional or real assets. This offering is enhanced with IT tools and services to cover the entire savings value chain. A subsidiary of the Crédit Agricole group and listed on the stock exchange, Amundi currently manages more than €1.9 trillion of assets. With its six international investment hubs, financial and extra-financial research capabilities and long-standing commitment to responsible investment, Amundi is a key player in the asset management landscape. Amundi clients benefit from the expertise and advice of 5,400 employees in 35 countries.

Emerging Market Green Bonds

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José Abad, also at IFC, was the lead author. Working team members included Quentin Albert, Mohamed Ben Slimane, Angge Roncal Bazan, Sylvia Chen, Charles Dupré, Eric Dussoubs, Joan Elbaz, Julien Foll, Victor Hintzy, Timothée Jaulin, Esther Law, Molly Minton from Amundi, and Samed Hysa, Kaikham Onedamdy, Selin Gonca Ozyurt, Jessica Stallings, and Imtiaz Ul Haq from IFC.

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Foreword

The sixth edition of the 'Emerging Market Green Bonds Report' analyzes significant trends within the green, social, sustainability, and sustainability-linked (GSSS)[1] bond markets for the year 2023, and provides projections for 2024 and beyond. Furthermore, it encapsulates the latest advancements in policy and regulatory frameworks. Similar to previous editions, this year's report represents a collaborative effort between Amundi, a prominent asset manager in Europe, and the International Finance Corporation (IFC), part of the World Bank Group.

Collaboration with financial institutions, the private sector, and governments is essential to IFC's mission to mobilize private capital for sustainable development and climate-related objectives. As a pioneer in the green bond market, IFC has issued, since 2010, more than $12.6 billion in green bonds through 198 securities across 21 different currencies.

Moreover, IFC offers technical support to both issuers and investors in developed and emerging markets, enhancing the integrity of the green bond market. IFC has also contributed significantly through its leadership on the executive committee of the Green, Social, Sustainability, and Sustainability-Linked (GSSS) Bond Principles, serving as chair from July 2020 to June 2022.

Amundi continues to dedicate itself to the growth of the green bond market and other sustainable finance instruments. Its partnership with IFC on initiatives such as the Amundi Planet Emerging Green One and the Build-Back-Better Emerging Markets Sustainable Transaction funds, launched in 2018 and 2021 respectively, aims to boost both the demand and supply of green bonds in emerging markets.

In 2023, issuance of GSSS bonds saw significant expansion in developing economies, rebounding strongly from the previous year's slump. This surge was driven by a confluence of factors including easing inflation concerns, governmental and corporate initiatives to address climate challenges, and more favorable financial conditions. Regulatory progress in multiple jurisdictions supported the market's expansion by establishing clearer guidelines for sustainable finance in a number of regions which in turn is likely to make these assets more appealing to international investors.

Much of the growth in issuance seen in 2023 was driven by sovereign borrowers seeking funds as they stepped up efforts to meet climate targets. As a result of the increase in sustainable bond issuance, significant investment flowed into green construction, renewable energy, and water projects. Also, innovations in sustainability criteria,

1 For a full description of each category of sustainable bond, see Box 1 in Chapter 1

SUSAN M. LUND

Vice President, Economics and Private Sector Development, IFC

YERLAN SYZDYKOV

Global Head of Emerging Markets, Amundi

such as Chile's inclusion of a gender-based performance indicator in its sustainability-linked bond framework, underscored a broader trend of integrating social goals into financial strategies.

Over the medium term, we anticipate continued growth in green bond issuance within emerging markets driven by an acceleration of the energy transition.

Nevertheless, geopolitical tensions and the reputational damage from still prevalent greenwashing—misstating the extent to which financial instruments meet sustainability criteria—pose significant threats to this rosy outlook for the market. Any downturn would severely impact global efforts to achieve the climate targets established by the 2015 Paris Agreements. Sustainable finance markets are crucial for addressing the capital deficits in funding economic and energy transitions in emerging markets by directing private sector investments to where they are most needed. Consequently, substantial efforts must be made to ensure continued growth in the GSSS market, including enhancing regulations, standardizing best practices, mobilizing policies, and raising awareness.

Key Messages

Bounceback in 2023

Emerging market GSSS bond issuance surged 45 percent in 2023 to reach $209 billion, an all-time high. Issuers outside China increased transactions by around 65 percent to $111 billion while those within the country saw a 28 percent advance to around $98 billion.

Outside China, GSSS bond issuance in emerging markets was driven by green bonds, which increased by 81 percent. In the Middle East and North Africa, most notably UAE and Saudi Arabia, green bond issuance more than doubled.

Driven by Sovereigns

The acceleration in green bond issuance in emerging markets in 2023 was partly driven by sovereigns which more than tripled their green bond sales. Their share of total emerging market green bond issuance jumped to 17 percent from 7 percent in 2022. But financial institutions, which increased sales of the securities by 52 percent, remained the biggest issuers of green bonds, selling 58 percent of the total versus 51 percent in 2022. Corporates saw their share fall sharply to 21 percent from 32 percent.

Use of Proceeds

Renewables continue to claim the biggest share of the proceeds from emerging market GSSS bond issuance at 37 percent, flat from the previous year. Green buildings claimed 29 percent, up from 9 percent in 2022, while water projects have also become increasingly important, representing 12 percent of issuance in 2023, up from 8 percent, on account of the emergence of "blue" bonds.

Issuance Outlook

Issuance of emerging market GSSS bonds is likely to grow at an annual rate of 7.1 percent over the 2023–2025 period, with sales volumes rising to $240 billion, from $209 billion currently. For the green bond sub-category, growth will be faster still, at 7.5 percent per year to reach $156 billion in 2025. This outlook, with a 70 percent probability, assumes no reversal in investor demand for sustainable assets alongside emerging market sovereign and corporate borrowers stepping up efforts to finance climate commitments.

Drivers of Market Growth

Easing inflationary worries and benign growth outlooks in many emerging markets are behind much of the recovery trend. But growth in GSSS bond sales can also be largely attributed to governments and companies stepping up efforts to confront climate challenges, alongside ongoing improvements in regulation and maturing financial markets.

Executive Summary

Sustainable finance, the capital market used by borrowers to fund projects and initiatives with sound environmental and social credentials, is booming in developing economies.

Emerging market issuance of green, social, sustainability, and sustainability-linked (GSSS) bonds, which are eligible investments for funds focused on environmental and social criteria, surged 45 percent in 2023 to reach $209 billion, an all-time high.

For emerging markets outside China, growth was even faster, at 65 percent, reaching $111 billion over the year. In China itself, meanwhile, GSSS bond issuance advanced by 28 percent to around $98 billion.

This marks an impressive bounce back from the slump in sales seen the previous year when inflation stifled demand among investors who were worried about the declining value of their bond holdings, while rising interest rates prompted borrowers to put their capital raising plans on hold.

The recent growth in emerging market GSSS bond issuance is also set to continue, according to the central forecasts outlined in this report, rising by around 7.1 percent each year through 2025. That means sales volumes will reach around $240 billion in 2025.

There are multiple forces driving this upsurge that are likely to stay in place over the next two years. Easing inflationary worries, projected rate cuts by the U.S. Federal Reserve and other central banks, and benign growth outlooks in many emerging markets are behind much of the trend.

But growth in GSSS bond sales can also be largely attributed to governments and companies stepping up efforts to confront the climate challenges they face, transforming economies and businesses to make them more sustainable while building resilience. All this needs to be funded and the international financial markets connect these borrowers with a growing pool of portfolio capital that prioritizes environmental, social, and governance criteria when choosing assets to buy.

In short, rising financing needs to fund green transitions in emerging markets are meeting growing demand that is capable of absorbing more growth in GSSS bond issuance.

At the same time, financial and regulatory conditions are favoring emerging market issuers. Market growth is being supported by ongoing progress by market supervisors in establishing guidelines for categorizing, regulating, and tracking sustainable finance in multiple jurisdictions. This means sustainable finance markets in developing economies are becoming deeper, easing the way for more investment capital to buy up debt issued in those markets.

This study also shows that the new investment is finding its way to where it is most needed, not just alleviating the perennial problem of capital scarcity in emerging markets but targeting crucial economic sectors. Data on how the proceeds of green bond sales are used show a rapidly rising share going toward greener construction, a central pillar of many emerging economies as well as a major source of greenhouse gas emissions.

The largest slice of the money raised from the instruments in emerging markets during 2023 was designated for renewables, though at 37 percent the share was broadly stable relative to the previous year. The next biggest destination for money raised from sales of green bonds, and rapidly closing the gap, was buildings, claiming 29 percent of the total from 9 percent a year earlier. Water projects have also become increasingly important, representing 12 percent of issuance in 2023, up from 8 percent. This is due to a rise in sales of blue bonds, a sub-category of green bonds used to raise money for water and ocean-related sustainability. Low carbon transport saw its contribution fall to 11 percent from 18 percent in 2022.

Among the most significant innovations over the year within the GSSS bond market, we also highlight the inclusion of a social key performance indicator in Chile's Sustainability-Linked Bond Framework that was updated in June. This introduced a gender-based metric targeting an increase in female representation on the boards of companies regulated by the Financial Market Commission to at least 40 percent by 2031.

To be sure, a step up in GSSS bond sales could lead to more debt on balance sheets and issuers' capacity for borrowing has limits. Nevertheless, there is room for issuance to grow from current levels and GSSS bonds still represent a fraction—around 5 percent—of annual emerging market bond issuance outside China where the proportion is smaller still, at 1.7 percent.

This report starts by outlining the financial market trends that underpin the new issuance market for GSSS bonds in emerging markets. A second chapter breaks down primary market performance during 2023 from several perspectives, looking at issuance by region, trends in the use of proceeds and other features. The third chapter sets out the forecasts compiled by Amundi for issuance volumes over the next two calendar years, and a concluding section sketches some potential considerations for policy makers, regulators, investors, issuers, and multilateral development banks seeking to ensure the continued health of this market.

Private investment is vital for covering the financing needs of governments and corporations seeking to meet net-zero and other climate commitments made at international summits such as COP28, as well as building resilience to ever more frequent extreme weather events. The GSSS bond market is a key medium for channeling private funds toward the emerging markets where it is needed the most.

1

Introduction

Sustainable finance—the market for debt securities that raise money for sustainable projects and initiatives—is in robust health in developing economies. New issues by emerging market corporate and sovereign borrowers during 2023 of green, social, sustainability, and sustainability-linked (GSSS) bonds—see Box 1 for definitions—are often encountering orders that exceed the amount of debt being sold.[2] Indeed, demand for these securities means the yields on such debt are similar or occasionally below those on conventional bonds in emerging markets, making it attractive for governments, corporations, and financial institutions to raise more capital.

Several factors drive this. Firstly, 2023 saw a broad improvement in sentiment around debt capital markets with sustainable bonds enjoying an even more emphatic shift in mood. The amount of new money flowing into investment funds prioritizing environmental, social, and governance (ESG) issues continued to grow, albeit at a slower pace than previous years,[3] adding to global demand for new GSSS bonds. Meanwhile, authorities in multiple emerging economies are making progress toward implementing guidelines and categorization systems for sustainable finance. They are also ensuring that the new taxonomies are better aligned and comparable with those in other jurisdictions. This is a significant development. Investors need to be able to estimate risk when considering adding an asset to their portfolio and this is difficult, inefficient, and costly when dealing with multiple sets of rules and categorizations that are incompatible with one another.

Making emerging market assets easier to assess for risk and potential returns by international investors unlocks a still growing pool of funds focused on investments that meet ESG priorities. This bodes well for governments and companies in developing economies that made commitments at international summits such as COP28 in late 2023 to transition their economies and businesses away from fossil fuels and build resilience to the consequences of climate change. Their funding needs are sizable but emerging market governments typically have less fiscal firepower to meet those needs than their counterparts in developed economies. That means encouraging international portfolio capital to make up that shortfall is vitally important.

This sixth edition of the Emerging Market Green Bonds Report outlines patterns in new issuance of GSSS securities by emerging market borrowers throughout 2023 and presents forecasts for new sales through 2025, based on calculations by Amundi.

Issuance of emerging market GSSS bonds recovered in 2023 from the previous year's slump, to match the $1 trillion record sales set in 2021, a rebound described in detail in Chapter 2. This reflected ongoing investor demand for emerging market and green assets in contrast to the widespread nervousness of 2022 amid peaking inflation and monetary tightening, conditions that are unfavorable for bond market sentiment.[4]

The momentum of 2023 is set to continue, meanwhile, as described in Amundi's central outlook scenario in Chapter 3, with the stresses that held back new GSSS bond sales in 2022 receding. The remainder of this chapter describes the market trends underpinning this and how investor appetite for GSSS bonds has evolved over the past year. Indeed, it outlines how conditions in many emerging GSSS bond markets are favorable to borrowers in comparison with developed economies.

2 Examples of oversubscribed bond issues during 2023 include sovereign green bond sales from India and Turkey, as outlined in Annex 2 of this report.

3 See Reuters, 2023, "ESG funds suffer weaker demand despite help from tech-sector performance," available at: https://www.reuters.com/sustainability/sustainable-finance-reporting/esg-funds-suffer-weaker-demand-despite-help-tech-sector-performance-2023-12-21/

4 See Annex 1 for details about the dataset, the sources used, and the methodology followed, as well as any changes compared to previous editions.

BOX 1

Definitions and Guidelines

Green bonds: Fixed-income instruments with proceeds earmarked exclusively for projects with a positive environmental impact. The Green Bond Principles (established in 2014 and last updated in June 2022) developed by the International Capital Market Association (ICMA) have four components: use of proceeds, process for project evaluation and selection, management of proceeds, and reporting. Several countries and jurisdictions have developed guidelines for green bond issuance, many of which align with the Green Bond Principles.

Blue bonds: A sub-category of green bonds specifying that proceeds are used for financing water-related sustainable projects.

Social bonds: Proceeds from social bonds are directed toward projects that aim to achieve positive social outcomes, especially, but not exclusively, for a target population. ICMA's Social Bond Principles (introduced in 2017, last updated in June 2023) have four components analogous to the Green Bond Principles: use of proceeds, the process for project evaluation and selection, management of proceeds, and reporting.

Sustainability bonds: Sustainability bonds are debt instruments that raise money to finance or refinance a combination of green and social projects. The Sustainability Bond Guidelines established by ICMA (last updated in June 2021) are aligned with the core components of both Green and Social Bond Principles.

Sustainability-linked bonds: These instruments are performance-based bonds whereby their financial or structural characteristics, such as the coupon rate, are adjusted depending on whether the issuer achieves predefined sustainability objectives. The objectives are measured through key performance indicators and assessed against sustainability performance targets. Failure by the issuer to meet those goals may result in a higher coupon. These bonds can also be structured to reward better-than-expected performance with a lower coupon. Unlike social or green bonds, proceeds are not earmarked for specific projects. In June 2020, ICMA published the Sustainability-Linked Bond Principles (last updated in June 2023), providing guidelines on structuring features, disclosure, and reporting.

Climate transition bonds: This category of debt aims to finance the transition to a low-carbon economy. The Climate Transition Finance Handbook published by ICMA in December 2020 (and last updated in June 2023) recommends disclosures for issuers marking either use-of-proceeds or sustainability-linked instruments with a climate transition label. There are four key elements to the recommended disclosures: the issuer's climate transition strategy and governance; the environmental impact of its business model; the climate transition strategy that must be science-based and include targets; and the transparency of implementation.

Other labels: Some issuers have used other labels for sustainable debt funding, such as “adaptation,” or “SDG” (Sustainable Development Goals) bonds. Most of these specify that proceeds from the bond must align with ICMA principles but their branding has been adapted to single out a specific feature. Some bonds labeled "sustainable development bonds" depart from ICMA principles, as they are not "use-of-proceeds" bonds but are general purpose securities from issuers who wish to flag that their mission is inherently sustainable. The proliferation of labels requires vigilance from investors around project eligibility, allocation, and impact reporting commitments.

Emerging Market Green Bond Market Performance

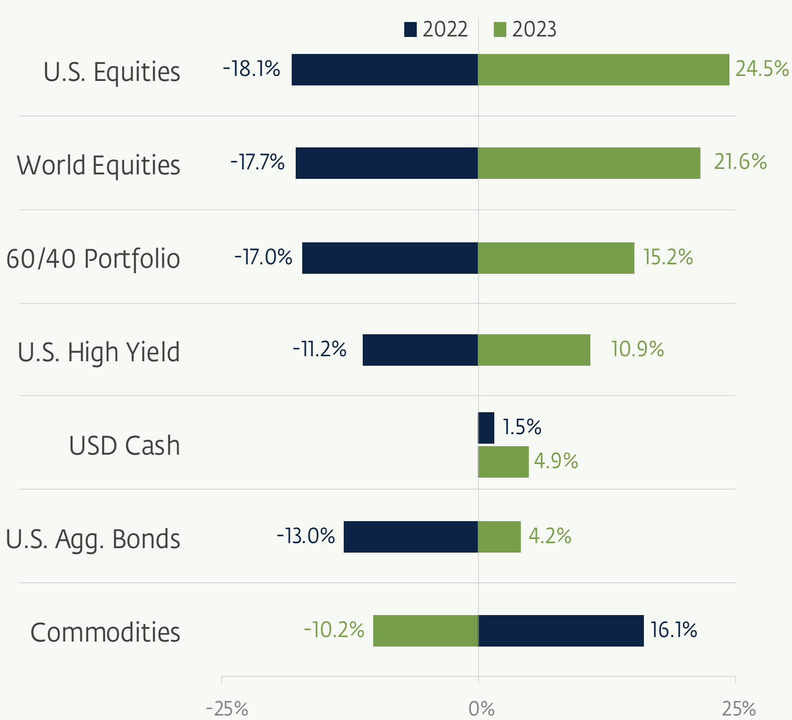
The year 2023 saw a rebound in the market for sustainable finance in developing economies and debt issuance more generally. These developments benefited from calmer financial markets with investors anticipating that lower inflation would set the stage for central banks to start easing interest rates (see Exhibit 1).

The comeback was more vigorous across emerging markets where policy makers in some jurisdictions had hiked rates earlier than developed country peers in response to inflationary pressures. As a result, they achieved significant progress in bringing price rises under control.[5] In addition, economic growth also proved to be more resilient than expected and recession was averted in the United States and elsewhere leading to corporate earnings that were ahead of forecasts.

EXHIBIT 1

Financial Markets Staged a Recovery in 2023

Total return in 2023 versus 2022



Source: JP Morgan Wealth Management

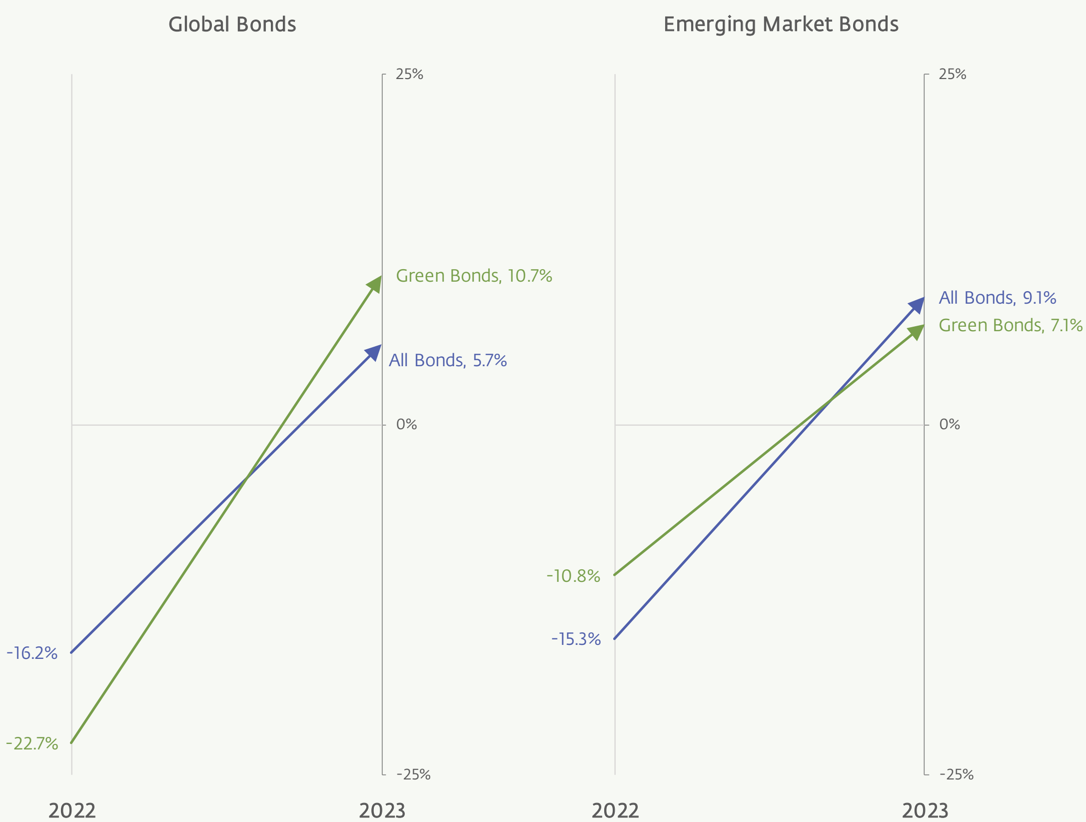
5 International Monetary Fund. 2023. "Global Financial Stability Report: Financial and Climate Policies for a High-Interest-Rate Era." Washington, DC, October.

However, secondary market performance of green bonds from emerging market issuers lagged conventional bonds by around 200 basis points in 2023 after ending 2022 around 450 basis points ahead on a total return basis (see Exhibit 2). Green bonds tend to outperform conventional bonds in secondary markets during risk-off periods, and to underperform when the market mood is more positive. This reflects the higher quality of the average green bond issuer. While this explains the divergence between the two types of assets in emerging markets, in developed markets, however, the opposite was observed, likely reflecting the longer duration of green bonds in a context of changing interest rates. On average globally, green bonds underperformed in 2022 on the back of higher rates, only to outperform in 2023 driven by the expectations of lower rates down the road.

EXHIBIT 2

Emerging Market Green Bonds Marginally Underperformed in 2023 Due to Structural Factors

Green bond performance in 2022–2023



Source: Bloomberg, IFC

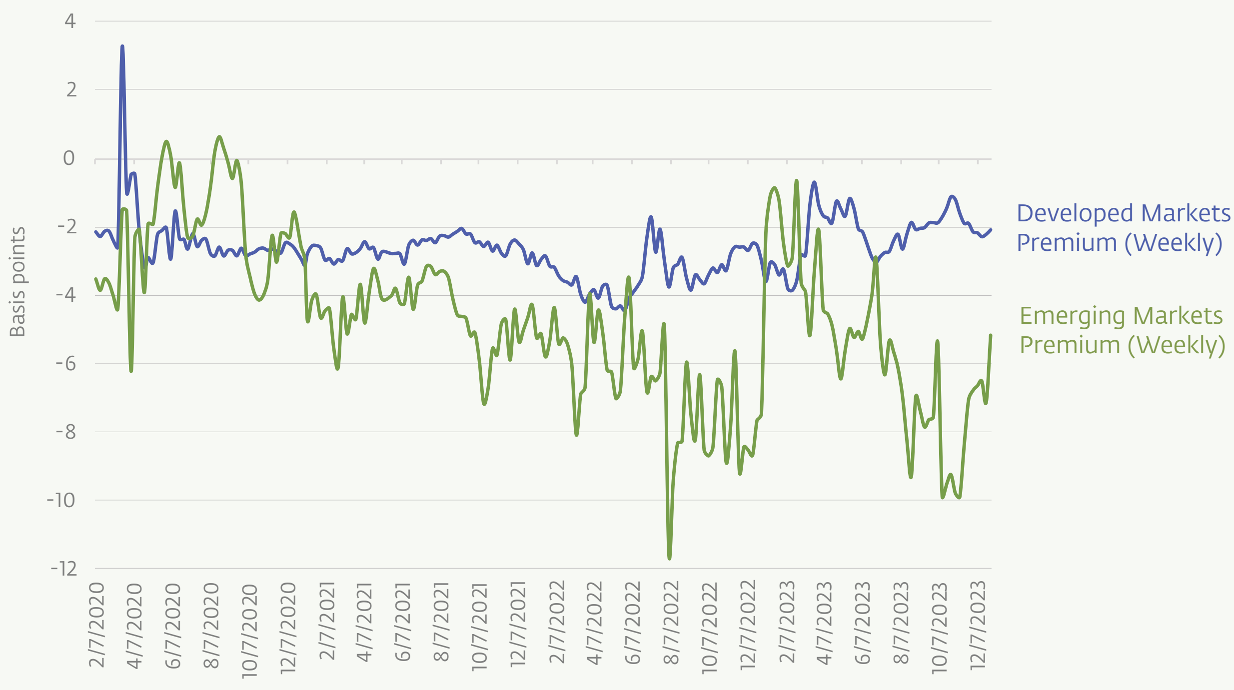
Note: Left panel compares the Bloomberg MSCI Global Green Bond Index USD against the Bloomberg Global Aggregate Bond Index USD; right panel compares the Bloomberg MSCI EM Green Bond Index USD against the Bloomberg EM Aggregate Bond Index USD. In both cases, we compute the difference between annual growth rates over end-of-year levels in each index.

A closely-watched gauge of market sentiment around sustainable finance is the green premium, sometimes referred to as a "greenium." This refers to the yield advantage for issuers of GSSS bonds over conventional bonds whereby investor demand for green assets drives down borrowing costs. Amundi's estimates suggest a wider green premium in emerging markets in 2023, at 5.6 basis points on average, than developed markets where it was 2.2 basis points on average (see Exhibit 3). Although the developed market green premium is statistically significant, the emerging market green premium is not owing to the small number of observations and the relatively high standard deviation compared to developed markets.

EXHIBIT 3

Green Bond Yield Advantage

Developed versus emerging market green bond yield advantage, or "greenium," over conventional debt



Source: Amundi calculations, Bloomberg

These estimates are based on secondary market information (Box 2) rather than the pricing of newly issued debt. However, secondary market valuations act as an indicator of investor sentiment and influence the pricing of new bonds. A wider green premium supports new issuance as it indicates investor appetite and incentivizes borrowers, including those in emerging markets, to consider green bonds as an efficient way to raise capital.

Several studies have examined the extent to which investor preference for assets that meet ESG criteria drives yields lower on green bonds, in both primary and secondary markets.[6] Other factors may influence the green premium, like the timing of the bond issuance and market sentiment, or the quality of issuers.

The relatively benign global market backdrop of the past year is likely to prompt further issuance growth through 2025, according to Amundi's central scenario, to which it gives a 70 percent probability. This outlook assumes a context of easing inflationary pressures and lower nominal interest rates, with emerging market GSSS bond issuance rising at a compound annual rate of 7.1 percent over 2023–2025, reaching around $240 billion by the end of 2025. Green bond issuance will rise faster still, at 7.5 percent per year over the period, to $156 billion, according to the Amundi outlook, up from $135 billion.

This report also presents two alternative scenarios. The first, more pessimistic of these with a 20 percent likelihood, envisages persistent inflationary pressures and tighter financial conditions as policy makers keep rates tight in response. This leads to a global downturn and GSSS bond issuance in 2025 at 15 percent below the central scenario outlined above. This would imply a negative compound annual growth rate of 1.4 percent across 2023–2025, with an even greater annual retreat of 2.6 percent for green bonds.

The second alternative scenario, to which Amundi assigns a 10 percent probability, is the most optimistic and assumes a more stable geopolitical environment. GSSS bond issuance is seen 30 percent above the central scenario, amounting to an annual issuance growth rate of 22 percent over the 2023–2025 period, with green bond sales rising 25 percent per year.

BOX 2

Methodology Used for Calculating the 'Green Premium'

Amundi used a bottom-up approach that focuses on the intra-curve green premium, aiming to assess the difference arising from the green bond format.*

Amundi collected weekly data (modified duration, spreads) from April 2019 to December 2023 for the green bond constituents of the MSCI Global Green Bond Index and for their related conventional bonds (i.e. from the same issuer) from the Bloomberg Global Aggregate Bond Index.

The spread of the green bond is compared to the spread of a theoretical interpolated conventional bond of the same modified duration. The green premium is therefore the difference in spread between the green bond and a comparable bond of the same issuer, currency, seniority, and modified duration.

* Ben Slimane, M., Da Fonseca, D., and Mahtani, V., 2020, "Facts and Fantasies About the Green Bond Premium," Amundi working paper 102-2020, available at https://research-center.amundi.com/files/nuxeo/dl/4f0aeb1b-b73e-4dbf-8bf7-2eb9ff1f5dee?inline=

In the long run, GSSS bond issuance will probably continue to be structurally supported by two related drivers. Firstly, public investment in climate mitigation and adaptation is likely to increase as governments strive to reach net zero targets by 2050. Secondly, investor demand for GSSS bonds is set to outpace supply. These factors will likely be more pronounced in emerging markets where investment shortfalls around the energy transition are larger.

6 See, for example, Zerbib, O., 2019, "The effect of Pro-Environmental Preferences on Bond Prices: Evidence from Green Bonds," Journal of Banking & Finance vol. 98, issue C.

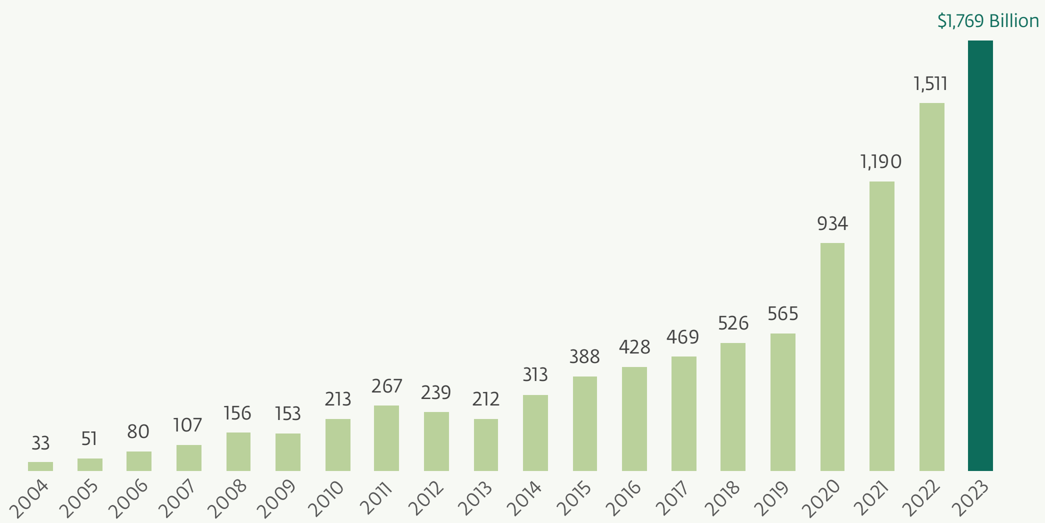
Most recent top-down[7] and bottom-up analyses[8] point to an increase in global temperatures of 2.7–2.8 degrees Celsius above pre-industrial levels under existing policies, well above the 1.5 degrees Celsius increase targeted in the Paris Agreement. The year 2023 was the hottest year on record, according to some estimates, with the global surface temperature reaching 1.5 degrees Celsius above pre-industrial levels.[9] The indications are, therefore, that the spending needs for building resilience to the effects of a changing climate will accelerate which will in turn drive further GSSS bond issuance.

According to Bloomberg NEF, global spending on the green energy transition reached $1.8 trillion in 2023, up 17 percent year-on-year and an all-time high.[10] China accounted for a third of overall investments, with another third evenly split between the European Union and the United States. But this falls short of the $4.8 trillion that needs to be invested every year for the remainder of this decade to remain on track under the Net Zero Scenario outlined by Bloomberg (see Exhibits 4 and 5).

EXHIBIT 4

Spending on Green Energy Transitions Advanced 17 Percent in 2023

Annual spend on transitioning to green energy in U.S. dollars



Source: BloombergNEF

7 Climate Action Tracker, December 2023, "No change to warming as fossil fuel endgame brings focus onto false solutions," available at https://climateactiontracker.org/publications/no-change-to-warming-as-fossil-fuel-endgame-brings-focus-onto-false-solutions/?

8 CDP and Oliver Wyman, 2022, "Missing the Mark: 2022 Analysis of Global CDP Temperature Ratings," available at https://www.oliverwyman.com/our-expertise/insights/2022/sep/cdp-temperature-ratings.html?

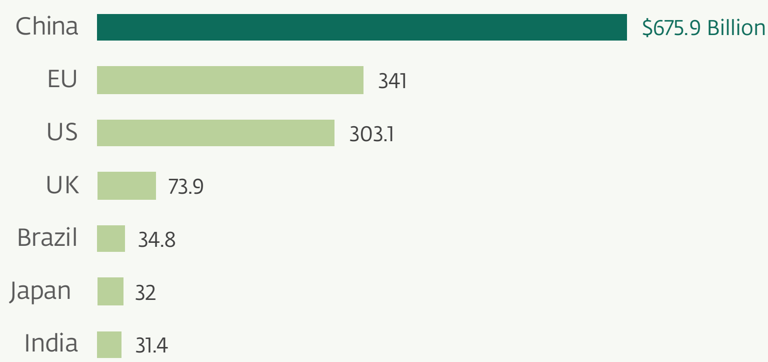
9 Copernicus, January 2024, "Copernicus: 2023 is the hottest year on record, with global temperatures close to the 1.5°C limit | Copernicus," available at https://climate.copernicus.eu/copernicus-2023-hottest-year-record

10 These include investments to install renewable energy, buy electric vehicles, build hydrogen production systems and deploy other technologies. If we also included investments in building clean energy supply chains, as well as $900 billion in financing, total funding in 2023 reached about $2.8 trillion. See Bloomberg NEF, 2024, "Energy Transition Investment Trends,"

EXHIBIT 5

China Is the Biggest Market for Clean Energy Spending

Investments in green energy by jurisdiction, in U.S. dollars



Source: BloombergNEF

While the need to raise finance for climate adaptation and green transitions alongside mounting investor demand for emerging market GSSS bonds favor further growth in issuance, there are challenges ahead. Investing around ESG priorities is facing resistance amid political pushback, regulatory shifts, and changing market dynamics. In some countries, legislative efforts have sought to curb ESG considerations in investment strategies, and there are signs that support for shareholder proposals on environmental and social issues may be declining.[11]

Moreover, skepticism toward ESG's effectiveness and accusations of so-called greenwashing—or misstating the extent to which financial instruments meet sustainability criteria—are increasingly entering public discourse.

But the amount of new money flowing into ESG investment funds continued to grow in 2023, albeit at a slower pace than the previous two years,[12] suggesting that demand remains robust. At the same time, progress in setting up taxonomies and guidelines, improving market supervision, and the self-regulating effect of a growing pool of sophisticated investors, all aim to curb greenwashing.

There is an ongoing effort within the finance and investment industry to recalibrate and focus on integrating financial resilience with sustainability goals. This more nuanced approach points to the likelihood of a continued, albeit adapted, role for ESG principles in guiding investment decisions amid a changing landscape.[13]

11 Available data for the United States, for example, show that some U.S. states have increasingly adopted anti-ESG laws since 2021 (Pleiades Strategy's 2023 Statehouse Anti-ESG Report; Malone & Holland, 2024, "Seven Key Trends in ESG for 2023—and What to Expect in 2024") and that a declining share of ESG proposals are supported by shareholders (Diligent, 2023 "Proxy Season Review").

12 See Reuters, 2023, "ESG funds suffer weaker demand despite help from tech-sector performance," available at: https://www.reuters.com/sustainability/sustainable-finance-reporting/esg-funds-suffer-weaker-demand-despite-help-tech-sector-performance-2023-12-21/

13 See Financial Times, 2024, "BlackRock stresses financial strength over ESG in company calls," available at https://www.ft.com/content/b7c04084-68ee-4512-833b-0bba4f608a36

2

Market Developments in 2023

Easing investor anxiety about inflation eroding the value of debt securities alongside issuers stepping up efforts to raise money to fund green economic transitions helped fuel a surge in GSSS bond sales in 2023 (see Exhibit 6). Investors bought more than $1 trillion of new GSSS bonds over the year, matching the record issuance reached in 2021 and marking a convincing recovery from the slump seen in 2022 when rising interest rates drove up borrowing costs and made conditions more challenging for issuers.

Emerging market GSSS bond issuance surged 45 percent in 2023 to reach $209 billion, an all-time high. The growth was largely driven by issuers outside China who increased transactions by 65 percent to $111 billion while those within the country posted a 28 percent advance to $98 billion.

Notwithstanding this acceleration in GSSS bond issuance in emerging markets, the asset class remains dominated by borrowers in advanced economies who still account for about 70 percent of the $4.4 trillion of GSSS bonds issued since the first green bond transaction in 2012. Emerging market borrowers represent 15 percent, or $671 billion of the tally, while supranational borrowers have sold a similar amount (see Exhibit 7).[14]

Nevertheless, emerging market borrowers in developing economies are increasing their use of GSSS bonds to meet financing needs which suggests the dominance of the market by developed market issuers will wane over time.

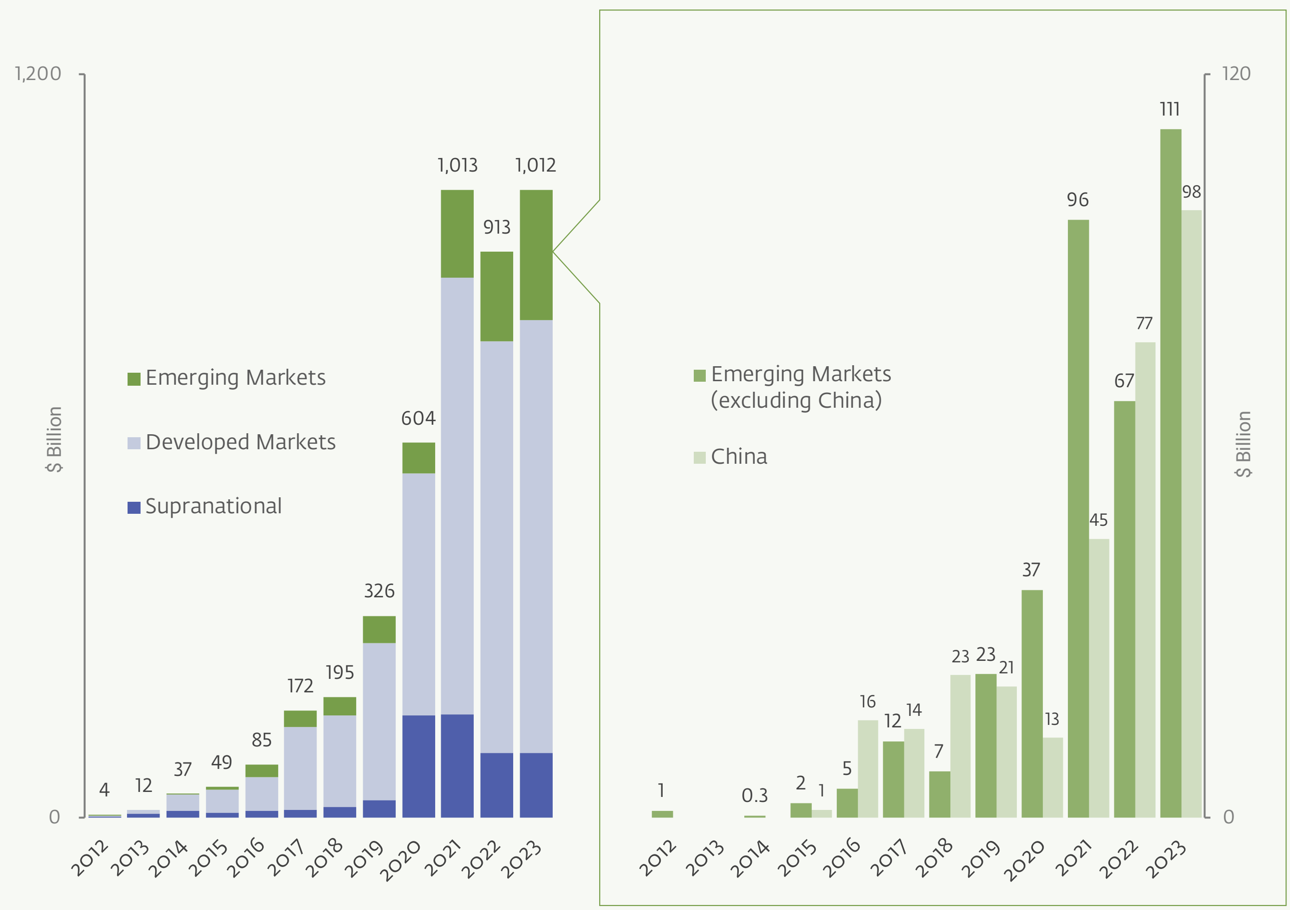
GSSS bonds remain a small corner of the financial markets, however. The asset class's share of the wider fixed income market stood at just 2.5 percent at the end of 2023, rising from 2.2 percent a year earlier. Trends in GSSS bond "penetration"— a measure of the asset class's share of annual sales expressed as a percentage—are discussed in more detail later in this chapter.

14 The analysis of GSSS bond issuance in this report uses data consolidated from Bloomberg, the Climate Bonds Initiative, and Environmental Finance, according to the bond definitions in Box 1. See Annex 1 for a full explanation of the sources and a complete data set showing issuance volumes by region.

EXHIBIT 6

Issuance of GSSS Bonds Recovered From 2022 Slump

Annual global GSSS issuance 2012–23

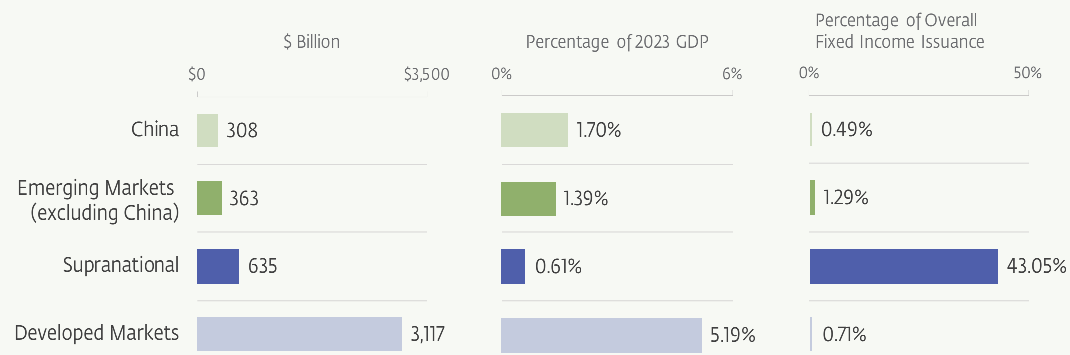


Source: Bloomberg, CBI, Environmental Finance, IFC

EXHIBIT 7

Borrowers Have Issued More Than $4 Trillion of GSSS Bonds

Global GSSS issuance 2012–23 (cumulative)



Source: Bloomberg, CBI, Environmental Finance, IFC

Structural Patterns in GSSS Bond Issuance

Green bonds remain the principal component of the GSSS bond market, accounting for around two thirds of sales and much of the analysis in this chapter focuses on this sub sector.

Nevertheless, one notable trend gathering pace in the GSSS bond market in emerging markets is the rising share of non-green bond issues, which increased from 30 percent in 2022 to 35 percent in 2023. Social bonds were the fastest growing segment, posting 543 percent growth, though this jump largely reflects a relatively low base in 2022.

Interestingly, sustainability-linked bonds performed better in emerging markets than elsewhere. They were the weakest performing component of the primary GSSS bond market globally in 2023, countering expectations that their focus on slapping higher interest rates on borrowers who fail to meet sustainability targets would boost demand among investors disillusioned with so-called greenwashing. However, sales of sustainability-linked bonds remained relatively strong in emerging markets where issuance grew by 47 percent in 2023. In Annex 1 we discuss why sustainability-linked bonds may be falling from favor globally based on research by IFC economists, and how weakening demand could be addressed.

Meanwhile, supranational entities reduced their green bond issuance by 20 percent in 2023 to $33 billion, marking a reversal from the 46 percent increase the previous year. However, this was offset by a shift toward sustainability bonds with a 37 percent increase in issuance to $61.4 billion. Overall GSSS bond sales by supranational entities saw a modest 1 percent advance in 2023.

Focusing on the dominant green bond sub sector, issuance remained concentrated in 2023 with six countries accounting for 87 percent of all emerging market green bond sales.

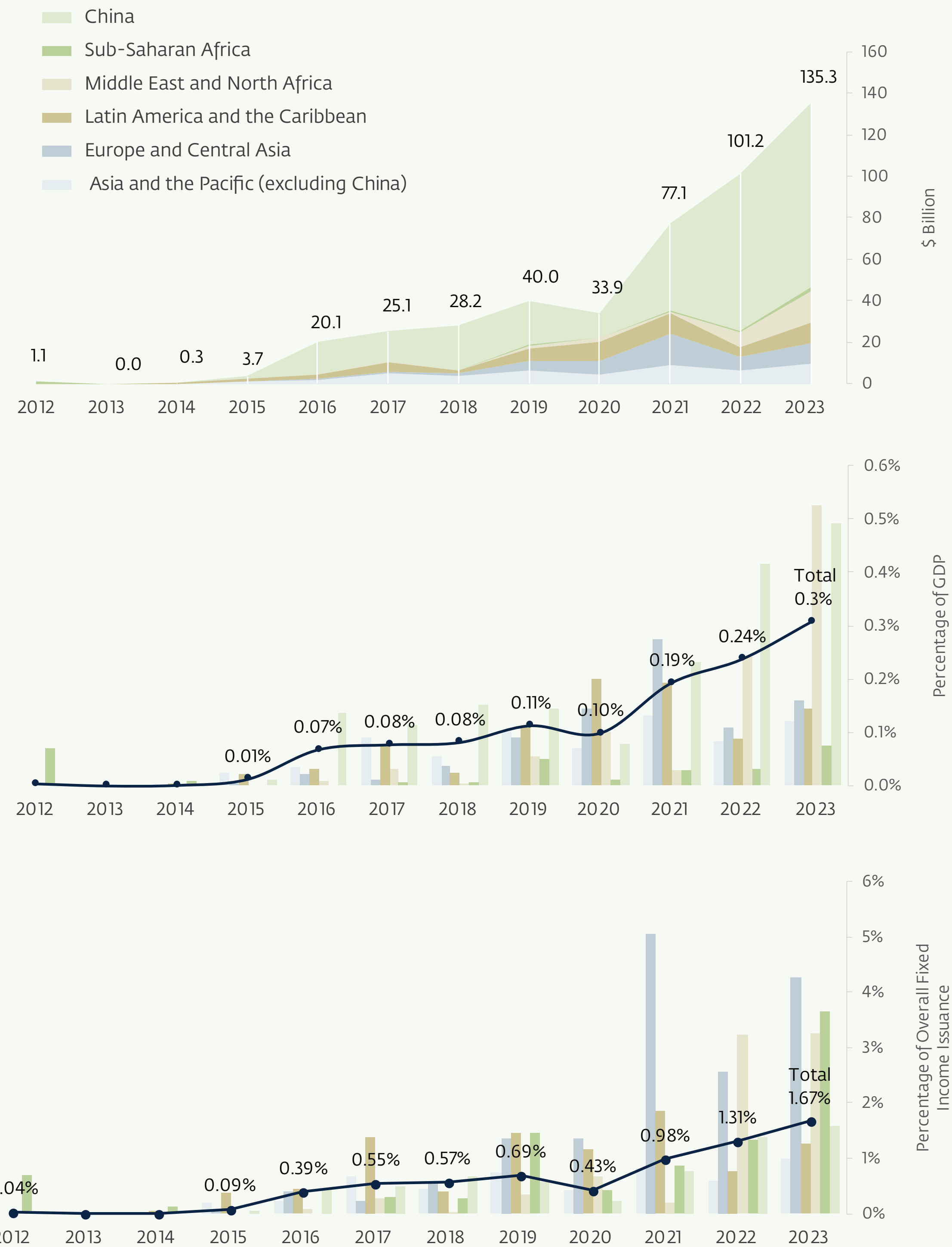
Meanwhile, 13 countries account for 92 percent of the $466.2 billion in emerging market green bonds issued over the 2012–2023 period. China alone accounts for $292 billion, or 63 percent of the cumulative tally. Other major issuers include India with a cumulative total of $25 billion, Brazil with $18.1 billion, and Chile, at $16.6 billion (see Exhibits 8 and 9).[15]

15 See Annex 1 for a discussion and dataset on regional patterns of issuance during 2023

EXHIBIT 8

Emerging Market Green Bond Sales Rose 34 Percent in 2023

Annual green bond issuance in emerging markets in 2012–23

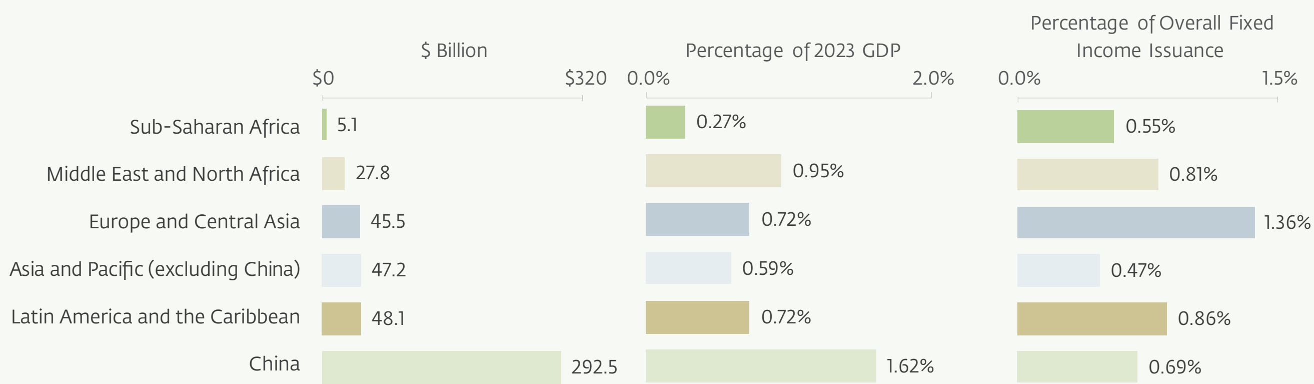


Source: Bloomberg, CBI, Environmental Finance, IFC

EXHIBIT 9

China Remains Dominant Among Emerging Market Issuers

Green bond issuance in emerging markets 2012–23 (cumulative)



Source: Bloomberg, CBI, Environmental Finance, IFC

GSSS Bond Penetration

Penetration—a measure of the asset class's share of total bond sales in a given year—shows that GSSS bonds are more firmly established in emerging markets than developed economies.

In emerging markets outside China, GSSS bonds accounted for 5 percent of total fixed income issuance in 2023, up from 3.6 percent in 2022. In developed markets and China, GSSS bond penetration was 2.1 percent and 1.7 percent respectively.

Overall, GSSS bond penetration was highest among supranational borrowers, reaching 60 percent of their total fixed income sales in 2023. This was, however, lower than at any time over the last three years and a marked drop from the 85 percent peak reached in 2021.

Focusing on green bonds, penetration reached all-time highs across all regions. In emerging markets outside China, they accounted for 2.1 percent of total fixed income issuance in 2023, up from 1.4 percent the previous year. In China, green bonds accounted for 1.6 percent of total fixed income issuance in 2023, up from 1.4 percent in 2022. Green bonds in developed markets reached 1.3 percent penetration, up from 1.1 percent in 2022. As with the broader GSSS bond asset class, green bond penetration was highest for supranational issuers, reaching 19 percent of their total fixed income sales in 2023 versus 30 percent in 2022.

Issuance by Type of Borrower

Looking at issuer profiles, the acceleration in green bond issuance in emerging markets in 2023 was driven by sovereigns which more than tripled their green bond sales. Financial institutions increased sales of the securities by 52 percent over the year.

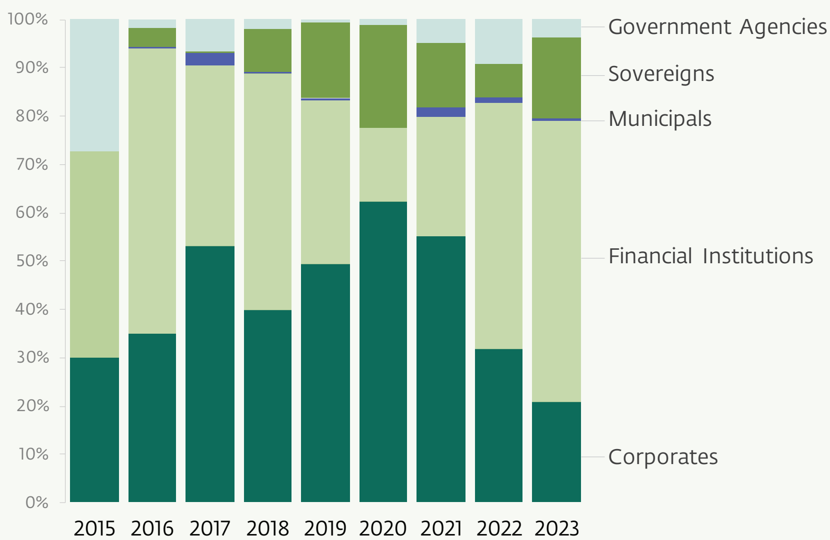
Financial institutions were the largest emerging market issuers in 2023 for the second consecutive year, responsible for selling 58 percent of the total versus 51 percent in 2022. Corporates saw their share fall sharply to 21 percent from 32 percent while sovereigns increased markedly to 17 percent from 7 percent in 2022 (see Exhibit 10).

This deviates from the trend in developed markets where non-financial corporates were the biggest issuers of green bonds with a 36 percent share while sovereigns and financial institutions both claimed 23 percent of sales (see Exhibit 11).

EXHIBIT 10

Emerging Market Green Bond Sales Dominated by Financial Issuers

Emerging market green bond issuance by sector

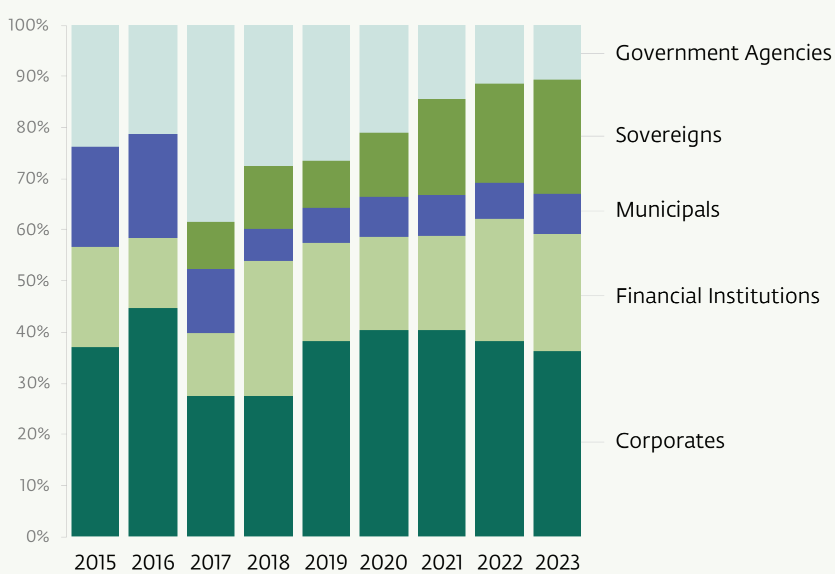


Source: Bloomberg, CBI, Environmental Finance, IFC

EXHIBIT 11

Corporates Claim Biggest Share of Developed Market Green Bonds

Developed market green bond issuance by sector



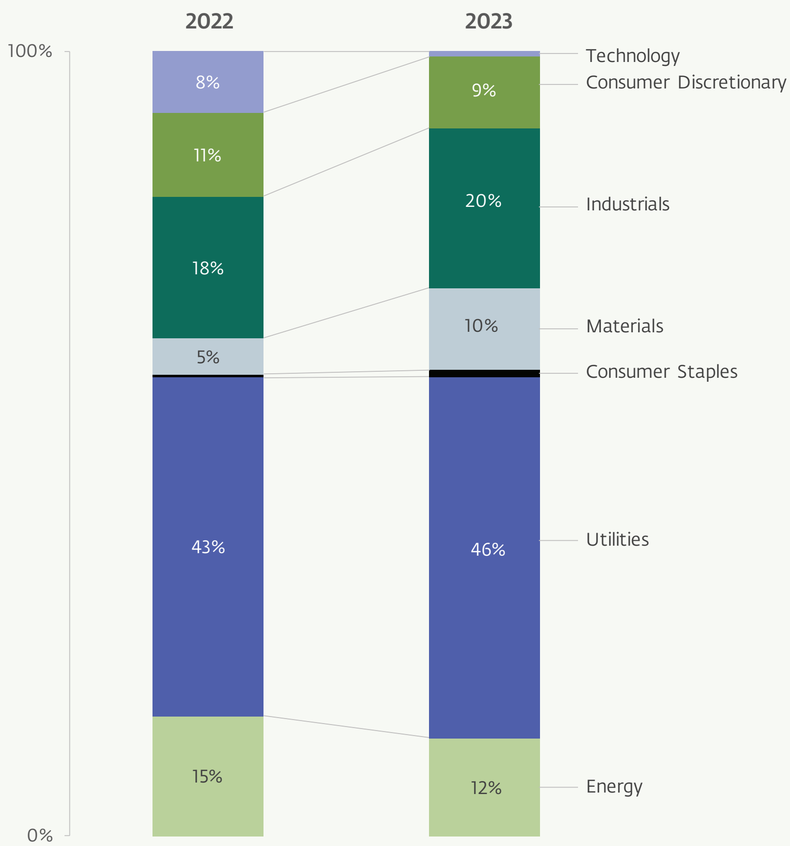
Source: Bloomberg, CBI, Environmental Finance, IFC

Meanwhile, the energy sector saw its share of emerging market green bond sales by non-financial corporates ease back to 12 percent from 15 percent. Issuers from the consumer discretionary sector also saw their relative weight in the market decline, from 11 percent to 9 percent, while tech-sector borrowers retreated from an 8 percent share to just 1 percent (see Exhibit 12).

EXHIBIT 12

Energy and Utilities Continue to Dominate Green Bond Issuance by Non-Financial Corporates in Emerging Markets

Emerging market non-financial corporate green bond issuance by sector



Source: Bloomberg, CBI, Environmental Finance, IFC

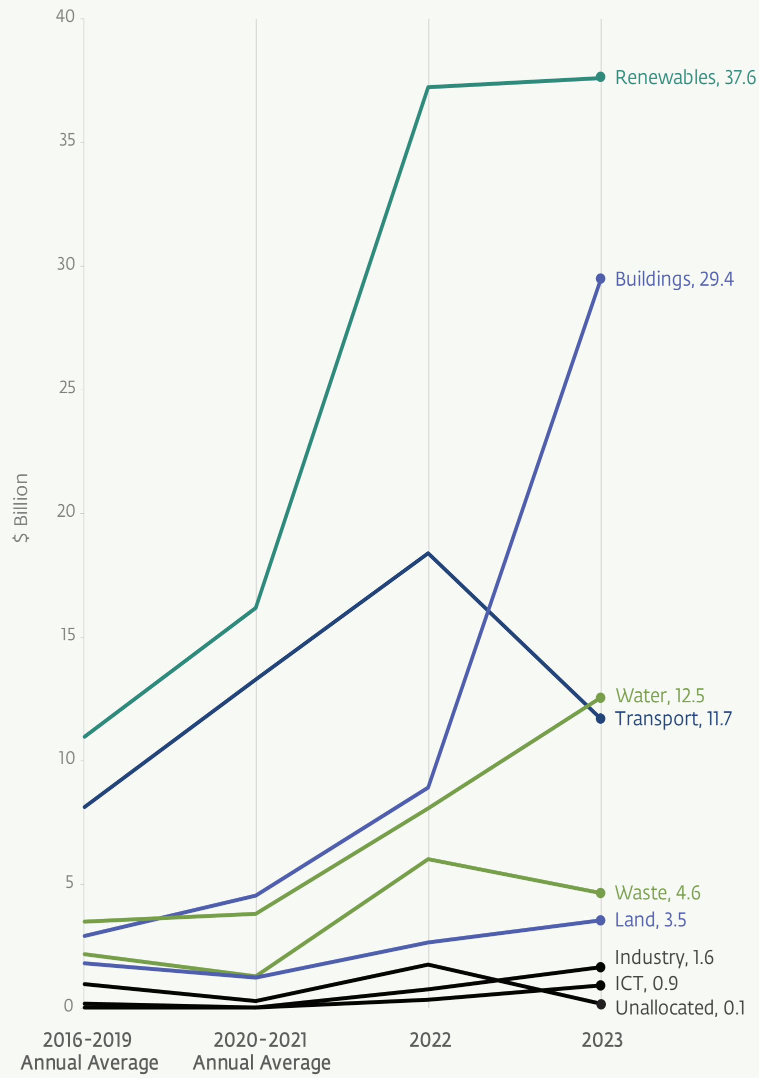
Use of Proceeds

Green bond proceeds are typically designated to projects identified as making a positive contribution to environmental objectives. Issuance trends therefore reflect the spending priorities of governments and companies seeking to boost their sustainability credentials. The largest slice of the money raised from the instruments in emerging markets during 2023 was designated for renewables, though at 37 percent the share was broadly flat from the previous year (see Exhibit 13).

EXHIBIT 13

Renewables' Top Share of Green Bond Proceeds Challenged by Buildings

Emerging market green bond issuance by designation of proceeds



Source: Bloomberg, CBI, Environmental Finance, IFC

The next biggest destination for money raised from sales of green bonds was buildings, with 29 percent of the total, a sharp increase from 9 percent in 2022. This is consistent with the rising investment needs from a drive to make the construction and operation of buildings in emerging markets—an important source of carbon emissions—more sustainable over the next decade.[16]

Water projects have also become increasingly important, representing 12 percent of issuance in 2023, up from 8 percent, also ahead of low-carbon transport which saw its contribution fall to 11 percent from 18 percent in 2022. This is due to a rise in blue bond sales, a sub category of green bonds (see Box 1). Other destinations for proceeds from green bonds issuance include waste (5 percent in 2023, from 6 percent in 2022), land use (3 percent in 2023, unchanged from 2022) and industry (2 percent in 2023, versus 1 percent).

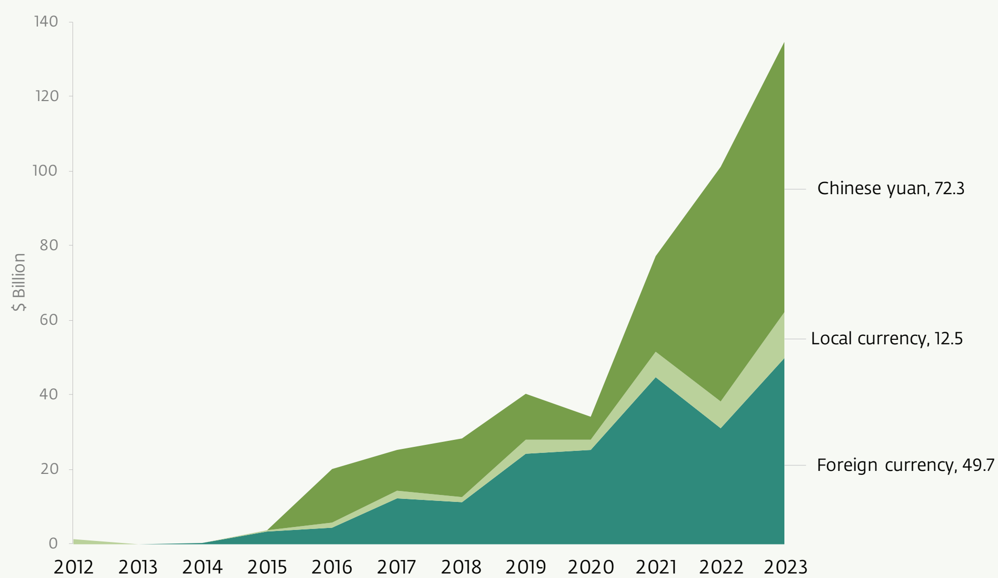
Currency

In emerging markets, the share of green bonds issued in local currencies remained broadly stable in 2023, rising to 9 percent of the primary market from 7 percent in 2022. However, the share of green bonds denominated in hard currency increased to 37 percent, up from 31 percent, while the proportion of green bonds denominated in Chinese yuan fell to 54 percent of the total from 62 percent a year earlier, consistent with the weakening trend observed in China's primary bond markets highlighted earlier in this chapter (see Exhibit 14).

EXHIBIT 14

Chinese Yuan's Lead in Emerging Market Green Bond Sales Narrows

Emerging market green bond issuance by currency, 2012–2023



Source: Bloomberg, CBI, Environmental Finance, IFC

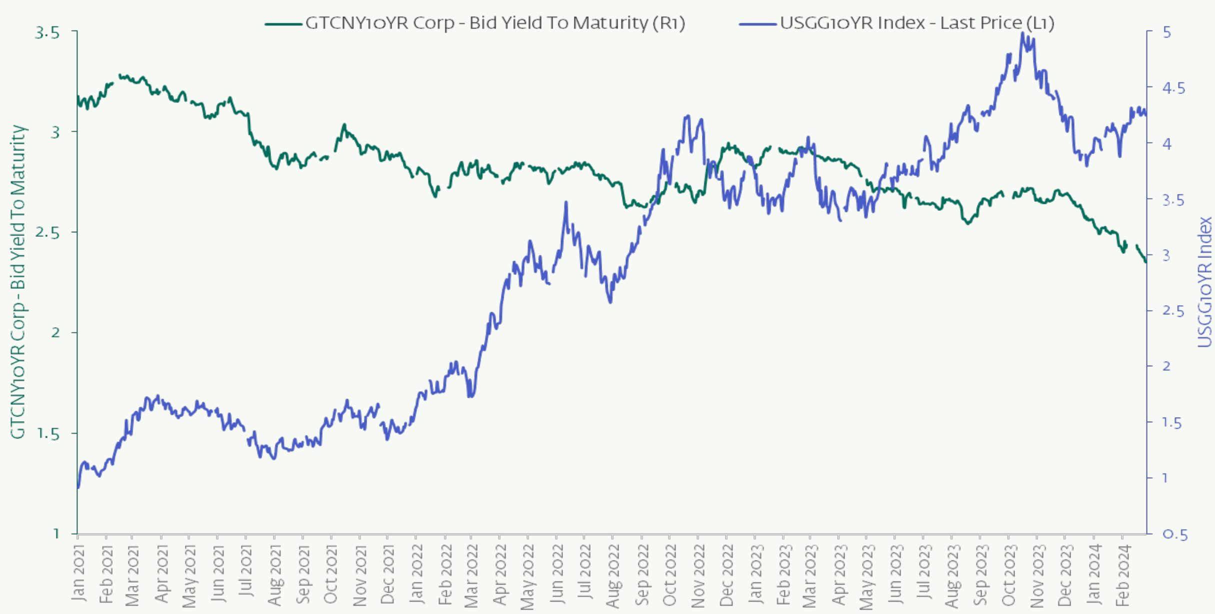
16 A recent IFC report estimated such investment needs at $1.5 trillion. See IFC, 2023, "Building Green: Sustainable Construction in Emerging Markets," available at https://www.ifc.org/en/insights-reports/2023/building-green-in-emerging-markets

Furthermore, while Chinese local bond yields remained stable, the U.S. Treasury yield was on the rise. This reduced the relative appeal of local Chinese bonds to many investors seeking investment income or potential for capital growth (see Exhibit 15).

EXHIBIT 15

Rising Yields on Long-Term U.S. Bonds Increased their Appeal to Investors

U.S. 10-year bond yield versus China's 10-year bond yield



Source: Amundi, Bloomberg

The U.S. dollar represented 30 percent of issuance in 2023, versus 18 percent previously and the euro climbed three percentage points to a 7 percent share. The next most common denominations (outside the Chinese yuan) used by emerging market issuers were the Brazilian real, at 3 percent, followed by the Indian rupee with 2 percent (see Exhibit 16).

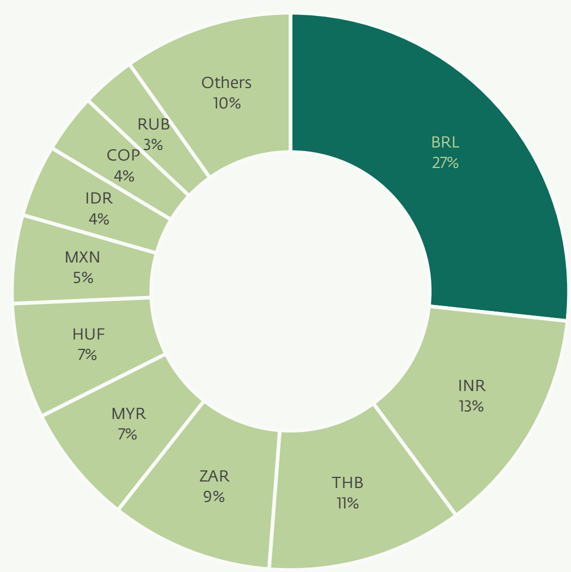
Issue Size

Bond issues that are sufficiently large to be considered as benchmarks by international investors provide greater access to external financing as they are more liquid and can be included in major indices. There were 111 benchmark-size emerging market green bonds in 2023 with a deal size exceeding $300 million, of which 88 were bigger than $500 million. This represented 21 percent of the total, flat versus the previous year. The proportion of benchmark-size bonds was larger in China, at 28 percent (versus 26 percent in 2022), probably due to the influence of fundraising for large-scale renewable projects (see Exhibit 17).

EXHIBIT 16

Brazil's Real Took the Largest Slice of Non-Chinese Emerging Market Green Bond Sales

Emerging market local currency green bond issuance by currency excluding the Chinese yuan, 2012-23



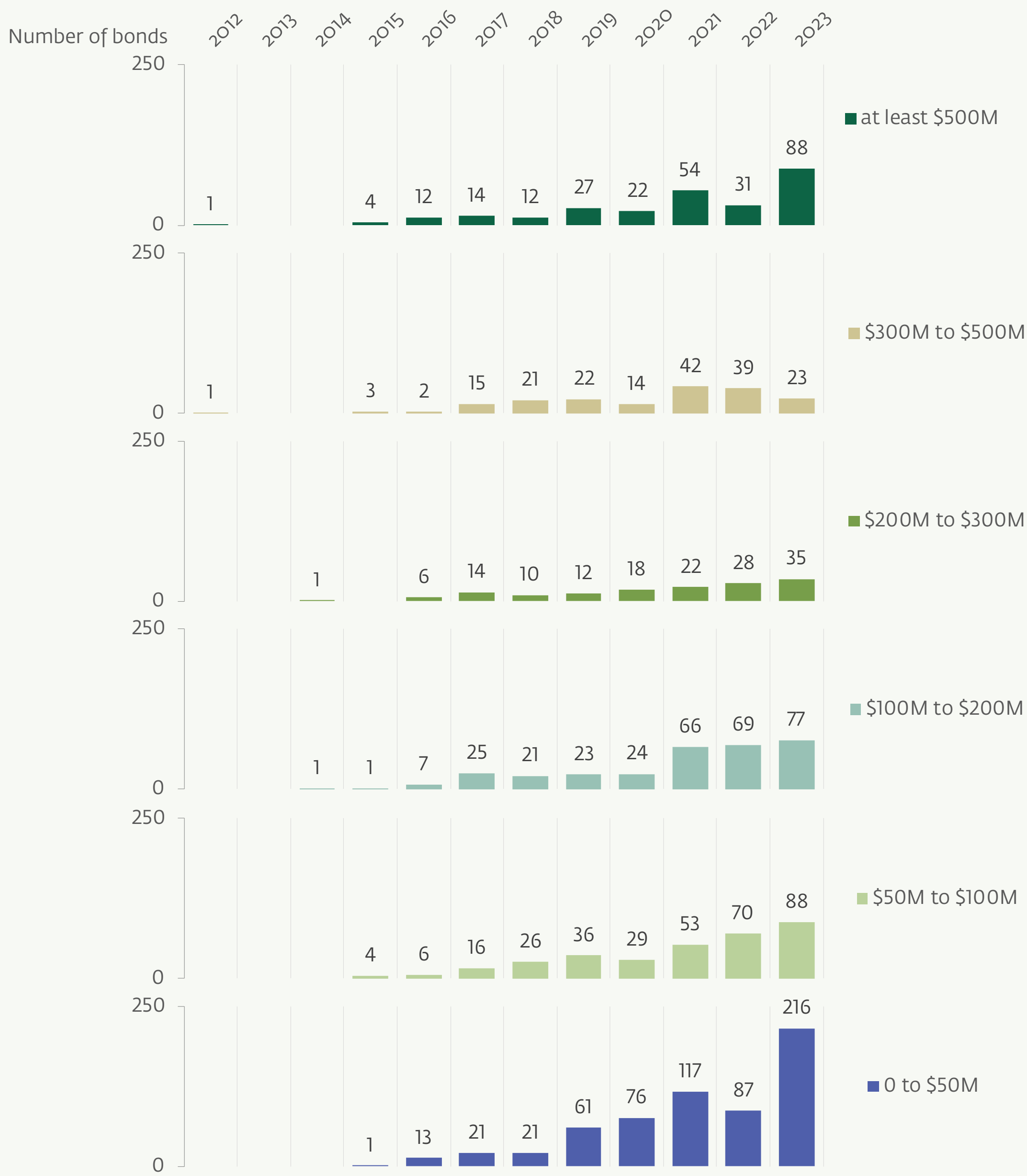
Note: BRL is the Brazilian real, THB refers to the Thai baht, ZAR the South African rand, HUF the Hungarian forint, MYR the Malaysian ringgit, INR the Indian rupee, MXN the Mexican peso, RUB the Russian ruble, IDR the Indonesian rupiah and COP the Colombian peso

Source: Bloomberg, CBI, Environmental Finance, IFC

EXHIBIT 17

A Fifth of New Green Bond Sales Are Benchmark Sized

Emerging market and developing economy green bond issuance size



Source: Bloomberg, CBI, Environmental Finance, IFC

Ratings

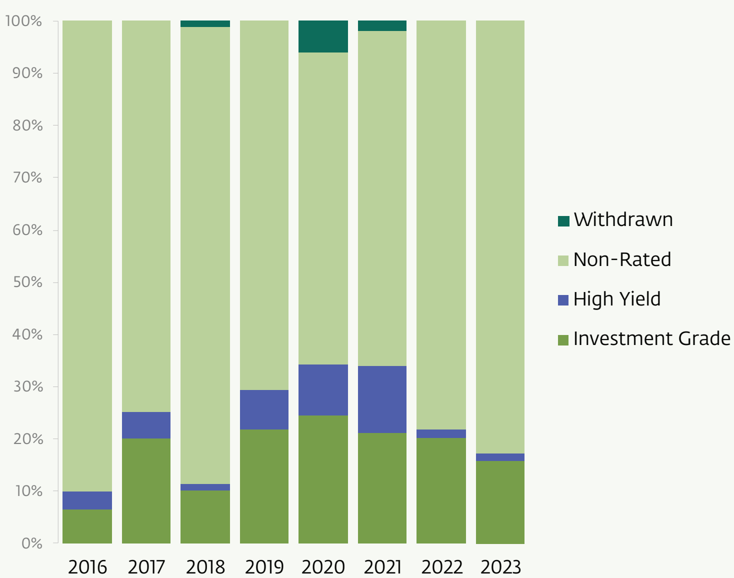
For many investors, a key barrier to allocating funds to emerging market green bonds is the low proportion carrying internationally recognized credit ratings. In fact, only 18 percent of emerging market green bonds were rated in 2023, down from 22 percent in 2022 (see Exhibit 18). Around 16 percent of the total in 2023 held investment grade labels. A further 2 percent were rated high yield, or sub-investment grade. For China, the proportion of unrated securities stood at 82 percent, while for the remaining emerging markets, the share was 83 percent. Although for China this represented an improvement from 2022, it was nevertheless meaningfully higher elsewhere in emerging markets.

However, defaults remain rare among green bond issuers[17] with only three from emerging market borrowers to date. Two of these were in 2021, from a Chinese solar power firm and a property developer, whereas the other was in 2020 by an Indian irrigation firm.

EXHIBIT 18

Most Emerging Market Green Bonds Are Unrated

Ratings of outstanding emerging market green bonds



Source: Bloomberg, CBI, Environmental Finance, IFC

17 Defaults are defined in the same way as for all other bonds. Failure to comply with green bond standards, to use the proceeds for the stated projects, or to meet annual reporting requirements does not constitute default.

Tenor

Through 2019, emerging market green bonds were typically medium-term instruments issued by financial institutions, with the majority of issuances having a three- to five-year tenor. Over the past four years, however, as new entrants came to market, including a larger number of non-financial corporates and sovereigns, the range of tenors widened. In 2023, 60 percent had a maturity of less than three years. Just 3 percent of issuance was medium term with three-to-five year maturities, while another 14 percent had five- to 10-year terms. A further 22 percent was longer dated at over 10 years.

Conclusion

For many developing economies, limited capital market depth and underdeveloped financial infrastructure contribute to keeping green bond issuance below potential. This underscores the importance of sound governance and consistent regulation for healthy financial markets. As outlined in Box 3 below (and discussed more extensively in Annex 3), many emerging markets are making considerable progress in boosting and harmonizing standards, adopting guidelines compatible with other jurisdictions, improving regulation, and in doing so, reassuring international investors.

At the same time, momentum is building behind green transitions in emerging markets as governments and companies move toward meeting commitments signed at international climate summits. This is helping fuel the growth in sales observed over the past year and bodes well for future issuance, as discussed in the next chapter.

Market prospects for many of the countries listed are also discussed in Annex 1.

Box 3

Issues and Initiatives in 2023

Noteworthy GSSS Bond Issues in 2023

The growth in GSSS bond issuance in emerging markets during 2023 featured a number of inaugural issuances as acceptance of the asset class continued to spread.

The most notable transactions included inaugural sovereign green bonds in Brazil, India, North Macedonia, and Türkiye, a debut sovereign sustainable bond in the UAE by the Government of Sharjah, Argentina's first sovereign sustainability bond, and a sovereign blue bond in Fiji.

Africa saw a number of important developments including Rwanda Development Bank's first sustainability-linked bond (SLB), a blue bond "debt-for-nature swap" from Gabon, and a first ever green bond from Zambia, issued by the Copperbelt Energy Corporation and focused on biodiversity.

Other financial innovations worth highlighting in emerging markets included Chile's first sovereign SLB with a social key performance indicator, and the country's first sovereign inflation-linked SLB, the first of its kind in Latin America.

Significant, but not inaugural, transactions seen during the year included a sovereign sustainability bond from Mexico, and a tap of Uruguay's sovereign SLB that was first issued in late 2022. Also significant were Malaysia's announced plans for a sovereign biodiversity sukuk, a bond-like instrument that conforms with Islamic principles, and Brazil's foreign exchange hedge platform supported by the Inter-American Development Bank.

More detail about these deals can be found in Annex 2.

Key Initiatives in 2023

We also highlight initiatives to formalize guidelines and best practice codes for sustainable finance, an area of international capital markets still characterized by multiple taxonomies and inconsistent requirements.

At the national level, we describe new sustainable finance frameworks published in 2023 by Brazil, Chile (which released an update to its SLB framework), the Government of Sharjah, and Romania. There were new taxonomies in Mexico, Thailand, and Rwanda, as well as a new strategy unveiled by Argentina.

At the international level, we highlight the publication in 2023 of the second version of the ASEAN[18] trade bloc's Taxonomy for Sustainable Finance, the Common Framework for Sustainable Finance Taxonomies for Latin America and the Caribbean (July), and the Singapore-Asia Taxonomy for Sustainable Finance (December).

The year also saw a number of initiatives aimed at tackling biodiversity loss unveiled by regulators, international institutions, and other bodies. These include IFC's Biodiversity Finance Reference Guide (May), finance industry association ICMA's blue bond guide (September), and the Task Force on Nature-Related Financial Disclosures' final recommendations on nature-related issues (September).

More details about these initiatives can be found in Annex 3.

Key Initiatives Announced Before 2023

In Annex 3, we also discuss initiatives launched before 2023 and not discussed in previous editions of this report that remain relevant given their ongoing potential to influence market structure. These include the Green Bond Technical Assistance Program that got underway in June 2018, and the Inter-American Development Bank's Green Bond Transparency Platform from March 2021.

18 Association of South East Asian Nations (ASEAN)

3

GSSS Bond Outlook

This chapter sets out expectations for the GSSS bond market through 2024 and beyond. It outlines predicted issuance volumes under three potential scenarios based on a methodology developed by Amundi and described in Box 4 below.

The central scenario envisaged in this report—given a 70 percent likelihood by Amundi—forecasts ongoing strength in GSSS bond issuance fueled by investor demand for sustainable assets and borrowers seeking funds to pay for their climate commitments.

EXHIBIT 19

Emerging Market Green Bond Issuance Under Three Projected Global Scenarios

Issuance forecasts for 2023–2025

Source: Amundi calculations, Bloomberg, CBI, Environmental Finance.

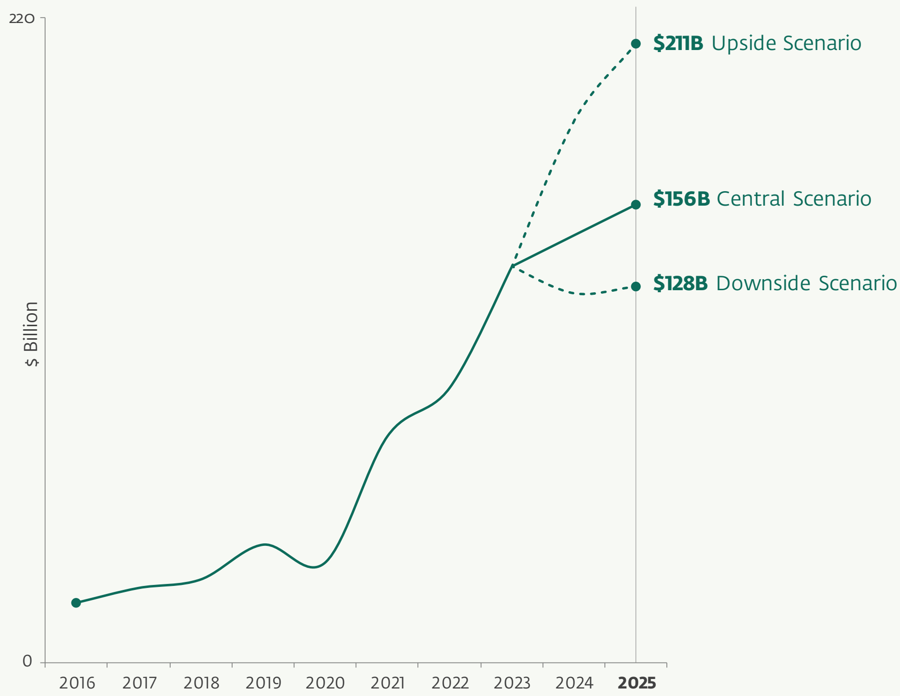
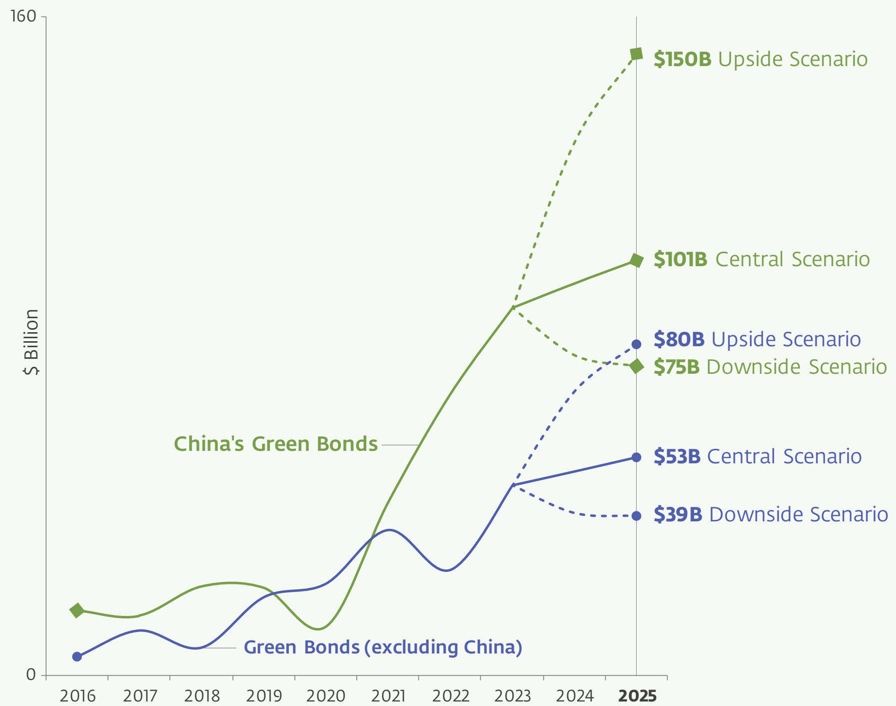


EXHIBIT 20

Projected Green Bond Issuance in China Versus Other Emerging Markets

China versus other emerging market issuance forecasts 2023-2025

Source: Amundi calculations, Bloomberg, CBI, Environmental Finance.



Against this backdrop Amundi expects a compound annual growth rate of 7.1 percent for emerging market GSSS bond issuance over the 2023–2025 period, with sales volumes rising to $240 billion from $209 billion. Emerging market green bond issuance will increase faster still at an annual rate of 7.5 percent, from $135 billion sold in 2023 to $156 billion in 2025.

Within that, there will be some regional variation, with China posting a lower annual issuance growth rate versus the emerging market average for green bonds of 6.3 percent over the period (see Exhibits 19 and 20).

Key features of the central scenario include:

- **Inflation and Policy Mix:** Inflation gradually eases, with core inflation remaining sticky. Developed market central banks refrain from cutting rates until the middle of the calendar year. Policy rates among various central banks remain stable and show a slightly decreasing trend.
- **Growth Path:** Global growth slows with European economies remaining sluggish amid a rising risk of recession in the first half of the year. The United States faces the possibility of a sharp slowdown, while Chinese growth rates slow. Emerging market growth outpaces that of developed markets from 2024–25.
- **Geopolitics:** Russia's invasion of Ukraine continues, though the conflict in Gaza remains localized with a temporary truce likely. Relations between China and the United States will follow a controlled downward trajectory, amid rising protectionism globally.
- **Climate Change:** Climate change and the energy transition will continue to be central to investment decisions and policy making amid coordinated efforts to confront the problem across regions despite the challenging geopolitical and economic backdrop.

Meanwhile, we also consider two alternative scenarios.

The first of these is the most pessimistic outlook to which Amundi assigns a 20 percent probability. This factors in more persistent inflationary pressures than the central outlook and tighter financial conditions in response that lead to a global slowdown. Worsening sentiment around Russia's invasion of Ukraine and conflict in the Middle East adds to aversion among investors toward riskier assets. Increased protectionism affects global trade with significant impacts on international relations and economic stability. Meanwhile, a greater prevalence of damaging climate events disrupts supply chains and threatens food security, exacerbating economic challenges.

Public funding will become scarce leaving GSSS bond issuance in 2025 some 15 percent lower than in the central scenario. This implies a 1.4 percent annual drop in GSSS bond sales, with total issuance falling to $203 billion in 2025 from $209 billion in 2023. Sales of green bonds will fall at an annual rate of 2.6 percent over the period, to $128 billion in 2025, from $135 billion, shrinking their share of emerging market GSSS bond issuance two percentage points to 63 percent.

Meanwhile, China's share of emerging market green bond issuance would shrink to 58 percent in 2025, from 66 percent in 2023 following an 8.2 percent annual drop in sales across the period. The annual retreat in other emerging markets would be around 8.3 percent, according to Amundi's forecasts.

The final scenario, given a 10 percent probability by Amundi, is the most optimistic of the three, involving more stable interest rates and geopolitical conditions. This also factors in wider adoption of sustainable finance taxonomies and transparency initiatives, increased debt issuance from emerging markets, and a stepping up of efforts to accelerate energy transitions. Inflation is brought under control while sentiment improves around Russia's invasion of Ukraine and the conflict in Gaza.

In this environment, GSSS bond issuance from emerging markets in 2025 would be 30 percent higher than in the central scenario. GSSS bonds would see a 22 percent compound annual growth rate reaching an issuance tally of $311 billion in 2025, from $209 billion in 2023.

Emerging market green bond issuance would rise at an annual rate of 25 percent per year in 2023–2025, to $211 billion from $135 billion, increasing the securities' weight in the broader developing country GSSS market to 68 percent from 65 percent.

BOX 4

Methodology Used for Forecasting GSSS Bond Issuance

To project the bond issuance for each subset in 2024 and 2025, Amundi constructs the time series consisting of the monthly year-to-date volume of bond issuance since 2016. For example, the data for March 2019 consists of the sum in U.S. dollars of bond issuance in January, February and March 2019. By construction, the time series has a seasonality of 12 months.

A multiplicative pattern for seasonality is observed, when decomposing the time series into trend, seasonality and residual using the STL method. To assess the trend pattern, Amundi fits the data to four error-trend-seasonality (ETS) models with multiplicative seasonality. The four models are respectively additive trend (AM), additive damped trend (AdM), multiplicative (MM) and multiplicative damped trend (MdM). Amundi then back tests the models to predict the realized data for 2022 and 2023. Amundi discards the models with very high or very low prediction, and high variance.

The AM model is the retained model. In this model Amundi calibrates three smoothing parameters for level, trend and seasonality, the initial values of trend and level and the 12 first values of seasonality.

To calculate the predicted mean and standard deviation at the 12-month and 24-month horizons, Amundi introduces an additive error term that follows a Gaussian distribution with a mean of 0 and a variance equal to that of the model errors. Amundi assumes that the error terms are independent and identically distributed. Amundi then runs Monte Carlo simulations with 1,000,000 iterations, calculating step by step the predicted data for each of the next 24 months.

As the predicted values for 2022 and 2023 were in the top 5 percent percentile, the upper limit of the confidence interval is set at 95 percent. The lower bound is set taking into account the probability of downside risk as perceived by Amundi.

This outlook also sees Chinese issuance underperform other emerging markets, with green bond sales in the country rising at around 30 percent per year, compared with 32 percent in other developing economies.

Beyond geopolitical and macroeconomic conditions, issuance will also be shaped by developments in how emerging financial markets are regulated and ongoing efforts to set up robust taxonomies that are compatible with those of other jurisdictions. More clearly defined guidelines, as well as harmonization with international standards, make markets more attractive to international investors. Therefore, progress by regulators and policy makers during 2023 are likely to add momentum to emerging market GSSS bond issuance.[19]

An encouraging trend that is likely to help stimulate market activity for GSSS bonds is the emergence of policy efforts to place greater emphasis on interoperability between regional and national taxonomies. Advances in this area are illustrated by examples such as the Common Ground Taxonomy, a comparison of the Chinese and EU taxonomies established in 2021 and revised in 2022.

Meanwhile, progress in embedding new guidelines in some jurisdictions was followed by significant issuances over the past year, suggesting new channels of potential GSSS bond sales are being unlocked. One such instance was the establishment of India's Sovereign Green Bond Framework in late 2022, followed soon after by a pair of sovereign deals in early 2023. More are likely to follow (see Annex 2).

Other market developments observed in recent months with potential to shape issuance over the coming years include the establishment of social guidelines in some Latin American markets. Mexico's national sustainable taxonomy, for example, emphasizes issues such as gender equality, financial inclusion, and access to healthcare and education. This suggests the GSSS bond market is broadening from its climate focus.

19 See Annex 2 for a review of the most significant sovereign GSSS bond issues in 2023, and Annex 3 for a description of noteworthy initiatives in emerging markets.

4

Concluding Remarks

This analysis shows that emerging market GSSS bond issuance bounced back in 2023 as sovereign, financial, and corporate borrowers put the monetary pressures that had depressed debt markets in 2022 behind them.

They sold 45 percent more of the securities to international investors than they did the previous year. Issuance growth was faster still—at 65 percent—if we strip out the Chinese market that saw GSSS bond sales advance by 28 percent. For the dominant green bond sub-category, meanwhile, emerging market sales were one third ahead of where they were in 2022.

Rising sales suggest healthy demand for these assets as more portfolio investors looking for sustainable securities diversify into emerging markets. GSSS bonds are a channel for private investment capital to finance green transitions in emerging markets.

While the rebound in emerging market GSSS bond sales in 2023 can be attributed in part to the rising tide of improved market sentiment after the inflationary stress of 2022, much of the credit can also go to a maturing of the asset class as an established part of the international financial system.

More jurisdictions are setting up increasingly sophisticated regulation and taxonomies for categorizing sustainable finance. At the same time, market supervisors are making progress in ensuring taxonomies and regulatory regimes are compatible with those in other jurisdictions. The EU-Chinese Common Ground Taxonomy is an illustration of this and, anecdotally at least, appears to be stimulating cross-border investment flows toward GSSS bonds.

India followed the setting up of its Sovereign Green Bond Framework in late 2022 with a debut sovereign green bond early in 2023. The offering encountered an enthusiastic reception from investors who ordered four times as many bonds as there were on sale, allowing the Indian government to tighten pricing and secure a better deal.

The importance of strengthening market structure cannot be overstated. If international investors are faced with a patchwork of contradictory regimes that are incompatible with one another, it becomes difficult, and by extension costly, to assess risk and gauge an asset's performance. The recent growth in demand for emerging market GSSS bonds from international investors, therefore, suggests efforts in this area are bearing fruit.

Furthermore, Amundi's central forecasts, assuming no significant worsening of geopolitical instability and a relatively calm inflationary outlook, suggest GSSS bond issuance will continue to grow at around 7 percent per year to reach a volume of around $240 billion in 2025.

There is no room for complacency, however. The global economic and financial outlook remains vulnerable to geopolitical and inflationary shocks.

The decline in global GSSS issuance seen in 2022 highlights that the market remains fragile and further reversals could set back efforts to prepare emerging economies for future climate challenges.

More work needs to be done by regulators and policy makers to further underpin market structure, enhance regulation, fine tune categorization, and work toward greater cross-border compatibility. Multilateral development banks can and do provide advisory and other support for efforts in this area. Meanwhile, a more credible, well regulated, and transparent GSSS bond market will help reassure more international investors and open access for emerging market borrowers to bigger pools of portfolio capital. It will also help assuage skepticism, increasingly audible in public discourse, about the asset class's credibility and alleviate concerns about greenwashing, or misstating the extent to which an asset really does qualify as green.

The data in Chapter 2 of this report on the intended use of GSSS bond sales show an evolving picture. As highlighted in 2023 by IFC,[20] the construction sector is a central component of economic activity in emerging markets but generates a sizeable slice of global carbon emissions. Making construction and operation of buildings more environmentally sound is a high priority in emerging markets. This study shows building is the fastest growing recipient of funds raised through green bond issuance, closing the gap on renewable energy's well-established dominance.

Nevertheless, the market remains embryonic, with GSSS bonds making up a fraction of the global fixed income market, as the data on market penetration in Chapter 2 shows. Financial supervisors, governments, investors, borrowers, and multilateral development institutions working together to push this still-nascent market toward its full potential would help it better serve the financial needs of emerging markets seeking to deepen their financial markets.

20 IFC, 2023, "Building Green: Sustainable Construction in Emerging Markets," available at https://www.ifc.org/en/insights-reports/2023/building-green-in-emerging-markets

Annex 1

Annual Emerging Market Green Bond Issuance by Market Segment

Part 1. The Data

The analysis in this report uses data consolidated from Bloomberg, the Climate Bonds Initiative, and Environmental Finance, according to the bond definitions in Box 1 of the report. A complete data set showing issuance volumes by region, in billions of U.S. dollars from 2012 to 2023 can be found in Table 2. According to Bloomberg's methodology, bonds are associated with the issuer's country of risk, which comprises four factors: management location, the security's country of primary listing, the country of revenue, and the issuer's reporting currency. Categorizing a country as an emerging market aligns with criteria used by the Amundi Planet Emerging Green One fund. This list is made up of IFC members, including countries eligible to receive International Development Association (IDA) resources and official development assistance, as defined by the Organization for Economic Cooperation and Development (OECD)'s Development Assistance Committee. Although Russia is not included in the fund's investment universe, it is included in this data set. Bonds issued in China that do not meet international norms or standards as defined by the Climate Bonds Initiative are excluded from the data set. We also include eligible bonds, as defined in Box 1, issued by supranational entities. Importantly, we only include bonds with a maturity of over one year to better capture bonds issued to fund medium- to long-term projects.

Compared to our 2022 report, we acknowledge two changes in the data used. First, GSSS bond issuance was revised up in China as well as the developed markets broadly (per the Climate Bonds Initiative and Environmental Finance databases, respectively) after the publication of last year's report. Second, we now use Bloomberg data to get total fixed income (both GSSS- and non-GSSS-labeled) issuance per region and issuer type over time. Given Bloomberg's data is more comprehensive than that provided by the vendor we used last year (Dealogic), this resulted in a material change in GSSS bond penetration rates.

Finally, we also acknowledge there is only a brief mention of "transition bonds" in the report (in Box 1). While we do take them into account, when calculating GSSS issuance, we also flag their small scale, with their contribution to overall GSSS issuance being under 0.3 percent of the total in 2023 (down from 0.4 percent in 2022). This does not negate the fact that these instruments may have an important role to play in financing transitions to greener practices in hard-to-abate sectors, as well as in aligning heavy industry with global net-zero efforts.

Issuance patterns reflect prevailing conditions in different markets. Political stability, market depth, and other structural factors influence demand for the financial securities issued in particular jurisdictions. Table 1 illustrates how individual countries perform across various factors such as institutional quality and the maturity of their financial markets and indicates whether there has been a notable change from 2022 to 2023.

Part 2. Regional Trends

TABLE 1

Determinants of Green Bond Market Potential

	Volume of Green Bonds Issued in 2023, $Billion	Cumulative Volume of Green Bonds Issued in 2012-23, $Billion	Sustainable Banking and Finance Network Score	Green Bond Momentum		Capital Market Development			Governance	
			Overall	Green Bond Issuance in 2023	Green Bond Issuance Relative to Total Debt Issuance in 2018-23, %	Domestic Credit to Private Sector as a % of GDP	Market Capitalization as a % of GDP	EMBI Spreads, January 2024	Regulatory Quality	Rule of Law Index
Argentina	0.42	1.9								
Armenia		0.1								
Bahrain	-	0.9								
Bangladesh										
Barbados		0.0								
Bolivia	0.01	0.0								
Bosnia and Herzegovina										
Brazil	4.69	18.1								
Cambodia										
Cabo Verde										
Chile	1.61	16.6								
China	89.13	292.5								
Colombia	0.30	1.4								
Costa Rica		0.5								
Côte d'Ivoire		0.0								
Czech Republic	1.08	9.0								
Dominican Republic		0.0								
Ecuador		1.1								
Egypt		0.9								
Estonia		0.2								
Fiji		0.1								
Gabon	0.50	0.5								
Georgia		0.8								
Ghana										
Guatemala		0.7								
Honduras										
Hungary	1.09	7.8								
India	5.08	25.0								
Indonesia	2.09	10.1								
Iraq										
Jordan	0.05	0.1								
Kazakhstan	0.12	0.1								
Kenya		0.1								
Kyrgyz Republic										
Lao PDR										
Latvia	0.05	0.5								
Lebanon		0.1								
Lithuania	0.01	0.9								
Malaysia		2.7								
Maldives										
Malta	0.03	0.0								
Mexico	1.65	5.2								
Mongolia	0.06	0.1								
Morocco		0.4								
Namibia		0.0								
Nepal										
Nigeria		0.2								
North Macedonia	0.01	0.0								
Pakistan		0.5								
Panama	0.14	0.4								
Paraguay										
Peru		1.7								
Philippines	0.33	3.5								
Poland	2.05	10.0								
Romania		3.5								
Russia		2.5								
Samoa										
Saudi Arabia	6.70	11.1								
Serbia		1.2								
Seychelles		0.0								
Slovakia		2.0								
Slovenia		0.6								
South Africa		4.2								
Sri Lanka										
Thailand	1.25	4.8								
Tunisia										
Türkiye	3.30	4.8								
Ukraine		1.2								
United Arab Emirates	8.70	14.4								
Uruguay		0.4								
Uzbekistan	0.35	0.3								
Viet Nam		0.3								
Zambia	0.05	0.1								

Notes: Countries included are those that are Sustainable Banking and Finance Network (SBFN) members or green bond issuers. Countries are scored from 0 to 5 on each of the components, with 5 being the highest on a relative basis, according to available data. The SBFN Score is based on the Sustainable Banking and Finance Network measurement framework assessing national sustainable finance policies. Countries that are not SBFN members are indicated in gray. Sovereign Green Bond Issuance is based on whether the sovereign has already issued green bonds and whether it has announced plans to do so. Relative Green Bond Issuance measures the share of green bond issuance relative to total bond issuance from 2019 to 2023. Domestic Credit to Private Sector is based on the percent of gross domestic product and refers to financial resources provided to the private sector by financial institutions. The data source is the World Bank. Market Capitalization data is based on the percent of GDP and are sourced from the World Bank and World Federation of Exchanges. J.P. Morgan Emerging Market Bond Index spreads are measured in basis points and are from January 2024. Lower spreads are scored as a 5, while higher spreads are scored as a 1. The Regulatory Quality and Rule of Law Index indicators are sourced from the World Bank.

Green Bond Issuance by Region in 2023

Table 2 breaks down emerging market GSSS bond issuance data by region and by sub category for 2023. Green bond issuance in emerging markets rose 34 percent to $135.3 billion, having more than doubled in the Middle East and advancing almost 90 percent in Latin America. Driving factors included a stepping up by governments, corporations, and financial institutions of work toward transitioning economic and business models to make them more sustainable. A number of countries also advanced their market infrastructure, bolstering regulation of sustainable finance and introducing new frameworks and taxonomies, which in turn helped stimulate activity.

Outside China, the United Arab Emirates was largest single-country primary market for green bonds in 2023, with $8.7 billion of issuance, almost double the previous year. Saudi Arabia was next, selling $6.7 billion, followed by India with $5.1 billion, Brazil at $4.7 billion, and Türkiye with $3.3 billion.

Not all emerging markets saw their green bond issuance expand, however, with Indonesia and Hungary, well-established green bond issuance markets, both retreating during the year.

Asia Pacific

China saw the weakest growth among emerging markets with green bond issuance rising 18 percent in 2023 from a year earlier, marking a sharp slowdown from its 81 percent growth in 2022. This was consistent with weaker overall fixed income issuance in the country (up by just 2 percent) amid mounting concerns around economic growth and worries about the health of the construction sector.[21]

Nevertheless, with sales of $89.1 billion during the year China retained its status as the largest green bond issuer among emerging markets as well as globally (see Exhibit 21).

Growth was far faster for issuance elsewhere in the Asia Pacific region, with green bond issuance rising 58 percent year-on-year to a record $9.6 billion. This was mostly explained by strong sales from India of $5.1 billion, or 1.3 times the previous year. Indeed, the country issued its first ever sovereign green bond in January, a $1 billion deal that it tapped again for a similar amount the following month. This came in the wake of the release of India's Green Bond Framework in November 2022 (see Annex 2).

Thailand's green bond issuance was also strong, increasing 54 percent to $1.2 billion, following the publication of the first phase of its Green Taxonomy in July.

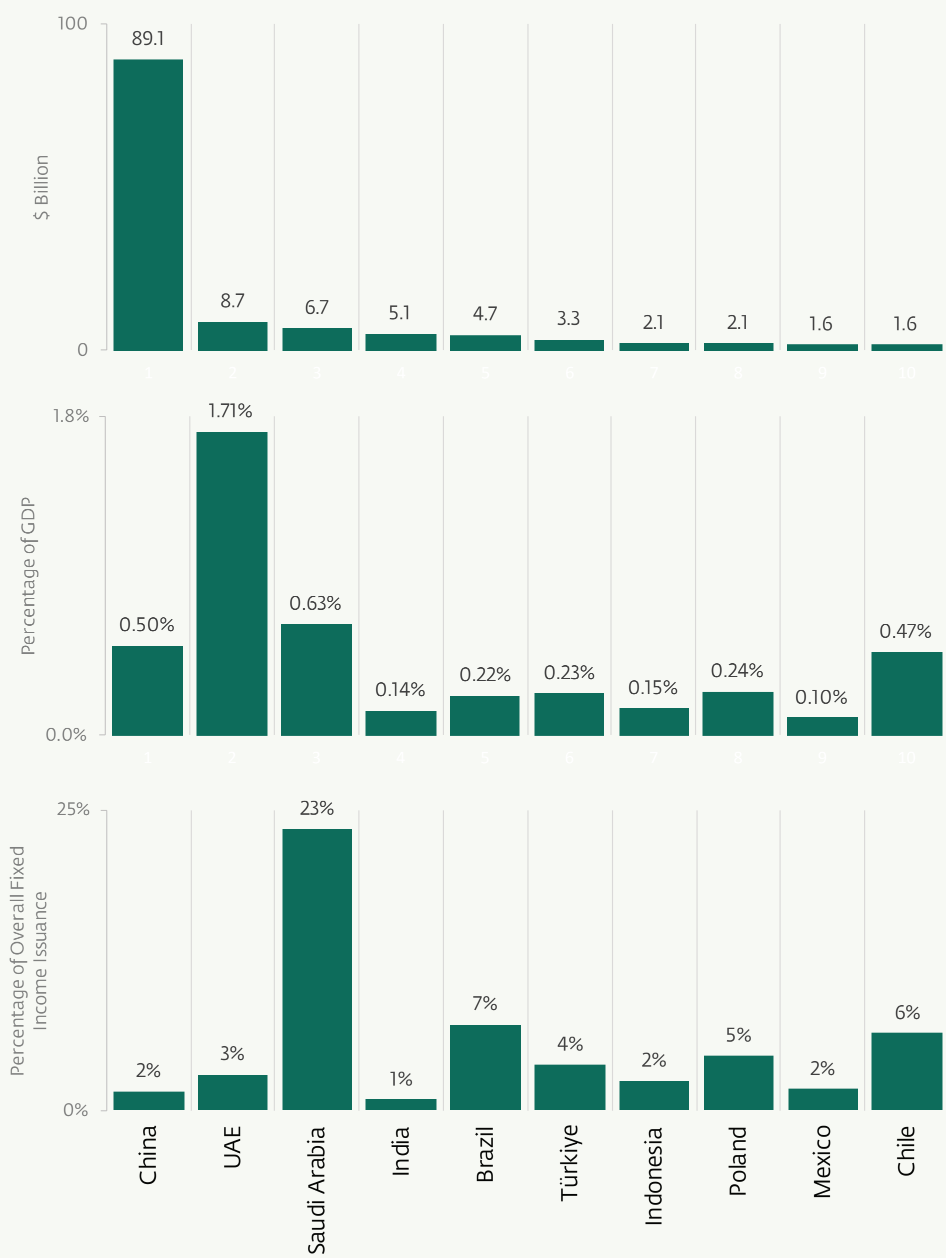
But Indonesia saw green bond issuance fall 19 percent to $2.1 billion in 2023, largely on account of a particularly strong performance in 2022.

21 Bloomberg, June 13, 2023, "China's Offshore Green Bond Market Evaporates on Default Worries," available at https://www.bloomberg.com/news/articles/2023-06-14/china-s-offshore-green-bond-market-evaporates-on-default-worries

EXHIBIT 21

China Dominated 2023 Emerging Market Green Bond Issuance

Top 10 emerging market green bond issuing countries



Source: Bloomberg, CBI, Environmental Finance, IFC

Europe and Central Asia

Green bond issuance in Europe and Central Asia increased by 55 percent in 2023. This was largely driven by Türkiye which saw sales multiply to $3.3 billion from just above $100 million in 2022, much of which reflects the sale of a $2.5 billion inaugural sovereign green bond in April.

In addition, strong issuance by other well-established green bond issuers, such as Poland, which saw sales rise 2.6 times to $2.1 billion, and the Czech Republic which almost doubled to $1.1 billion, helped offset weaker dynamics in Hungary where sales fell 67 percent to $1.1 billion.

Other significant deals from the region included North Macedonia's inaugural sovereign green bond in October, which raised $10 million.

Notwithstanding the growth seen throughout 2023, overall green bond issuance in Europe and Central Asia in 2023 of $10.1 billion was meaningfully below the $14.8 billion peak achieved in 2021.

Latin America and the Caribbean

Latin America and the Caribbean was among the strongest regions for green bond issuance in 2023, with growth of 88 percent year-on-year. This was largely driven by Brazil with a 44 percent increase to $4.7 billion, which included a $2 billion inaugural sovereign green bond in November following publication two months earlier of the country's Sovereign Sustainable Bond Framework. Mexico was also a strong performer, posting issuance of $1.6 billion from zero in 2022, while Chile, a well-established green bond market, sold $1.6 billion, an 18 percent advance from the previous year.

As of the end of 2023, Brazil and Chile were among the top four green emerging market bond markets with, respectively, $18 billion and $17 billion of green bonds issued since 2012.

Middle East and North Africa

The Middle East and North Africa was the second biggest regional source of primary emerging market green bond issuance outside China in 2023, more than doubling sales to $15.5 billion. The bulk of this came from the UAE, which increased sales 174 percent to $8.7 billion, and Saudi Arabia, which advanced 119 percent to $6.7 billion.

Sub-Saharan Africa

Borrowers in Sub-Saharan Africa increased green bond issuance in 2023 by 125 percent, albeit from low levels, to reach $1.4 billion from $600 million in 2022. In spite of the market's growth, the region remains the least established regional green bond market among developing economies. It is noteworthy that while green bonds issued in 2023 amounted to the equivalent of 0.3 percent of GDP for emerging markets, for Sub-Saharan Africa the proportion was under 0.1 percent.

Within the region, South Africa remains the most significant issuer, with $900 million in green bonds sold over the year, 58 percent more than the previous year.

Also noteworthy was Zambia's first green bond from the Copperbelt Energy Corporation, which raised $53.5 million. Meanwhile, Gabon issued a $500 million 'blue' bond, raising funds to buy back government international debt at a discount while the savings were earmarked to fund conservation via a so-called debt-for-nature swap (see Annex 2).

Table 2

Regional GSSS Bond Issuance Data, 2012–2023

GREEN BONDS	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Change Between 2022-23	Total Issuance 2012-23
East Asia and the Pacific (Excluding China)				1.2	1.8	5.2	3.4	6.6	4.3	9.1	6.1	9.6	58%	47.2
Europe and Central Asia				0.1	0.8	0.5	1.7	4.4	6.6	14.8	6.5	10.1	55%	45.5
Latin America and Caribbean			0.2	1.1	1.6	4.2	1.3	5.8	9.0	10.1	5.1	9.6	88%	48.1
Middle East and North Africa					0.2	0.7	0.1	1.3	2.1	0.7	7.2	15.5	114%	27.8
Sub-Saharan Africa	1.1		0.1			0.1	0.1	0.9	0.2	0.5	0.6	1.4	125%	5.1
China				1.3	15.7	14.3	21.6	21.1	11.7	41.9	75.7	89.1	18%	292.5
Developed Markets	1.4	5.1	25.8	32.0	47.4	114.5	121.7	197.7	237.9	414.4	380.1	433.2	14%	2011.2
Supranational	1.7	5.8	9.6	8.3	10.5	10.0	11.7	15.3	15.8	28.5	41.6	33.0	-20%	191.7
Total	4.2	10.9	35.7	43.9	78.0	149.6	161.6	253.1	287.6	520.0	522.9	601.5	15%	2669.1

SOCIAL BONDS	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Change Between 2022-23	Total Issuance 2012-23
East Asia and the Pacific (Excluding China)								0.3	1.2	1.0	0.6	2.9	386%	6.0
Europe and Central Asia									0.3	0.3				0.7
Latin America and Caribbean						0.3	0.2		3.4	17.5	1.4	8.9	535%	31.7
Middle East and North Africa												0.1		0.1
Sub-Saharan Africa								0.3		0.3	0.3	0.1	-59%	1.1
China									0.6			2.8		3.5
Developed Markets	0.2	0.8	0.5	3.2	2.9	8.2	11.3	16.5	94.4	125.1	144.4	154.4	7%	561.8
Supranational			0.5	0.1		2.8	2.9	1.3	68.9	67.7	17.8	10.1	-43%	172.1
Total	0.2	0.8	1.0	3.3	2.9	11.3	14.4	18.4	168.8	211.9	164.4	179.3	9%	776.8

SUSTAINABILITY BONDS	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Change Between 2022-23	Total Issuance 2012-23
East Asia and the Pacific (Excluding China)							0.2	2.0	2.2	8.9	8.2	4.8	-41%	26.4
Europe and Central Asia					0.3	0.3			0.8	4.2	0.4	6.0	1481%	11.9
Latin America and Caribbean						0.9	0.3	1.6	1.2	10.4	17.0	22.5	33%	53.9
Middle East and North Africa							0.1		0.1		2.3	4.7	110%	7.1
Sub-Saharan Africa										1.0	0.1		-100%	1.1
China							1.4		0.5	1.4		2.3		5.6
Developed Markets		0.5	0.6	2.1	4.2	9.8	13.9	34.8	49.4	89.4	77.4	60.9	-21%	343.1
Supranational					0.1	0.3	2.7	11.1	79.6	70.6	44.7	61.4	37%	270.4
Total		0.5	0.6	2.1	4.5	11.4	18.5	49.5	133.8	185.8	150.0	162.7	8%	719.5

SUSTAINABILITY-LINKED BONDS	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Change Between 2022-23	Total Issuance 2012-23
East Asia and the Pacific (Excluding China)										2.2	1.3	1.5	13%	5.0
Europe and Central Asia									0.5	1.0	2.2	0.2	-90%	3.9
Latin America and Caribbean									4.3	14.3	7.9	13.0	63%	39.5
Middle East and North Africa									0.6					0.6
Sub-Saharan Africa										0.3		0.1		0.4
China										1.7	1.1	3.7	245%	6.5
Developed Markets								4.2	6.7	72.4	59.2	47.3	-20%	189.7
Supranational														
Total								4.2	12.1	91.8	71.7	65.8	-8%	245.7

Part 3. Strengthening the Impact of Financial Incentives in Sustainability-Linked Bonds

A distinguishing feature of Sustainability-Linked Bonds (SLBs) is their embedded financial incentives, typically via adjustment of the coupon rate, that are linked to the achievement of sustainability targets. These are meant to act as an enforcement mechanism for issuers, encouraging them to meet these targets. To influence the issuer's conduct, however, financial incentives need to be material, which will depend on their level and structure.

First and foremost, the level of the incentive needs to be adequate. Research shows that this is often not the case: the average coupon step-up penalty, which is overwhelmingly the most common type of financial incentive, is less than 12 percent of the coupon rate.[22] A vast majority of SLBs have a step-up penalty of 25 basis points or less. For context, traditional bonds typically have a 125-basis point penalty in the case of a fall in the issuer's credit rating. Another indication that step-up penalties are not set effectively is the fact that these tend to be uncorrelated with coupon rates. Furthermore, there is little evidence that these are related to the likelihood of achievement of sustainability targets.[23] Research shows that step-up penalties are, on average, lower than the 'SLB premium'—the difference between SLB yields and those on a conventional bond of similar structure. This means that issuers are able to lower their cost of debt by issuing SLBs even if sustainability targets are not met.[24]

Issuers should ideally seek to set incentives that are proportional to the ambition and quality of sustainability targets. This should ensure an adequate risk-return profile that can encourage issuers to undertake the required sustainability efforts. Penalties should be higher than the SLB premium, to avoid a 'free lunch' for SLB issuers.

Meanwhile, the structure of incentives is also important. Certain bond features can influence the enforcement mechanism, irrespective of the penalty amount set at issuance. For example, setting late target dates means that the step-up penalty is applicable to fewer coupon payments. This is particularly concerning as research shows that SLBs with step-up penalties are likely to have later target dates.[25] Furthermore, higher step-up penalties are correlated with later target dates. Late target dates effectively reduce the cumulative liability for the issuer if sustainability targets are unmet. Accounting for target dates, the average cumulative coupon payments for step-up SLBs increase by only about 5 percent if targets are unmet.

22 Ul Haq, I., & Doumbia, D. 2022, "Structural loopholes in sustainability-linked bonds." World Bank Policy Research Working Paper 10200.

23 Webb, D. 2023, "SLB market shows maturity as step-ups and target achievement evolves," Responsible Investor. Available at: https://www.responsible-investor.com/slb-market-shows-maturity-as-step-ups-and-target-achievement-evolves/

24 Kölbel, J. F., & Lambillon, A. P. 2022. "Who pays for sustainability? An analysis of sustainability-linked bonds," Swiss Finance Institute Research Paper, (23-07).

25 Ul Haq, I., & Doumbia, D. 2022.

A second such bond feature is callability, which can allow issuers to minimize or avoid step-up penalties. SLBs are not only five times more callable than conventional corporate bonds, but also typically do not incur a penalty for an early call if targets are unmet. Where these are imposed, they tend to be a fraction of the original cumulative step-up penalty. A third possible bond feature that can weaken enforcement are flexibility clauses that allow issuers to adjust their sustainability targets after issuance. These do not typically require bondholder consent and hence could potentially be used to minimize penalty payouts by the issuer.

These issues can be easily addressed to safeguard materiality of financial incentives. For target dates, issuers can set interim sustainability targets across a bond's tenor, each with its own corresponding penalty. This has the additional advantage of reducing the impact of external factors—such as an energy crisis as seen in 2022—on target achievement around a single target date. For callability, issuers can include provisions to apply the original cumulative penalty in case the bond is redeemed before the target date or if targets are unmet. To avoid flexibility clauses weakening incentives, issuers can explicitly identify the precise conditions that allow such clauses to be triggered. Furthermore, revised sustainability targets should be subject to external verification to ensure consistency with the original level of ambition.

Simply removing callable and flexibility clauses may not be ideal, as issuers tend to value the flexibility SLBs allow, which can be important in an environment where technologies and approaches for sustainability constantly evolve. Therefore, greater investor awareness and scrutiny by external reviewers is needed. For example, industry standards can include tighter language around materiality of financial incentives.[26] External reviewers can also play a role by expanding their scope to cover assessment of bond structures.

26 For example, the International Capital Market Association currently recommends that "variation of the bond financial or structural characteristics be commensurate and meaningful relative to the issuer's original bond financial characteristics" but does not require it.

Annex 2

Key GSSS Bond Issues in 2023

Part 1. Inaugural Deals

January

India launched its Sovereign Green Bond Framework outlining categories for green investment in November 2022. The country followed soon after with its first sovereign green bond in late January, offering debt worth 80 billion rupees, the equivalent of approximately $1 billion. The transaction was divided into two tranches with half the amount allocated to five-year bonds at a coupon rate of 7.1 percent, while the remainder was issued as 10-year bonds with a coupon rate of 7.29 percent. A subsequent sale in early February raised a similar amount, bringing the total to 160 billion rupees. The sales raised money for spending in areas such as energy efficiency, clean transport, reducing carbon emissions, promoting climate change adaptation, improving biodiversity, and water and waste management.[27]

The initial deal was oversubscribed with four times as many orders as there were bonds available, enabling the issuer to reduce the pricing and secure the funds at lower cost. The green premium effect—where investor demand for green assets gives the issuer a pricing advantage— meant both tranches priced inside India's yield curve.

The five-year tranche was allocated to 32 investors, while the 10-year debt went to 57 investors.[28] The deal's success was a significant step for India's sustainable finance market and is likely to boost the local currency green debt market, potentially attracting more investments in green projects.

February

The Government of Sharjah's first sovereign sustainable bond was a landmark event, not only marking the first such issuance from a member of the Gulf Cooperation Council region but also distinguishing itself as the first sale of this type of debt by a government entity in the UAE. The $1 billion bond was issued at a 6.5 percent interest rate, maturing in 2032.[29]

Proceeds were dedicated to financing or refinancing projects in line with the Government of Sharjah's Sustainable Financing Framework. This framework was crafted in accordance with the 2021 editions of ICMA's Green Bond Principles, Social Bond Principles, and Sustainability Bond Guidelines. The deal is intended to support initiatives that contribute to sustainable development and align with the UN's Sustainable Development Goals.

27 ESG Today, January 26, 2023 "India's Inaugural Green Bond Earns 'Greenium' on Solid Demand," available at https://www.esgtoday.com/indias-inaugural-green-bond-draws-greenium-on-solid-demand/

28 Climate Bonds Initiative, March 2023, "India's debut in the sovereign green bond market: first deal landed a greenium," available at https://www.climatebonds.net/2023/03/india%E2%80%99s-debut-sovereign-green-bond-market-first-deal-landed-greenium#:~:text=The%20Government%20of%20India%20joined%20the%20Sovereign%20Green,split%20equally%20between%20five%20and%20ten%20year%20tenors.

29 Legal Community Mena, February 2023, "Government of Sharjah issues first-ever GCC Sustainable Bond," available at https://legalcommunitymena.com/government-of-sharjah-sustainable-bond/

April

Türkiye's first sovereign green bond raised $2.5 billion with an offering of seven-year bonds that mature in 2030. The deal priced at a 9.125 percent coupon rate and a 9.3 percent yield. The offering attracted orders for more than three times the issue size with interest from around 200 accounts. Geographically, the bond attracted diverse investors, the biggest share of whom, 31 percent, were based in the United Kingdom. Türkiye provided 19 percent of the investors while 18 percent were in the United States. The Middle East accounted for 16 percent while other European countries brought 15 percent.[30]

June

Chile followed the update to its Sustainability-Linked Bond Framework, which introduced female board representation as a key performance indicator, by issuing three sovereign SLBs. These were a $1.2 billion bond maturing in 2036, a $1.1 billion note maturing in 2054, and a 750 million-euro nine-year deal. Subsequently, the two dollar-denominated bonds were reopened, adding $500 million and $380 million respectively. Chile also introduced its first local currency SLB, a 1.75 billion Chilean peso (approximately $1.9 billion) instrument with a 2037 maturity.[31]

August

Gabon's first sovereign blue bond in the form of a debt-for-nature swap was a landmark transaction aimed at marine conservation. The deal enabled the refinancing of $500 million of Gabon's sovereign debt, enabling the nation to allocate $163 million to ocean conservation. This initiative was intended to underscore Gabon's commitment to protecting 30 percent of its lands, freshwater systems, and ocean by 2030, aligning with the UN's Sustainable Development Goals.[32]

The transaction included the issuance of blue bonds to repurchase a portion of Gabon's existing sovereign dollar-denominated debt. An independent conservation fund, with The Nature Conservancy, a non-profit organization acting as the project manager and technical advisor, will partially use the payments from Gabon to support conservation efforts. The U.S. International Development Finance Corporation has provided political risk insurance for the Blue Loan to Gabon, enhancing the credit rating of the bond issuance and offering debt relief for the country over the next 15 years.

30 Republic of Türkiye Ministry of Treasury and Finance, April 6, 2023, Press Release, available at https://ms.hmb.gov.tr/uploads/sites/2/2023/04/20230406_Press-Release.pdf

31 Climate Bonds Initiative, November 2023, "Sustainable Debt Market Summary Q3 2023," available at https://www.climatebonds.net/files/reports/cbi_susdebtsum_q32023_01e.pdf

32 Reuters, August 15, 2023, "Gabon 'blue bond' swap raises hopes for wave of African debt-for-nature deals," available at https://www.reuters.com/sustainability/gabon-blue-bond-swap-raises-hopes-wave-african-debt-for-nature-deals-2023-08-15/

October

The Development Bank of Rwanda successfully closed its first SLB offering in October, attracting orders for 33.17 billion Rwandan francs, compared with an initial target of 30 billion Rwandan francs. This inaugural seven-year bond, part of a larger 150 billion Rwandan-franc medium-term note program, was launched in late September. The bond was offered with an annual coupon rate of 12.85 percent.

A considerable portion of the orders came from banks and pension funds, which accounted for 64 percent of the orders, with the remainder filled by retail and other institutional investors. The issue is backed by the World Bank's lending operation to the Rwandan Government through the Access to Finance for Economic Recovery and Resilience Project.[33]

This SLB, the first issued by a development bank globally and the first sustainable bond issued in Rwanda, supports the Development Bank of Rwanda's efforts in ESG practices, promoting loans to women-led businesses and financing affordable housing projects.

Chile returned to the market in October to launch its first sovereign SLBs indexed to inflation, raising the equivalent of $927 million denominated in its local unit-of-account (Unidad de Fomento) currency. The deal comprised an offering of 16-year notes at a 3.4 percent yield. The bond features step-up rates linked to environmental and social targets, including reducing public sector greenhouse gas emissions and increasing female board representation in state companies. This issuance was the first such issue in Latin America, marking a significant milestone for the region in integrating sustainability goals with financial instruments.[34]

In October, North Macedonia's Finance Ministry announced the country's first-ever sovereign green bond, a 10 million-euro transaction with an annual interest rate of 4.75 percent and a two-year maturity. This initiative, part of a strategy to diversify financial instruments on the domestic capital market, aims to fund environmental projects through the Energy Efficiency Fund, managed by the state-run Development Bank. This follows the successful launch of civil bonds and precedes further market expansions, including project and development bonds, to stimulate investment and economic growth.[35]

November

Brazil successfully issued its first-ever sovereign green bond, raising $2 billion. This sale was part of the country's efforts to establish a benchmark in the sustainable finance market and direct funds toward the government's sustainability objectives. The seven-year notes were offered with a yield of 6.5 percent and met significant investor interest that resulted

33 Environmental Finance, October 25, 2023, "Development Bank of Rwanda raises RWF30bn in landmark sustainability-linked bond," available at https://www.environmental-finance.com/content/news/development-bank-of-rwanda-raises-rwf30bn-in-landmark-sustainability-linked-bond.html; World Bank, September 29, 2023, "Rwanda Development Bank Launches First Sustainability-Linked Bond to Promote Inclusive Sustainable Development," Press Release, available at https://www.worldbank.org/en/news/press-release/2023/09/29/rwanda-afe-development-bank-launches-first-sustainability-linked-bond-to-promote-inclusive-sustainable-development

34 Latin Finance, October 18, 2023, "Chile sells first inflation-linked SLBs in global market," available at https://latinfinance.com/daily-brief/2023/10/18/chile-sells-first-inflation-linked-slbs-in-global-market/

35 bne IntelliNews, September 27, 2023, "North Macedonia announces debut green bond issue," available at https://www.intellinews.com/north-macedonia-announces-debut-green-bond-issue-294441/

in close to $6 billion of orders. Around 75 percent of the demand came from Europe and North America, while the rest was from Latin America, including Brazil itself. The operation was part of a broader strategy to align Brazil's financial initiatives with its climate and environmental policies. [36]

The bond's proceeds are destined for environmental and climate projects reflecting investors' preferences for environmental commitments over social spending. In particular, the funds are expected to primarily support the Climate Fund under the oversight of the state development bank BNDES, contributing to Brazil's ecological transition plans.

Also in November, Fiji's first Sovereign Blue Bond launched with support from the United Kingdom's Blue Planet Fund and the United Nations Development Programme. The deal represented a significant step toward sustainable ocean management and economic resilience for the country. The Fiji Sovereign Blue Bond was set up to raise private sector funds to support conservation and protection of marine environments. This initiative underlines Fiji's commitment to sustainable development and offers a model for other developing small island states to follow.[37]

The bond offered maturities of three and 15 years with coupon rates set at 1 percent per annum for three years and 4.2 percent over 15 years. The bond focuses on nature-based solutions for coastal protection, scaling up aquaculture, developing sustainable towns and cities, and enhancing waste management. This financial instrument aims to unlock the economic potential of Fiji's blue economy through sustainable use of ocean resources.[38]

Argentina's first sovereign sustainability bond raised 44.3 billion Argentine pesos ($125 million) as part of a larger bond offering. This bond, with a 4.25 percent coupon and a two-and-a-half-year term, is inflation-adjusted via the CER index. The funds are earmarked for two aqueduct projects and a program that provides computers to students. This sustainability bond was fully allocated, contrasting with other parts of the larger offering which saw lower investor uptake, indicating particular interest in sustainable investment opportunities within the country's broader financial initiatives.[39]

December

Zambia's first Green Bond, issued by CEC Renewables Ltd, a subsidiary of Copperbelt Energy Corporation, aimed to enhance renewable energy development. The bond, part of a $200 million initiative, was fully subscribed in its first tranche of $54 million. This move aligns with Zambia's climate mitigation efforts and supports its green energy transition, focusing on renewable sources like solar and wind.[40]

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36 Reuters, November 13, 2023, "Brazil raises $2 billion in ESG sovereign bonds debut," available at https://www.reuters.com/sustainability/sustainable-finance-reporting/brazil-prices-2-bln-first-ever-esg-bond-65-yield-source-2023-11-13/

37 UNDP, November 2, 2023, "Launch of Fiji's first-ever Sovereign Blue Bond," available at https://www.undp.org/pacific/press-releases/launch-fijis-first-ever-sovereign-blue-bond

38 Environmental Finance, November 2023, "Fiji launches debut sovereign 'blue' bond," available at https://www.environmental-finance.com/content/news/fiji-launches-debut-sovereign-blue-bond.html

39 Environmental Finance, November 22, 2023, "Argentina issues debut sustainable bond amid future doubts," available at https://www.environmental-finance.com/content/news/argentina-issues-debut-sustainable-bond-amid-future-doubts.html

40 Copperbelt Energy, April 19, 2024, "CEC Announces Registration of Zambia's First Green Bond," Press Release, available at https://cecinvestor.com/cec-announces-registration-of-zambias-first-green-bond/

Part 2. Other Noteworthy Developments and Issuances

In July 2023, Mexico issued a sustainability bond valued at 23 billion Mexican pesos (approximately $1.4 billion), with its use of proceeds linked to the UN's Sustainable Development Goals. The transaction was part of Mexico's continued commitment to sustainable finance following the publication of a sustainable finance taxonomy in March 2023. The taxonomy, which is interoperable with the EU's system, aims to foster development of the local market by encouraging sustainable investment practices.[41]

Malaysia announced plans to issue a sovereign biodiversity sukuk—a type of bond that adheres to Islamic principles—in late October. This 1 billion Malaysian ringgit (approximately $210 million) deal will raise money to fund reforestation and restoration projects through the generation of carbon credits.[42] The use of Islamic finance mechanisms marks a significant departure from reliance on traditional funding facilities to address environmental and conservation challenges (see Annex 3 for further discussion on Islamic finance initiatives).

In November 2023, Uruguay executed a tap of its 2022 sovereign sustainability-linked bond, adding $700 million to the original issuance. The fundraising was on the same terms as the initial $1.5 billion, 5.75 percent transaction which matures in 2034. This additional sale brought the total outstanding size of this bond to $2.2 billion.[43]

The bonds are part of Uruguay's broader strategy to align its fiscal management with sustainability and climate goals, particularly those related to reducing greenhouse gas emissions and preserving native forests.

Meanwhile, Brazil, in collaboration with the Inter-American Development Bank, is set to launch a foreign-exchange hedge platform in 2024. This aims to smooth out volatility for investments under the country's green transition plan. The initiative seeks to address one of the significant challenges faced by emerging countries in attracting foreign investments, namely the risk associated with foreign exchange fluctuations. By providing tools such as foreign exchange swaps, credit lines for liquidity in foreign currency investments, and hedging mechanisms against potentially sharp depreciations, the platform intends to safeguard investors from the adverse impacts of unexpected currency movements triggered by economic shocks. [44]

The primary focus of this platform is to support investments in areas critical to Brazil's environmental and climate goals, including reforestation, new infrastructure to prevent environmental disasters, low-carbon agriculture, green hydrogen, and energy transition projects.

Initially, the platform is expected to have a potential for foreign exchange hedges of $3.4 billion, with the possibility that this amount increases in the future. The initiative is part of Brazil's broader efforts to mobilize long-term resources for climate mitigation and adaptation.

41 Climate Bonds Initiative, November, 2023, "Sustainable Debt Market Summary Q3 2-23," available at https://www.climatebonds.net/files/reports/cbi_susdebtsum_q32023_01e.pdf

42 Islamic Sustainable Finance & Investment, October 20, 2023, "Malaysia's Budget 2024: biodiversity Sukuk in the works," available at https://islamicsustainable.com/malaysias-budget-2024-biodiversity-sukuk-in-the-works/#:~:text=The%20Malaysian%20federal%20government%20is%20looking%20to%20issue,at%20the%20tabling%20of%20the%202024%20national%20budget.

43 Environmental Finance, November 7, 2023, "Uruguay raises $700m from sustainability-linked bond tap," available at https://www.environmental-finance.com/content/news/uruguay-raises-$700m-from-sustainability-linked-bond-tap.html

44 Inter-American Development Bank, December 1, 2023, "Brazil's Ministry of Finance, IDB Plan to Create Hedging Platform for Brazil's Green Transformation Plan Investments," available at https://www.environmental-finance.com/content/news/uruguay-raises-$700m-from-sustainability-linked-bond-tap.html

Annex 3

Recent Noteworthy Initiatives for Sustainable Finance in Emerging Markets

In this annex we highlight notable recent initiatives by regulators, governments, and international institutions to formalize guidelines, standardize classifications, and establish best practice codes for sustainable finance.

The GSSS bond market remains a relatively new area of international finance and remains hindered by the existence of multiple taxonomies and inconsistent requirements, adding complexity and raising transaction costs for investors. But regulators and policymakers are making progress toward setting up taxonomies that are compatible with international standards.

This is significant. Greater harmonization makes it easier for ratings agencies and investors to assess risk, thereby promoting financial market deepening in emerging markets where the need for new capital to finance green transitions is highest.

Recent months have seen important developments in the establishment of multi-jurisdiction frameworks such as a second version of the ASEAN trade bloc's Taxonomy for Sustainable Finance, the Common Framework for Sustainable Finance Taxonomies for Latin America and the Caribbean, and the Singapore-Asia Taxonomy for Sustainable Finance. These initiatives, outlined in more detail below, add to existing cross-border frameworks such as the EU and China's Common Ground Taxonomy, described in the last installment of this report.

The annex also provides an overview of initiatives aimed at tackling biodiversity loss announced in 2023 by regulators, international institutions, and other bodies. These include IFC's Biodiversity Finance Reference Guide, unveiled in May, ICMA's blue bond guide, launched in September, and the Task Force on Nature-Related Financial Disclosures (TNFD)'s final recommendations on nature-related issues, announced in September.

We also discuss two initiatives launched before 2023 that remain relevant given their ongoing potential to influence market structure, including the Green Bond Technical Assistance Program (GB-TAP) that got underway in June 2018, and the Inter-American Development Bank's Green Bond Transparency Platform (GBTP) from March 2021.

A final section discusses efforts to formulate an Islamic finance framework for sustainable finance in the Middle East, one of the fastest growing issuance markets for GSSS bonds.

ASEAN Taxonomy for Sustainable Finance

In Southeast Asia, where fossil fuels account for more than 70 percent of electricity generation, there is a pressing need to decarbonize the energy sector. With this in mind, ASEAN first introduced a standardized terminology for the financing of sustainable economic activities in November 2021. Released by the ASEAN Taxonomy Board, the new code was designed as a classification system to support efforts by member states to fund a shift to low-carbon models.

The second version of the ASEAN Taxonomy for Sustainable Finance, published in March 2023, takes into account comments received from stakeholder consultations conducted in 2022, and expands on the multi-tiered framework set out in the first version.

The Taxonomy's assessment approaches are two-fold. First, there is a principles-based Foundation Framework allowing for a qualitative assessment of activities, and secondly, the Plus Standard that uses technical screening criteria to classify activities.

Under the Foundation Framework, an economic activity seeking classification in the taxonomy must comply with at least one of four main environmental objectives. These are climate change mitigation, adaptation, protection of ecosystems and biodiversity, and resource resilience including the transition to a circular economy.

Any economic activity must also fulfil the minimum requirements of three essential criteria. These are ensuring an activity contributing to an environmental objective does not cause significant harm to another objective, requiring that any harm is addressed or rendered insignificant, and the avoidance of social harm by upholding human or labor rights.

Under version two of the taxonomy, users adopting the principles-based Foundation Framework are able to assess economic activities by using qualitative guiding questions, decision trees and use cases. This enables classification of economic activities into three categories: green, amber and red.

i. **Green:** activities that clearly contribute to the environmental objective.

ii. **Amber:** covering activities that do not meet the requirements of a Green classification but represent progress toward a more sustainable ASEAN. It could also be used to temporarily classify an activity for which some remediation of harm is outstanding.

iii. **Red:** activities that are not aligned with or are causing significant harm to environmental objectives.

Under the Plus Standard approach, activities are assessed based on pre-defined technical screening criteria to categorize economic activities into Tiers 1, 2, or 3. Activities which meet Tier 1 criteria are considered "Green" and those which fulfil requirements for Tiers 2 or 3 are considered "Amber".

According to the taxonomy, "classification" refers to an activity's contribution to an environmental objective, while "tier" refers to the different levels of technical screening criteria. The Plus Standard system has tiers: Green, Amber Tier 2, and Amber Tier 3. The Foundation Framework does not apply tiers.

The second version of the ASEAN Taxonomy provides technical screening criteria tiers for the energy sector—including electricity, gas, steam, and air conditioning supply—which is one of the six priority sectors identified in the first version. It also provides technical screening criteria tiers for carbon capture, utilization, and storage, identified as an "enabling" sector with significant potential to help other sectors to contribute to the four environmental objectives identified under the Foundation Framework.

The ASEAN Taxonomy Board aims to finalize the technical screening criteria for all six priority sectors by 2025.

Moreover, it is expected that future versions of the ASEAN Taxonomy will establish an assessment mechanism not only for economic activities, but also for entities and portfolios based on the aggregation of such activities.

A critical update of the Taxonomy is the inclusion of an assessment framework for phasing out coal as an energy source for generating electricity. Criteria such as emissions intensity, absolute emissions reduction, or cuts to the period of operations are considered in the second version of the ASEAN Taxonomy. Using these requirements, activities related to coal phase-out are categorized into three tiers—again ranging from green to amber—according to how quickly coal-fired plants are scheduled for retirement.

Importantly, the second version of the ASEAN Taxonomy seeks to be interoperable with those used by the EU and ASEAN member states. It accounts for differences in financial sector maturity and the variety of local economic and social contexts across member states. To ensure that national specificities were considered, a syndication exercise was conducted during the drafting of the second version to compare the ASEAN Taxonomy and other national taxonomies' technical screening criteria.

This second version of the ASEAN Taxonomy is therefore a positive development for the region, providing a common framework compatible with member states' own regimes. As a result, it should enhance clarity for companies and financial institutions on what constitutes an environmentally sustainable activity within a specific regional context.

New Momentum for Tackling Biodiversity Loss

The Kunming-Montreal Global Biodiversity Framework, adopted at COP15, the UN's biodiversity summit held in 2022, emphasized the need for a whole-economy transformation to address biodiversity loss and includes a target on mobilizing finance for necessary global economic actions. The framework sets ambitious targets for 2030 and 2050 and is complemented by the Global Biodiversity Framework Fund which aims to mobilize and accelerate investment in the conservation and sustainable use of wild species and ecosystems.

Several initiatives have emerged to promote the inclusion of biodiversity as a consideration in the strategies of corporations and investors:

- Science Based Targets Network (SBTN), published guidelines for companies to develop methods and resources for establishing credible nature-focused goals.
- Taskforce on Nature-related Financial Disclosures (TNFD), provides guidance to organizations for disclosing their impact and dependencies on nature and addressing the related risks and opportunities.

After two years of design and development, the TNFD published its final recommendations for nature-related risk management and disclosure. The recommendations aim to inform better decision making by companies and capital providers, and ultimately contribute to a shift in global financial flows toward nature-positive outcomes.

The recommendations build on those of the Task Force on Climate-related Financial Disclosures (TCFD), set up in 2015 by the Basel-based Financial Stability Board, and are consistent with the global sustainability standards of the International Sustainability Standards Board. They are also incorporated into the new European Sustainability Reporting Standards.

The TNFD recommendations are aligned with the requirement of Target 15 of the Global Biodiversity Framework that came out of COP15 for corporate reporting which calls for assessment and disclosure of nature-related risks, impacts, and dependencies.

The final recommendations are science-based and voluntary, building on the market's experience with, and progress on, climate-related reporting. They are closely aligned with the disclosure framework developed by the TCFD, incorporating the same four conceptual pillars: governance, strategy, risk and impact management, and metrics and targets. In addition, they are structured in a way that allows companies and financial institutions to start building on their current reporting while also providing a pathway for corporates to increase their disclosures over time, leading eventually to science-based nature-related metrics and targets.

With the adoption of the Global Biodiversity Framework, strong market interest has followed, propelling market participants to create implementable guidelines and mechanisms to address biodiversity loss.

For example, IFC has published a Biodiversity Finance Reference Guide, which provides a structured approach for investors and financiers to identify activities that yield positive outcomes. Furthermore, IFC has suggested that the ICMA Executive Committee build upon this to develop a practitioners' guide on biodiversity bonds. Another notable example is ICMA's Blue Bond Guide, which aims to provide a comprehensive list of eligible use-of-proceeds, output and impact indicators that can support private investments aligned with the latest green bond and loan principles.

ICMA Blue Bond Guide

Trade association ICMA, together with four international institutions, developed a global practitioner's guide for bonds to finance the sustainable blue economy in September 2023. This was intended as a guide that outlines the criteria and best practices for issuing blue bonds. This type of security is defined by the World Bank as a debt instrument that raises capital to finance marine and ocean-based projects that have positive environmental, economic and climate benefits. Based on input from financial market participants, the marine industry, and global institutions, the guide provides information in areas such as evaluating the environmental impact of blue bond investments and the steps needed to facilitate transactions that preserve the market's integrity.

Developing a sustainable blue economy involves stopping the decline of marine fisheries, encouraging expansion of low-carbon aquaculture, scaling up offshore renewable energy generation, and promoting the decarbonization of maritime transport. This is integral to tackling a rapidly changing climate and reversing nature loss and pollution. The ocean serves as a vital heat and carbon sink, regulating the global climate while absorbing about 31 percent of carbon dioxide emissions.

Conserving and sustainably using marine resources is one of the sustainable development goals outlined by the UN, requiring around $174.5 billion per year.[45] However, this is one of the least funded of the 17 UN goals and annual expenditure in this area is currently around $25 billion, according to one analysis. Bonds and loans which earmark funds exclusively for ocean-friendly projects may help to close this financial market gap. Momentum is building for innovative blue finance among investors, financial institutions, and issuers globally.

This most recent global guidance helps define blue economy eligibility criteria, suggests key performance indicators, and highlights the critical need for increased financing. It builds on current global market standards that underpin the global sustainable bond markets and also draws on pre-existing blue guidance.[46] While some blue bond issuances have and

45 See Eco Business, June 7, 2023, "Powering the blue economy with blue finance," available at https://www.eco-business.com/opinion/powering-the-blue-economy-with-blue-finance/

46 Existing guidance can be found in ICMA's Green Bond Principles, UNEP's Sustainable Blue Economy Finance Principles and associated Blue Finance Guidance, the UN Global Compact's Practical Guidance to Issue a Blue Bond and Sustainable Ocean Principles, the Asian Development Bank's Ocean Finance Framework and Green and Blue Bond Framework, and IFC's Guidelines for Blue Finance.

will include freshwater-related projects, this latest addition is focused on ocean-related projects that support Sustainable Development Goal 14, known as Life Below Water.

The guidance outlines eight eligible project categories and details how these relate to green bond eligibility criteria:

1. Coastal climate adaptation and resilience
2. Marine ecosystem management, conservation and restoration
3. Sustainable coastal and marine tourism
4. Sustainable marine value chains
5. Marine renewable energy
6. Marine pollution
7. Sustainable ports
8. Sustainable marine transport

This non-exhaustive list covers the most common types of projects supported by blue bonds. It also includes examples of activities that should be excluded, project outputs, social co-benefits, and impact indicators. For example, sustainable coastal and marine tourism activities may support the conservation and restoration of critical ecosystems. An impact indicator could be the revenues generated from permitted visitors. And a social co-benefit from this type of activity could be a behavior change campaign to increase environmentally sustainable behaviors by tourists or the community.

In addition to promoting alignment with current expectations and best practices, the guidance will help provide much needed credibility to blue issuances, as well as the broader sustainable use-of-proceeds formats. It is intended that this added credibility will go hand-in-hand with the knowledge sharing aspects of the guidance, which is directly usable by practitioners, to not only raise the quality of blue financing but also to increase appetite for blue formats, thereby catalyzing greater investment in a sustainable marine economy.

This guidance may be useful for potential issuers to better align their financial instruments with the organization's strategy. In the case of financial institutions, it may contribute to a better organization of projects' portfolios as well as expanding financing opportunities for marine-related activities that were not clearly covered under sustainable frameworks before. Additionally, it provides market confidence for different stakeholders, from issuers to investors and regulators, for financing sustainable activities related to ocean resources.

IFC's Biodiversity Finance Reference Guide

Interest in biodiversity finance from investors, financial institutions, and bond issuers has increased globally, particularly since the adoption of the Kunming-Montreal Global Biodiversity Framework to halt and reverse biodiversity loss by 2030.

Both the Green Bond Principles and the Green Loan Principles list biodiversity as an eligible use of proceeds. However, they do not provide a granular description of the types of projects that fit this category. To address this gap, IFC developed its Biodiversity Finance Reference Guide, published in November 2022, providing an indicative list of investment projects and activities that help protect, or enhance biodiversity and promote sustainable management of natural resources.

The guide focuses on investments that address the key drivers of biodiversity loss in economic activity, target conservation and restoration of ecosystems, and integrate nature-based solutions into appropriate infrastructure projects. The guide builds on the Green Bond Principles and the Green Loan Principles and spells out how indicative biodiversity finance activities are aligned with other environmental objectives articulated in the principles, which address the key drivers of biodiversity loss. These are pollution prevention and control; natural resource conservation; climate change mitigation; and climate change adaptation. This guide has been incorporated into IFC's Green Bond Framework.

The guide cites five essential eligibility criteria for investment activities to be considered biodiversity finance. The activity should:

1. be consistent with the Green Bond Principles' and Green Loan Principles' eligible project categories and contribute to the relevant Sustainable Development Goals.
2. not introduce risk that may affect progress on other environmental priorities, such as those identified in the UN's Social Development Goals.
3. have ESG safeguards and standards, such as the IFC Performance Standards, applied in the implementation of the project if there are material environmental and social risks.
4. address one or more of the key drivers of biodiversity loss: land and sea use change, climate change, overexploitation and unsustainable use of nature, pollution, and alien invasive species.
5. have appropriate metrics to determine the impacts on biodiversity and measure performance against selected impact indicators.

Beyond these broad eligibility criteria, the Biodiversity Finance Reference Guide can help issuers and investors identify opportunities linked to biodiversity preservation and to the sustainable management of natural resources. In this way, the guide is complementary to existing frameworks such as TNFD, which helps companies and financial institutions identify biodiversity-related risks. This guidance seeks to effectively direct capital flows to companies, projects, and activities that can help halt and reverse biodiversity loss and rehabilitate ecosystems.

Moreover, the guide was updated in May 2023 to reflect how each of the investment activities listed contributes, directly or indirectly, to specific targets of the Kunming-Montreal Global Biodiversity Framework. This is key to ensuring that the financed activities are supportive of targets set by the framework for 2030.

In the months to come, IFC will work on expanding this guide by providing a list of metrics for eligible use of proceeds to facilitate impact reporting. This will be done by building on the ICMA Handbook for Impact Reporting.

The aim is to help issuers and investors report on their performance against key metrics in a harmonized and standardized way. Furthermore, IFC will continue to work with other stakeholders in the market to maximize alignment with existing initiatives and frameworks. In this regard, IFC will help complement the TNFD's biodiversity risk-related metrics with indicators linked to biodiversity-related opportunities.

Lastly, another innovation of the IFC guide relates to including nature-based solutions for infrastructure projects. The guide provides a broad list of eligible uses of proceeds to help investors and companies identify opportunities to integrate nature-based solutions into core operations. To provide further guidance, IFC jointly with Conservation International developed a more detailed catalogue of nature-based solutions for the water, mining, and renewable energy sectors. IFC is now developing further guidance for nature-based solutions for cities and ports in collaboration with the World Bank.

The Impact of These Initiatives on the Development of Biodiversity and Blue Bonds and Loan Markets

Sustainable debt investors should welcome these initiatives which are key to support the expansion of the market by providing guidance and clarity to issuers and investors alike. The bond market can help drive capital flows toward sustainable activities and projects.

Furthermore, biodiversity and blue economy financing through use-of-proceeds bonds is still lagging climate-related issuance. These two areas are crucial to ensuring a global transition as they are closely intertwined with the objectives of climate mitigation and adaptation.

In this context, the IFC Biodiversity Finance Reference Guide and the ICMA Blue Bond Guide are likely to foster additional issuances, including in emerging markets. They provide guidance to borrowers with a list of eligible projects to support blue financing or biodiversity and demonstrate how these projects can contribute to global environmental objectives.

Moreover, the ICMA Blue Financing Guide provides more clarity in terms of performance indicators for reporting on each type of project, as well as on exclusions and potential social co-benefits. This guidance is key, as standardizing data and reporting practices is essential to ensuring the measurability of impact investments. Moreover, the alignment of ICMA's Blue Bond guide with categories in the Green Bond Principles ensures compatibility between "green," land-based financing and "blue" ocean-focused financing.

Even though these guides provide lists of eligible projects and their potential contribution to environmental objectives, assessing the quality of projects remains challenging for asset managers and investors, and especially so in emerging economies. However, the development of environmental taxonomies, along with technical criteria around the world, could help define environmental projects with real additional impact.

IFC's Green Bond Technical Assistance Program

The Green Bond Technical Assistance Program (GB-TAP) is managed by IFC in partnership with Switzerland's State Secretariat for Economic Affairs, the Swedish International Development Cooperation Agency, and Luxembourg's Ministry of Finance. Launched in 2018, the objective of GB-TAP is to stimulate the supply of green bonds issued by financial institutions in emerging markets by creating and disseminating knowledge on green bonds and by enhancing the quality of disclosed information by issuers.

The program has a transformative convening platform supporting investment in climate change solutions for a low-carbon economy. It also holds a unique convening platform to connect developed-market investors and emerging market issuers. It brings leading market players to share knowledge in order to stimulate the issuance of quality green bonds.

GB-TAP has delivered over 32 executive trainings to more than 1,300 professionals, 42 percent of whom were women, from 370 financial institutions across 75 countries. The executive training strategically targets emerging market financial institutions which have issued conventional bonds and thus have the potential to upgrade their offering to include green bonds. The curriculum emphasizes the importance of maintaining alignment between the issuer's sustainability strategy and the bond to avoid greenwashing and to promote good-quality green bond issuances.

Alumni of the executive trainings have gone on to participate in the issuance of over 105 GSSS bonds with a total value of over $11 billion. The mobilized capital financed and supported social and green projects across 44 developing countries around the world.

GB-TAP has also brought first-in-kind thought leadership products to stimulate the market development and transparency of green bonds, including the following:

- The Emerging Market Green Bonds report, which explores the potential growth and impact of green bonds in emerging markets.
- Green Bond Pricing in the Primary Market reports with the Climate Bonds Initiative, analyzing the pricing dynamics of green bonds, examining how these instruments offer pricing advantages for issuers and investors.
- Green Bond Handbooks, a step-by-step guide to issuing a green bond and its companion online course for emerging market financial institutions.
- A pilot training on impact reporting, several reports on best practices in green bond fund and issuer impact reporting, and an environmental, social, and governance disclosure white paper series.
- The Sustainable MSME Finance Reference Guide for financial institutions to provide assistance to micro, small, and medium enterprises.
- The world's first biodiversity finance reference guide to help the private sector invest in nature-based solutions.
- An award for sustainable bonds focused on supporting small and medium enterprises.
- The launch of ESG Book (formerly Arabesque), which is a new central source for free, accessible, standardized, and transparent corporate sustainability information.

The Green Bond Transparency Platform

The GBTP, a public tool developed by the Inter-American Development Bank, supports the harmonization and standardization of green bond reporting, facilitating first-hand, granular, and comparable data for evidence-based decisions. It is a taxonomy-neutral tool designed with a flexible and open architecture, replicable to other emerging markets and types of thematic bonds. In the two years since launch, the GBTP has covered around 70 percent of Latin America and the Caribbean's green bond market by volume, reaching over 230 issuances from 104 borrowers.

The platform won the Initiative of the Year – Green Bond award from Environmental Finance and was selected as a Global Public Good by Oxford Economics. The continuous feedback from key market stakeholders led to discussions on the platform's expansion to other regions, resulting in the GBTP globalization announcement achieved together with four international development institutions. The initiative aims to achieve the enhancement of accountability and transparency in the emerging green and sustainable bond market.

Common Framework for Sustainable Finance Taxonomies for Latin America and the Caribbean

The Common Framework for Sustainable Finance Taxonomies for Latin America and the Caribbean is a guidance document serving as a voluntary reference to give states in the region directions to develop sustainable finance taxonomies.

Its objective is to help countries develop national frameworks that are interoperable, not only at the regional level but also globally, to facilitate local actors' access to cross-border financial markets. Ensuring interoperability will also help overcome information asymmetry and market fragmentation, among the main barriers to scaling sustainable finance in developing economies.

Published in July 2023, this framework was developed by the Working Group on Sustainable Finance Taxonomy in Latin America and the Caribbean, which was created as part of the Interagency Technical Committee of the Forum of Ministers of Environment from Latin America and the Caribbean. It was also constituted by the United Nations Environment Programme and its Finance Initiate, and other institutions including the World Bank, IFC, the International Monetary Fund, and the Economic Commission for Latin America and the Caribbean.

The framework provides six guiding principles for taxonomy development:

1. Seek interoperability with other regional and global taxonomies.
2. Make material positive contributions to well-defined objectives and avoid damage.
3. Provide clear definitions that are science based for the environment or evidence based for other areas of sustainability.
4. Allow for a credible transition of high-emission sectors with a clearly defined final goal, regardless of the pathway.
5. Be dynamic and subject to regular reviews.
6. Ensure adequate governance, transparency, and practical applicability.

The framework also provides guidance on four structural elements:

1. **Objectives.** Helps to determine the ambition, selection of sectors and economic activities, and development of screening criteria to assess eligibility.

2. **Sectors.** Provides guidance to identify economic sectors for which activities are selected and defined.

3. **Activities.** Supports in defining economic activities under the selected sectors for which definitions and eligibility criteria are developed.

4. **Screening criteria.** Gives guidance for metrics that could be used for key economic sectors in order to set relevant screening criteria.

In this first phase, the framework focuses on climate change objectives—mitigation and adaptation—and prioritizes sectors that are relevant to these objectives for Latin America and the Caribbean, such as agriculture, manufacturing, or electricity, gas, steam and air conditioning supply.

In a second phase, the framework is expected to expand its scope to cover other environmental objectives.

The framework does not select specific sectors or activities to be included in taxonomies as these must be assessed on a country-by-country basis. Its aim is rather to provide recommendations on the inclusion of sectors and activities based on their contribution to climate mitigation and adaptation objectives.

The outcomes will thus ultimately depend on the governments themselves developing their own taxonomies based on the framework's recommendations. To further support national governments in doing so, the guidance document shares best practices for countries to define the governance structure needed for the proper development, implementation, and monitoring of taxonomies.

The release of this guidance document will certainly serve as a catalyst for progress toward the implementation of sustainable finance taxonomies across the region. By offering a regionally aligned approach to classifying sustainable activities, the framework can help unlock a wide range of opportunities and financing for sustainable development. Greater regulatory harmonization is a driver of market growth as it can help investors make more informed decisions.

The Singapore-Asia Taxonomy

The Singapore-Asia Taxonomy for Sustainable Finance was developed by the Green Finance Industry Taskforce (GFIT), convened by the Monetary Authority of Singapore. The taxonomy is designed to promote the development of a sustainable economy for Singapore and ASEAN countries. The foundation is science based with detailed technical screening criteria to define and set thresholds on green and transition activities across eight sectors, covering 90 percent of the region's greenhouse gas emissions. While the taxonomy identifies five environmental objectives, the latest version first focuses on climate change mitigation.

The taxonomy uses a traffic light system. Besides "green" and "ineligible" activities, the "amber" category covers existing activities and infrastructure that are not presently on a 1.5 degrees Celsius pathway but are either moving toward a green transition trajectory or facilitating significant emissions reductions. It is the first of its kind in pioneering the concept of "transition" and defining associated criteria. It recognizes the need to properly define "credible transition", particularly in Asia, where a successful and orderly transition is much needed. This allows investors to support the transition of certain hard-to-abate sectors and key industry segments, such as steel, aluminum and cement which offer substantial transition financing opportunities for real-world decarbonization. The taxonomy has also provided a framework for phasing out coal-fired power plants whereby the lost generation capacity is replaced with clean energy.

To enhance interoperability with global taxonomies, the Monetary Authority of Singapore has started to work with the International Platform for Sustainable Finance to enhance its Common Ground Taxonomy, which currently covers the EU Taxonomy and People's Bank of China's Green Bond Endorsed Projects Catalogue.

As with any taxonomy, its ultimate success will depend on its uptake in a competitive and fragmented environment for climate change-related guidance and standard-setting. The extent to which it evolves as a gold standard in Asia will be shaped by how regulators and investors embed the criteria in legislation or in the design of products or services.

Other New Taxonomies, Frameworks, and Strategies

The Government of Sharjah's Sustainable Financing Framework, announced in February 2023, is structured to enable funding of projects in line with the UN's Sustainable Development Goals.[47]

Emphasizing environmental and social sustainability, it was developed according to the 2021 editions of ICMA's Green Bond Principles, Social Bond Principles, and Sustainability Bond Guidelines. The framework is designed to ensure that proceeds from transactions are allocated to eligible projects that contribute positively to sustainable development within Sharjah and beyond.

The following month Mexico announced its sustainable taxonomy, which was notable on account of its inclusion of social as well as environmental objectives, with a significant focus on achieving gender equality. This taxonomy is seen as a model for the region and beyond, particularly in the prominence it gives to social issues.[48]

Argentina's National Strategy for Sustainable Finance, announced in May, aims to attract investments that contribute to sustainable development goals by integrating economic, social, and environmental factors into financial activities. It outlines five strategic areas, including regulatory framework enhancement, establishing a common taxonomy for sustainability, and creating incentives to attract investments. This approach emphasizes the importance of sustainability in the country's development strategy, especially in light of the significant financing gap identified for achieving sustainable development goals by 2030.[49]

Chile's updated Sustainability-Linked Bond Framework, adopted in June, introduces a gender-based key performance indicator alongside environmental goals. This means that as well as setting targets for reductions in greenhouse gas emissions by 2030, it also targets an increase in female representation on the boards of companies regulated by the Financial Market Commission to at least 40 percent by 2031.[50]

Thailand's first phase of its Green Taxonomy, launched in early July, focuses on the energy and transportation sectors, which are responsible for a significant portion of the country's emissions. Developed with the Climate Bonds Initiative and the Bank of Thailand, it aims to guide investments toward

47 Government of Sharjah Finance Department, 2023, "Emirate of Sharjah Sovereign Sustainable Financing Framework," available at https://www.sfd.gov.ae/En/PUBLICATIONS/Emirate%20of%20Sharjah%20-%20Sovereign%20Sustainable%20Financing%20Framework.pdf

48 Gobierno de México, 2023, "Taxonomía Sostenible de México," available at https://www.gob.mx/shcp/documentos/taxonomia-sostenible-de-mexico?state=published

49 Banco Central de la Republica Argentina, 2023, "Argentina's Sustainable Finance National Strategy," available at https://www.bcra.gob.ar/Pdfs/SistemasFinancierosYdePagos/Sustainable%20Finance%20National%20Strategy.pdf

50 Gobierno de Chile, Ministerio de Hacienda, 2023, "Chile's Sustainability Linked Bond Framework," available at https://hacienda.cl/english/work-areas/international-finance/public-debt-office/esg-bonds/sustainability-linked-bonds

decarbonization and is based on science-aligned criteria consistent with objectives set out in the Paris Agreements. The taxonomy emphasizes interoperability with international standards while incorporating local decarbonization trajectories, aiming for net-zero by 2050. It also features a user-friendly approach to facilitate business adoption and is designed to be resistant to greenwashing.[51]

Brazil's Sovereign Sustainable Bond Framework, announced in September, focuses on transparently allocating net issuance proceeds to environmental and social projects. It encompasses various expenditure categories for environmental benefits, like pollution control, renewable energy, and climate change adaptation, as well as social benefits, including socioeconomic empowerment and access to basic infrastructure. The framework aligns with ICMA principles, emphasizing transparency and impact assessment, and lists exclusions to ensure sustainability criteria are met. This initiative sets Brazil apart by integrating broad environmental and social goals within its bond framework.[52]

Rwanda's Green Taxonomy, announced in December, aims to define sustainability criteria, ensure transparency in ESG reporting, build trust in green investments, and prevent greenwashing. It supports Rwanda's green growth development, requiring an estimated $11 billion for its 2030 Climate Action Plan. This taxonomy focuses on agriculture, construction, transport, and energy sectors for climate change mitigation and adaptation, seeking to position Rwanda as a sustainable finance hub in East Africa.[53]

Romania's Ministry of Finance launched a Green Bond Framework in December. This was aimed at financing projects that contribute to environmental and sustainable development objectives, reaffirming the country's commitment to UN Sustainable Development Goals and to the Paris Agreements on climate. The framework seeks to promote a greener economy, diversify the investor base, and attract environmentally focused investments. It outlines governance structures for project selection and use of proceeds to meet market expectations, with technical assistance from the World Bank.[54]

The Middle East and the Development of the Green and Sustainable Sukuk Market

GSSS bonds can help fill financing gaps in the Middle East as economies work toward transitioning away from fossil fuels and building resilience against climate-related shocks. The region's surge in GSSS bond issuance in 2023, led by the UAE and Saudi Arabia, underscores an increasing dedication to a sustainable development agenda addressing urgent environmental and social challenges.

The Middle East has a large pool of institutional investors, sovereign wealth funds, and Islamic finance institutions. We expect GSSS bond issuance from the region to continue to expand for some years on account of ongoing economic dependence on the hydrocarbon sector and vulnerability to water scarcity. The ambition and the implementation pace of decarbonization strategies will determine the future trajectory of GSSS bond issuance from the region. Rising investor appetite for products aligned with ESG criteria is another driver that is likely to boost issuance volumes in

51 Bank of Thailand, 2023, "Thailand Taxonomy. A Reference Tool for Sustainable Economy," available at https://www.bot.or.th/en/financial-innovation/sustainable-finance/green/Thailand-Taxonomy.html

52 Tesouro Nacional, 2023, "Brazil launches Sovereign Sustainable Bond Framework," available at https://www.gov.br/tesouronacional/en/news/brazil-launches-sovereign-sustainable-bond-framework#:~:text=Brazil%E2%80%99s%20Sovereign%20Sustainable%20Bond%20Framework%20contains%20the%20rules,programs%20that%20generate%20positive%20environmental%20and%2For%20social%20impacts.

53 Minecofin, 2023, "Rwanda's Green Taxonomy," available at https://www.minecofin.gov.rw/rwandagreentaxonomy#:~:text=Rwanda%E2%80%99s%20Green%20Taxonomy%20Rwanda%E2%80%99s%20Green%20Taxonomy%20is%20a,a%20green%20investment%2C%20as%20well%20as%20prevent%20greenwashing.

54 Government of Romania, 2023, "The framework related to the financing of projected that are intended to protect the environment and combat climate change," available at https://www.mfinante.gov.ro/static/10/Mfp/trezorerie/GreenBondFrameworkofRomania_14022024.pdf

the future. Whereas climate mitigation, renewables, and hydrogen projects currently dominate the use of proceeds, future GSSS bond deals in the Middle East may increasingly be focused on financing adaptation to water stress and heat waves.

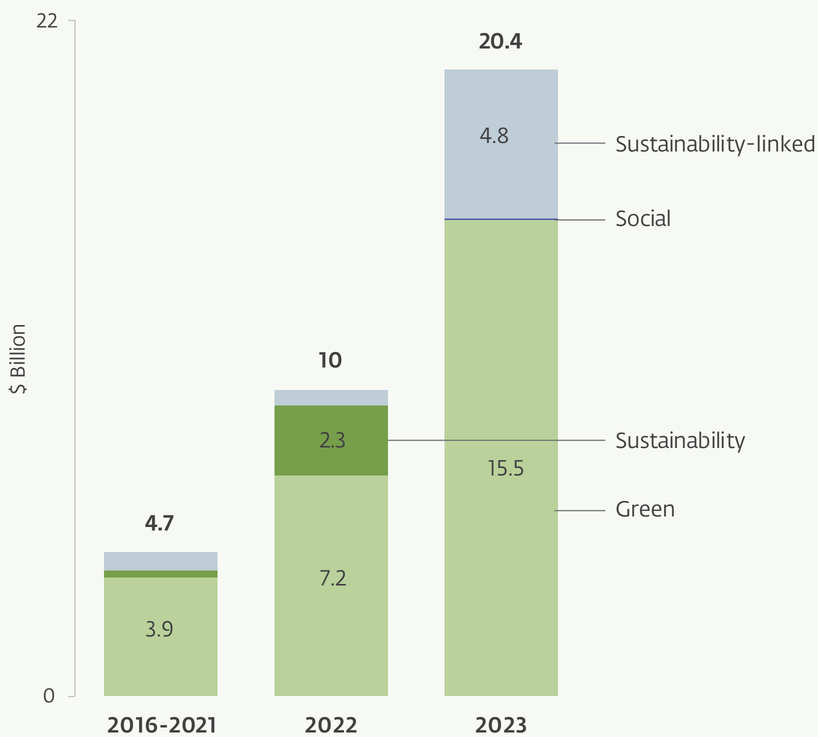
COP28, the UN climate summit held in Dubai in December 2023, gave a notable impulse to green and sustainable bond deals in the region. Led by Saudi Arabia and the UAE, Middle Eastern GSSS bond issuance expanded to a record $20.4 billion in 2023, more than doubling from the previous year (Exhibit 22).

EXHIBIT 22

Middle East Becomes Largest Emerging Market GSSS Bond Issuer Outside China in 2023

GSSS Bond Issuance in the Middle East

Source: Bloomberg, CBI, Environmental Finance, IFC



Source: Bloomberg, CBI, Environmental Finance, IFC

Nevertheless, the Middle East's overall market size remains modest by international standards. The region only accounts for 10 percent of global GSSS issuance and claims a 7.4 percent share of worldwide green bond sales. Moreover, deals are concentrated in just a few countries and mainly come from financial institutions or large corporates in the energy sector. In 2023, the UAE and Saudi Arabia accounted for 58 percent and 38 percent respectively of total GSSS emissions in the Middle East.

Meanwhile, there is mounting interest in integrating climate priorities with the principles of Islamic finance.

This has impacted the market for sukuk, debt-like issuance in compliance with Islamic finance rules by remaining interest free and establishing a risk and profit sharing relationship based on the ownership. Unlike conventional bonds that generate interest payments, sukuk investors receive an agreed share of the profits generated by the underlying assets.

Meanwhile, green sukuk base their compliance with Islamic law on environmental commitments and the nature of the underlying assets which adhere to Climate Bond Standards certification. These include solar parks, biogas plants, wind energy projects, energy efficiency initiatives, and electric vehicles.

The Middle East's issuers have proven to be enthusiastic adopters of sustainable finance. The region's first green bond was issued in 2012, by First Abu Dhabi Bank, a UAE financial institution. In 2020, Etihad Airways issued the first sustainability-linked transition sukuk whereas Egypt sold the Middle East's first sovereign green bond. In 2022, Saudi Arabia saw the first green bond issue by a sovereign wealth fund, a $3 billion deal with a maturity of up to 100 years.

The COP28 summit showcased the role Islamic finance can play in meeting clean transition needs. Middle Eastern green and sustainable sukuk issuance soared to $5.5 billion in 2023 from $3.1 billion a year earlier, accounting for 27 percent of the region's total GSSS bond issuance. By the end of 2023, the Middle East accounted for nearly half of global green sukuk issuance. Although the region's sukuk market is overwhelmingly U.S. dollar-denominated, First Abu Dhabi Bank issued the first dirham-denominated green sukuk in 2023.

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