



ESG MONITOR HIGHLIGHTS

- **ESG debt issuance has registered record-high growth in 2021.** Global issuance of all sustainable debt reached \$1.6 tn, exceeding 2020's record issuance by 116%. While green bonds remain the largest debt instrument, sustainability-linked debt (bonds and loans alike) has seen the fastest increase. Europe maintains its lead, though its share has declined to the benefit of the Asia-Pacific and Western Hemisphere regions. Social bond issuances have also reached a new all-time high of \$213 bn.
- **2021 turned out to be a breakout year for sustainable financial markets in emerging markets (EMs).** EMs saw a strong rebound in ESG flows, on the back of exceptional bond issuance volumes and sustained strong flows into equities. EMs' financing mix has also tilted towards ESG instruments—particularly in the offshore markets. Green bonds remain the largest segment across most major EMs, though there is large variation amongst them.
- **Amid a come-back of ESG fund flows in 2021, ESG score-based divergence persisted.** While the ESG score spread between high and low scoring firms narrowed slightly in 2021, the IT sector saw the largest improvement in the median sector ESG score

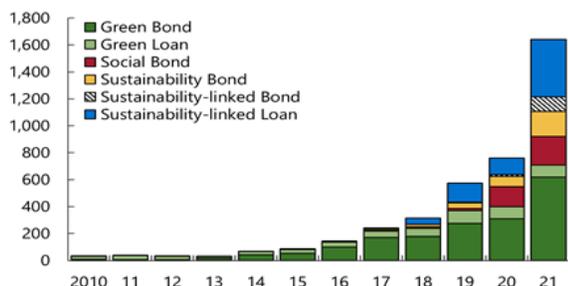
Global Sustainable Debt Issuance Surged to New Record In 2021

Sustainable debt issuance more than doubled in 2021....

Europe remains a leader, while notable increases were also registered in Asia and Americas.

1. Global Sustainable Debt Issuance

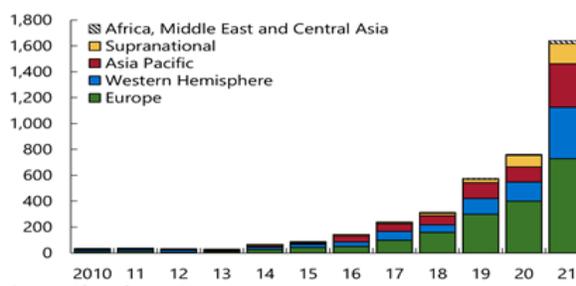
(Billions of US dollars; as of December 31, 2021)



Source: BloombergNEF

2. Global Sustainable Debt Issuance by Region

(Billions of US dollars; as of December 31, 2021)



Source: BloombergNEF

- Sustainable debt issuance jumped to a record \$1.6 tn in 2021, up 116% from 2020. Issuance of green bonds increased by +\$311 bn, while sustainability-linked debt grew by +295% (with sustainability-linked loans up by +\$303 bn).
- Unlike for green bonds, the funds raised via sustainability-linked bonds and loans are not tagged to a specific use of proceeds, but for general corporate purpose. However, these securities benefit from built-in verification mechanisms to enable ESG assessment against key performance

- Europe saw the greatest dollar increase (+\$327 bn); its share, however, declined to 44% in 2021 from 53% in 2020—due to the rapidly increasing issuance in other regions.
- Issuance by Asia and the Western Hemisphere have indeed increased by +190% and +166%, respectively.
- In Asia, China and Korea have been the largest bond issuers, largely as a result of increased issuer appetite and of regulators' initiatives to drive access to extra-financial disclosures and to support local

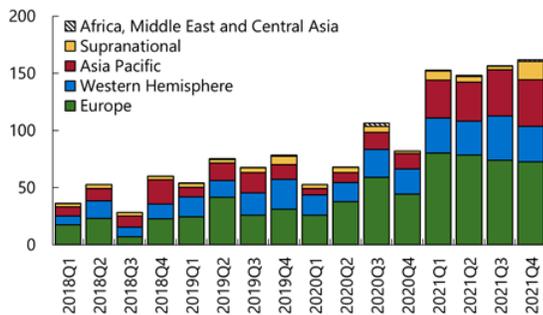
- indicators The strong issuance growth testifies to the increasing appetite for investors. They are able to further provide incentives for companies to achieve higher ESG standards across the entire business model. Standardization work for indicators and targets is therefore currently contemplated at the international level,¹ with an emphasis placed on external verification.
- demand for ESG financing.² In Japan, the rollout of roadmaps for carbon-neutral emissions,³ to which was added the issuance of a first domestic transition bond,⁴ has led to issuance by diverse sectors of the economy—especially in the automobile and banking sectors.

2021 was marked with Great Diversification in Sustainable Debt Issuance, with Transition-related Instruments Stepping up

Green bond issuance doubled in 2021 with volumes steady through 2021.

3. Global Green Bond Issuance

(Billions of US dollars; as of December 31, 2021)



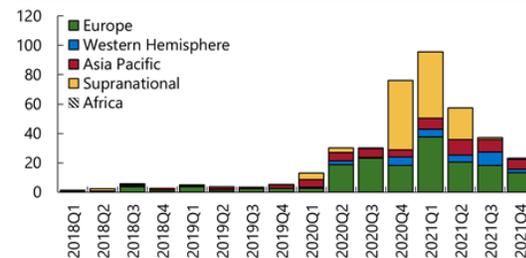
Source: BloombergNEF

- With \$305 bn, Europe represented about half of annual supply in 2021. Following the adoption of the NextGeneration EU (NGEU) Green Bond framework in September 2021,⁵ the first NGEU green bond was issued in October, raising 12bn euros—the largest green bond issuance to date. The 15-year bond was more than 11 times over-subscribed since the issuance.

Social bond issuance moderated in 2H 2021 with supply concentrated in a few countries.

4. Global Social Bonds Issuance

(Billions of US dollars; as of December 31, 2021)



Source: BloombergNEF

Note: Supranationals include the European Union, World Bank, Council of Europe Development Bank, African Development Bank, among others.

- Social bond issuances grew by +43% in 2021 to reach a new all-time high of \$213 bn. The bulk of 2021 social bond issuance occurred in Q1 (\$96 bn) driven by supranational debt (mostly by the \$56bn issuance by the European Commission's SURE social bonds program¹¹).
- France was the largest issuer in Europe (\$64 bn), representing 97% of the bonds issued in 2021 by

¹ OECD, Transition Finance: Investigating the State of Play—A Stocktake of Emerging Approaches and Financial Instruments, Environment Working Paper No. 179, 3 August 2021. The International Capital Markets Association has published voluntary guidelines for Sustainability-Linked Bond Principles in June 2020 (available here: [Sustainability-Linked-Bond-Principles-June-2020-171120.pdf](https://www.icmagroup.org/sustainability-linked-bonds/principles) (icmagroup.org)).

² The Financial Services Commission of Korea has announced in 2021 it will require large, listed companies to disclose ESG-related information from 2025 (for companies with at least KRW 2 trillion—about \$1.8bn—in total assets) and will expand such requirements to all KOSPI-listed companies from 2030 [Source: FSC Plans to Improve Corporate Disclosure Rules, January 2021]. As for China, in order to implement the “Plan for the Reform of the Legal Disclosure System of Environmental Information” issued by China’s Ministry of Ecology and Environment (MEE) in May 2021, the MEE has issued that will require domestic entities to disclose a range of environmental information on an annual basis, effective 8 February 2022. These rules apply to listed companies and bond issuers and other entities identified by the MEE, including those that discharge high levels of pollutants. Covered entities must disclose information on environmental topics including environmental management, pollutant generation, greenhouse gas emissions, and contingency planning for environmental emergencies. Covered listed companies and bond issuers must also disclose climate change, ecological and environmental protection information related to investment and financing transactions [Source: 企业环境信息依法披露管理办法 (mee.gov.cn)].

³ Available here: Japan’s Roadmap to “Beyond-Zero” Carbon | METI Ministry of Economy, Trade and Industry.

⁴ Nippon Yusen Kabushiki Kaisha Green/Transition Bond Framework—July 2, 2021. Available here: Microsoft Word—NYK_framework_ENG. Japan’s shipowner Nippon Yusen Kaisha (NYK) Line issued its first transition bonds (for a volume of \$183M) in the domestic market, becoming the first Japanese firm to do so, in the summer of 2021.

⁵ Available here: [NextGenerationEU green bonds framework \(europa.eu\)](https://ec.europa.eu/nextgen/)

¹¹ Ambitious New Climate Goals Shouldn’t Let China off the Hook, IFRI, Lettre du Centre Asie, No. 86, September 30, 2020.

- The United States (US) was the largest issuer in 2021 with 1,603 bonds or \$109 bn issued, though it amounts to less than 1% of the American bond market.⁶ The US green bond market is characterized by the large volume of green mortgage-backed securities (mostly from the Federal National Mortgage Association)⁷ and of green municipal bonds⁸ issued by local governments or government-backed entities. For example, in September 2021, the retailer company Walmart has issued an inaugural \$2 bn green bond.⁹
 - Asia Pacific registered the greatest annual percentage growth of +248%, to \$149 bn in 2021. However, China accounts for the lion's share with about \$67 bn of green bonds issued by China-based companies in the energy and consumer sectors, mainly in yuan. The strong investor appetite should continue to support China's commitment to carbon neutrality by 2060.¹⁰
- governments and corporates alike.¹⁰¹² South Korea (\$22 bn) contributed 65% of annual issuance in Asia,¹³ followed by Japan (\$10 bn). Most of EM issuances came from Chile (\$13 bn).

⁶ According to the Bank of International Settlements, the amount outstanding of debt securities for the United States by resident issuers in Q2 2021 was of \$47.8tn [Source: BIS Statistics Explorer: Table C3].

⁷ For instance, refer to Fannie Mae's December 2021 announcement of the completion of an issuance of \$100bn of green multifamily mortgage-backed securities, in order to transform housing finance in the United States and further green the U.S housing stock [Source: [Fannie Mae Green MBS Issuance Reaches \\$100 Billion | Fannie Mae](#)].

⁸ For further reference, by the Municipal Securities Rulemaking Board : [green-municipal-bonds.ashx \(msrb.org\)](#)

⁹ Framework available here: [Walmart Inc. Green Financing Framework \(q4cdn.com\)](#)

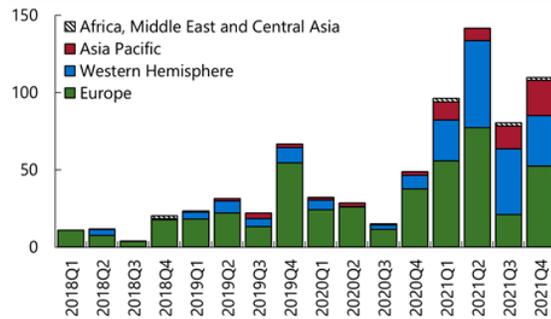
¹⁰ The European's Commission instrument for temporary Support to mitigate Unemployment Risks in an Emergency (SURE) has been designed to help protect people in work and jobs affected by the coronavirus pandemic. It was launched following the adoption of the SURE regulation in May 2020. It aims to provide financial assistance, in the form of loans granted on favorable terms from the EU to Member States, of up to €100 billion in total. These loans assist Member States to address sudden increases in public expenditure to preserve employment (i.e., costs directly related to the creation or extension of national short-time work schemes, and other similar measures). The second implementation report was published in September 2021 (available here: [Second report on the implementation of SURE | European Commission \(europa.eu\)](#)).

¹² For instance, the electricity company EDF has launched in May 2021 an issuance of an Euro-denominated perpetual social hybrid notes for a total nominal amount of € 1.25 billion, with proceeds aimed at the financing of eligible projects for the development or maintenance of EDF group's power generation or distribution assets in Europe and in the UK [Source: [EDF announces the success of its inaugural social hybrid bond issue for a nominal amount of 1.25 billion euros | EDF France](#)].

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Sustainability-linked loan issuances more than tripled in 2021 to \$428bn with Q4 volumes recovering in Europe.

5. Global Sustainability-linked Loan Issuance
(Billions of US dollars; as of December 31, 2021)

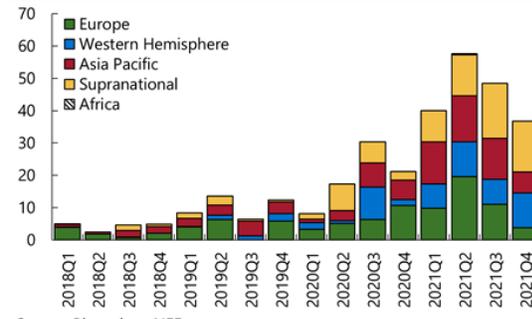


Source: BloombergNEF

- The annual increase of sustainability-linked¹⁴ loans issuance was driven by Europe (\$207 bn) and the US (\$139bn, including six deals above \$5 bn) In Asia, one third of loans were issued in Singapore (\$17.8 bn), followed by Australia (\$15.5 bn) and Taiwan Province of China (\$5.6 bn).
- The development of transition finance in global markets has increasingly fueled investors' appetite for these products, as well as for sustainability-linked bonds (shown in Figure 6).¹⁵
- The largest deals in 2021 have mostly taken place in the energy, automobile and food sectors—including Italian Enel SpA (\$11.9 bn), Belgian Anheuser-Busch InBev SA/NV (\$10.1 bn), and American Ford Motor Co (\$10.1 bn).

Sustainability bond issuances cooled in H2 2021, but new annual highs were charted regardless.

6. Global Sustainability Bond Issuance
(Billions of US dollars; as of December 31, 2021)



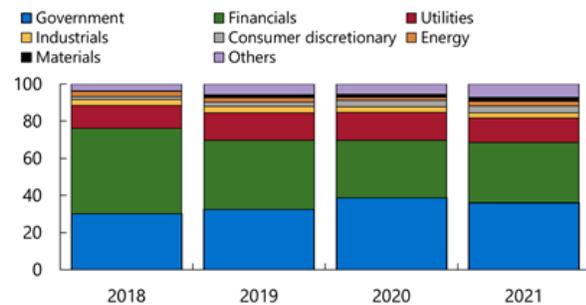
Source: BloombergNEF

- Despite the downward trend seen since Q3, sustainability bond issuance reached a new annual high of \$184 bn in 2021, This reflects the nascent—but rapidly growing—market for these instruments, as investors place greater emphasis on forward-looking performance of companies across a wide range of sectors.
- Decreasing quarterly issuances in Europe were the main contributor to lower overall volumes seen in the second half of 2021. Supranationals aside, the US (\$22 bn, 12% share), South Korea (\$14 bn, 8% share), and Japan (\$10 bn, 5% share) were the greatest contributors to sustainability bond issuance for the year.

Governments & Financials remain the prominent issuers of Sustainable Debt Issuance

Share of green bond issuances remained broadly steady across industries

7. Global Green Bond Issuance Industry Breakdown
(Percent of Total; as of December 31, 2021)

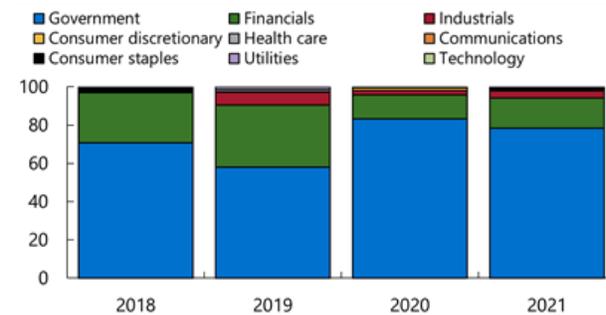


Source: BloombergNEF

Note: Government includes development banks, supranationals, sovereign and local governments, and US municipals. Fannie Mae is included under Financials.

Governments persisted with support and supplied the most social bonds in 2021.

8. Global Social Bond Issuance Industry Breakdown
(Percent of Total; as of December 31, 2021)



Source: BloombergNEF

Note: Government includes development banks, supranationals, sovereign and local governments.

¹⁴ Sustainability-linked loans are characterized by margins being linked to predetermined sustainability performance targets on the part of the borrower (and not to the asset or purpose of financing), in order to improve its sustainability profile. While green loans focus on the purpose of the loan to finance a green asset/project, these instruments refer to the borrower itself and the evolution of its overall sustainability profile.

¹⁵ G20 Sustainable Finance Working Group, Synthesis Report 2021, available here: Synth_G20_Final.pdf (g20sfwg.org)

- Governments (36%) and financial institutions (32%) persisted with their significant share of green bond supply in 2021.
- The largest green bond issuances in 2021 were supplied by European Union member states (\$13.8 bn)—mainly France, Spain, Germany, and Italy—and the United Kingdom (\$13.7 bn). The European Commission’s recent proposal for a green bond standard in the summer of 2021 has fueled discussions on the specificities of sovereign green bonds (notably on expenditure and reporting) and has impacted the recent issuance pace and bond characteristics.¹⁶

- Governments broadly retained their majority share (78%) of social bond volumes in 2021, mainly to support governmental response to the Covid-19 pandemic (with use-of-proceeds aimed at mitigating the socio-economic consequences of the pandemic, mainly to preserve employment).¹⁷
- The European Commission issued all of the year’s top five social bond deals, which totaled \$49.6 bn, from the SURE series

Further diversification of sustainability-linked loan supply in 2021 with higher shares of financials and tech.

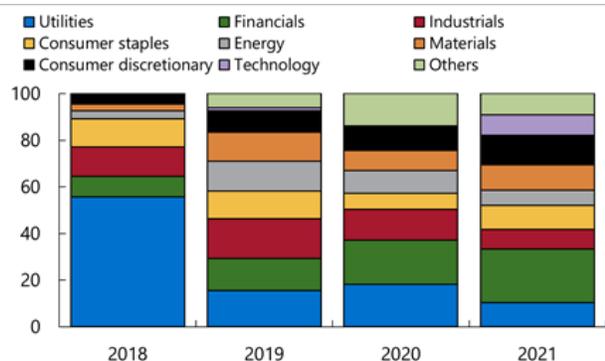
Governments retained majority share of sustainability bond issuance over 2021.

9. Global Sustainability-linked Loan Issuance Industry Breakdown

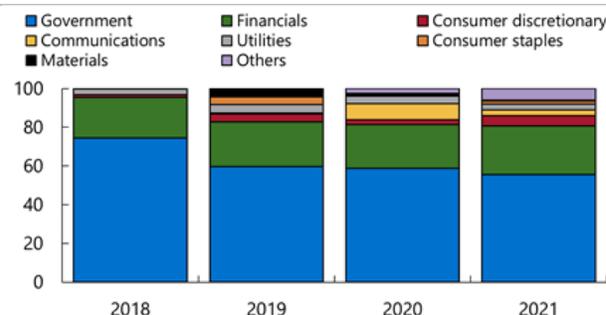
10. Global Sustainability Bond Issuance Industry Breakdown

(Percent of Total; as of December 31, 2021)

(Percent of Total; as of December 31, 2021)



Source: BloombergNEF. Note: Others include Healthcare and Communications.



Source: BloombergNEF. Note: Government includes development banks, supranationals, sovereign and local governments.

- Sustainability-linked loan issuances continued to be well-spread across industries in 2021.
- The share of financial increased further to 23% in 2021, with more than half of loans issued by the real estate sector. The share of the technology industry (\$37.4 bn) jumped to 9%, driven by the US (\$27 bn), Taiwan Province of China (\$5.4 bn) and Sweden (\$3.4 bn)

- Governments (56%) and financials (25%) continued supply the bulk of sustainability bonds in 2021.
- Banks in France and China were the largest corporate issuers of sustainable.¹⁸
- The World Bank issued most of the year’s top ten largest sustainability bond deals (\$20.5 bn).
- In terms of total share, bond issuance by firms in the communications sector has declined to 3% in 2021 from 8% in 2020.

¹⁶ G20 Sustainable Finance Working Group, Synthesis Report 2021, available here: Synth_G20_Final.pdf (g20sfwg.org).

¹⁷ For further reference: [European green bonds \(europa.eu\)](https://ec.europa.eu/economy_finance/european-green-bonds)

¹⁸ Research has shown that bank issuers tend to effectively shift their lending towards less polluting activities after issuing a green bond. See: Serena Fatica, Roberto Panzica, Michela Rancan, The pricing of green bonds: Are financial institutions special? Journal of Financial Stability, Volume 54, 2021, ISSN 1572-3089.

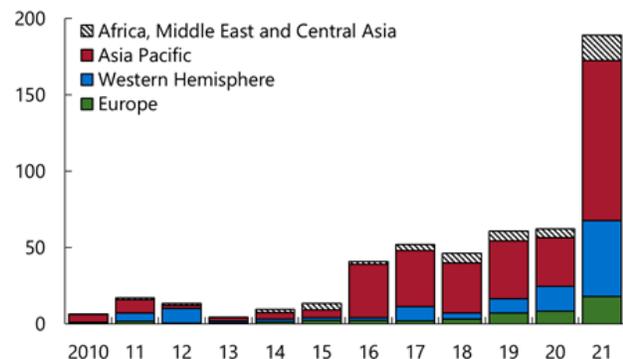
Emerging Market (EM) Sustainable Debt Issuances Soared Over 2021

See the recently released [Sustainable Finance Markets in EMs](#)

2021 was a breakout year for ESG issuances in EMs, with largest gained registered in Asia.

Green bonds remain the largest segment in EM sustainable debt issuances, but the proportion of non-green bonds has increased over time

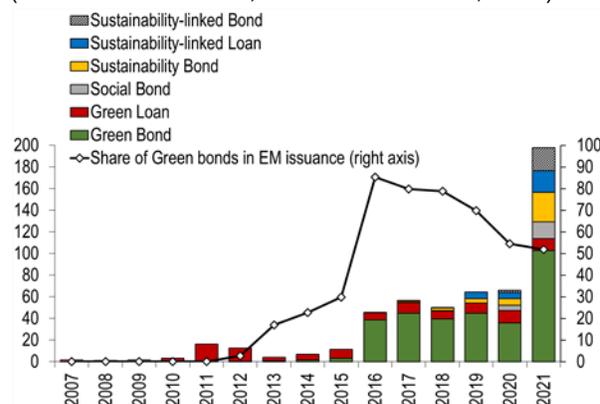
11. EM Sustainable Debt Issuance by Region (Billions of US dollars; as of December 31, 2021)



Source: BloombergNEF

- Asia Pacific EM sustainable debt issuance spiked to \$105 bn in 2021.
- China was the largest contributor of the year's EM sustainable debt issuances (\$84.6 bn), mostly via green bonds (\$67.2 bn); but contribution from non-China EMs has significantly over the last few years.

12. EM Sustainable Debt Issuance by Instrument (Billions of US dollars; as of December 31, 2021)

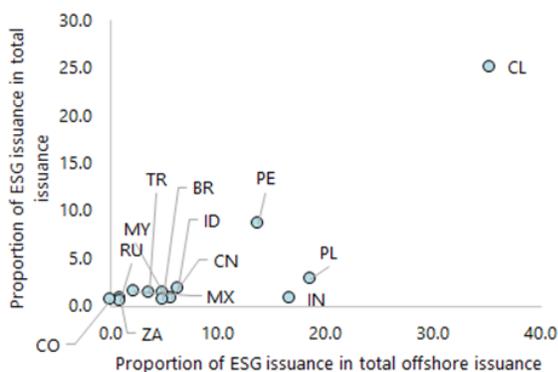


- EM green bond issuances jumped to \$89 bn in 2021, greatly surpassing the previous five-year average of \$34 bn.
- Sustainability-linked bonds (+706%), sustainability bonds (+361%), and sustainability-linked loans (+357%) underwent the greatest annual relative growth over the period resulting in a sharp rise in the proportion of issuance from non-green bonds.

EM financing mix has also tilted towards ESG instruments—particularly in the offshore markets

There is a sharp variation across countries in their preferred instrument of choice

13. ESG Issuance as a proportion of the total issuance—Country level (Percent)



- ESG instruments (for EMs ex China) account for almost 4% of the total issuance in 2021, which compares with around 1% for the last five years.
- This shift is even more stark in the offshore markets with ESG instruments accounting for a meaningful 17% of the total issuance in 2021. This compares with just around 4% over the past 5 years.

14. EM Sustainable Debt Issuance by Instrument by Country (Cumulative issuance since 2015)

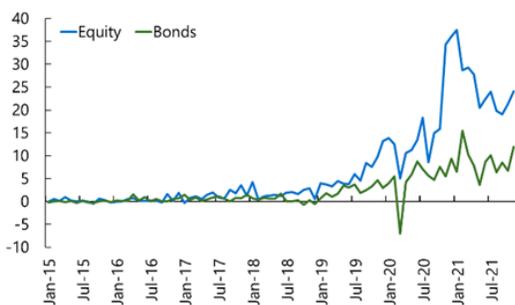


- Green bonds remain the largest segment across most major EMs, though there is a large variation amongst them.
- Green loans are more dominant in Colombia and South Africa, while social bonds are dominant in Chile. Sustainability-linked bonds are dominant in Malaysia and Peru, while sustainability-linked loans are more dominant in Russia and Turkey.

ESG Fund Flows Made a Comeback in Q4 2021

Firmed net ESG fund flows in Q4 2021 bucked a nine-month downtrend.

15. Equity and Bond Flows into ESG/SRI Funds (Billions of US dollar; as of November 30, 2021)

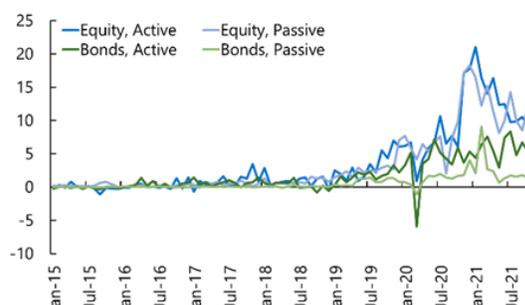


Source: EPFR

- Net inflows into ESG equity and bond funds edged higher in October and November of 2021 (Nov 2021 equity: +\$24.1 bn, bond: +\$11.9 bn).
- ESG fund flow readings are still far from their respective early-2021 highs (Jan 2021 equity: +\$37.5 bn, Feb 2021 bond: +\$15.4 bn).

Improved net inflows into passive ESG funds fueled Q4 2021 rebound.

16. Equity and Bond Flows into ESG/SRI Funds (Billions of US dollar; as of November 30, 2021)



Source: EPFR

- Net inflows into passive ESG funds improved +\$7.5bn over October and November of 2021, as compared to net inflows into active ESG funds of +\$1bn over the period.
- It shows the increasing appeal for some passive approaches to reach sustainability targets, most notably aligning with ESG-tilted indexes.
- The growth of ESG investing through passive funds and ETFs has led to a growing number of third-party analytical firms, including index providers and rating agencies, that have contributed to develop an increasing market segment dedicated to scoring and index development.¹⁹ At the global stage, regulators have been working on recommendations to increase transparency on the part of ESG rating and data products providers, including on data sources, methodologies and conflicts of interest: such work is arguably even more relevant for passive strategies, due to the reliance on ESG ratings.²⁰

¹⁹ Boffo, R., and R. Patalano (2020), "ESG Investing: Practices, Progress and Challenges", OECD Paris, www.oecd.org/finance/ESG-Investing-Practices-Progress-and-Challenges.pdf.

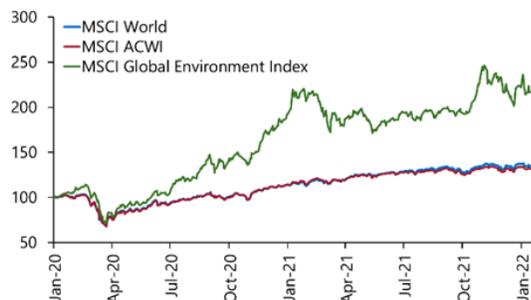
²⁰ International Organization of Securities Commissions (IOSCO), [Environmental, Social and Governance \(ESG\) Ratings and Data Products Providers, Final Report](#), FR09/21, November 2021.

Green Equities Extended Outperformance while Green Bonds Lagged

Environmentally beneficial equities markedly outperformed global peers over 2020-2021...

17. MSCI Global Environment Index and Various Global Equity Indices

(Normalized to 100 as of End-2019)



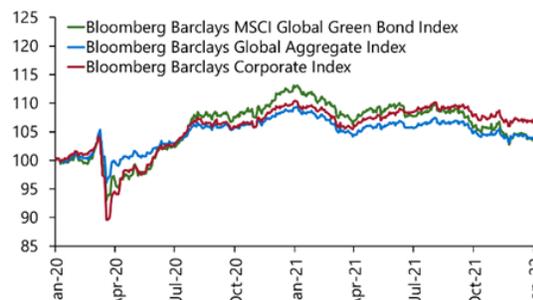
Source: Bloomberg, IMF Staff Calculations

- Environmentally beneficial companies, that make up the MSCI Global Environment Index, clocked a stellar +122% of cumulative gains in 2021, eclipsing price returns earned by MSCI ACWI (+34%) and MSCI World (+37%) over the period.

... while green bonds consolidated alongside other fixed income after an underwhelming 2021.

18. Bloomberg Barclays MSCI Global Green Bond Index and Various Fixed Income Indices

(Normalized to 100 as of End-2019)



Source: Bloomberg, IMF Staff Calculations

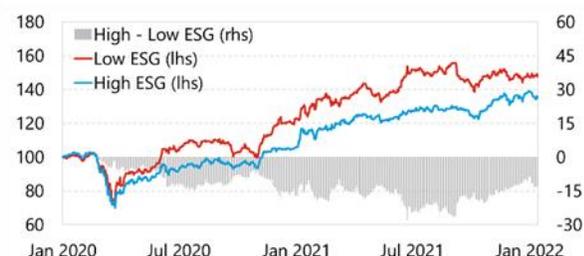
- Green bonds (-7.8%) trailed their global aggregate (-4.7%) and corporate (-2.9%) counterparts over the 2021 period, though with some early-2022 relative resilience seen (-0.9%, global aggregate: -1%, corporate: -1.7%).

ESG Score-Based Divergence Persisted in 2021

The relative cumulative outperformance of low ESG score²¹ equities was eroded through 2021...

19. High/Low ESG Score Equity Indices: Returns

(Index; Normalized to 100 as of End-2019)



Source: Bloomberg, S&P, Sustainalytics, IMF Staff Calculations

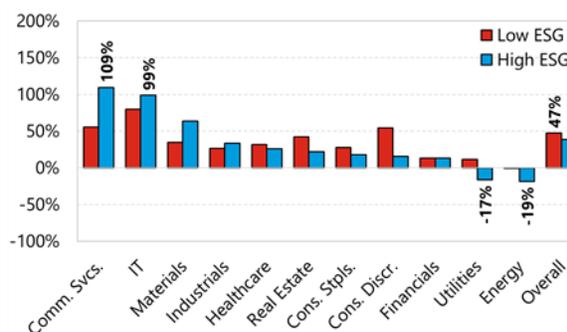
Note: The quarterly-rebalanced high (low) ESG score index is comprised of S&P Global 1200 members with top (bottom) quartile or better (worse) average S&P and Sustainalytics ESG scores, whenever available

- Low ESG score equities gained +47% over 2020-2021 (including a 20% increase in 2021), while high ESG score equities increased +39% (including a 31% increase in 2021).
- In 2H 2021, cumulative performance gap between high and low ESG indices narrowed to -8.7% at end-2021 from -27.8% in June 2021.

... with IT having been the main driver of high ESG score equity returns.

20. High/Low ESG Score Equity Indices: Returns by Sector

(In %, 2020 to 2021)



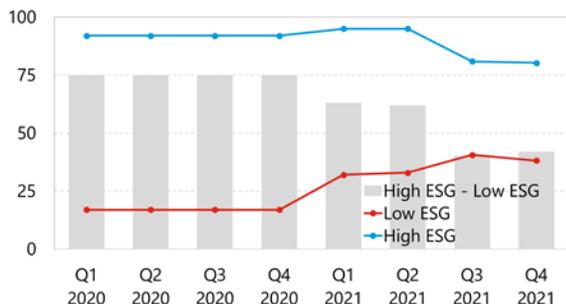
Source: Bloomberg, S&P, Sustainalytics, IMF Staff Calculations

- High ESG score equities enjoyed only a moderate return boost from communication services given the group's low weighting on the sector.
- Low ESG score equities tapped on a broader range of sectors for returns, with healthcare having provided initial lifts through 2020, and with communication services and IT having subsequently lent a hand.

²¹ "ESG ratings" refer to the broad spectrum of ratings products—including scores—that are marketed as providing an opinion regarding an entity a financial instrument or a product, a company's ESG profile or characteristics or exposure to ESG, climatic or environmental risks or impact on society and the environment that are issued using a defined ranking system of rating categories, whether or not these are explicitly labelled as "ESG ratings". See International Organization of Securities Commissions (IOSCO), Environmental, Social and Governance (ESG) Ratings and Data Products Providers, Final Report, FR09/21, November 2021.

The ESG score spread between high and low scoring firms narrowed in 2021.

21. High / Low ESG Score Equity Indices: Median Index ESG Scores Over Time
(Q1 2020 to Q4 2021)

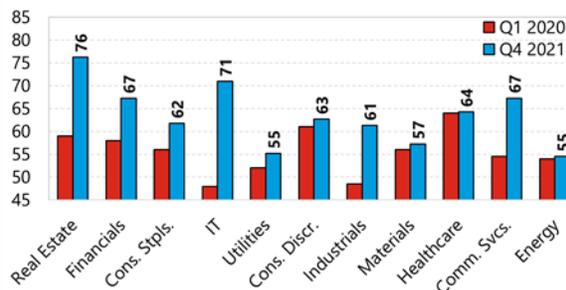


Source: Bloomberg, S&P, Sustainalytics, IMF Staff Calculations
Note: Index ESG score = Median ESG score of index member firms

- High ESG score firms underwent a mild deterioration in their median ESG scores (Q4 2021: 80, Q4 2020: 92).
- On the flip side, low ESG score firms saw modest but repeated improvements to their median ESG scores through 2021 (Q4 2021: 38, Q4 2020: 17).

Among sectors, the IT sector saw the greatest jump in median sector ESG scores over the 2020-2021 period...

22. High / Low ESG Score Equity Indices: Median ESG Scores by Sector
(Q1 2020 vs. Q4 2021)

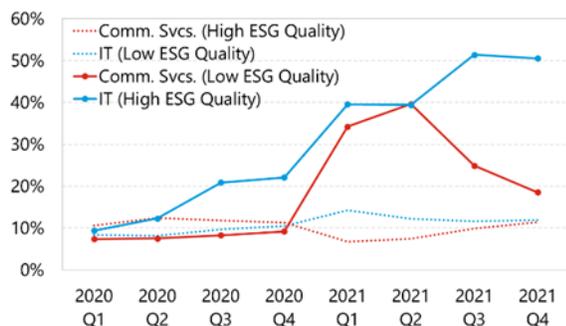


Source: Bloomberg, S&P, Sustainalytics, IMF Staff Calculations
Note: Sector ESG score = Median ESG score of companies in sector

- The IT sector rose from last place to be the second-best sector in terms of median ESG scores (Q4 2021: 71, Q1 2020: 48).
- The real estate sector staged a significant score improvement too, having risen to 76 to take first place in Q4 2021, from a modest score of 59 in Q1 2020.

... which drove an increased concentration in IT by high ESG-scoring equities.

23. High / Low ESG Score Equity Indices: Index Sector Weights Over Time
(In %, Q1 2020 to Q4 2021)

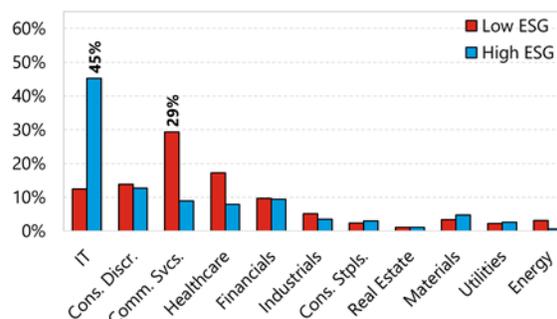


Source: Bloomberg, S&P, Sustainalytics, IMF Staff Calculations

- The number of IT companies with top quartile ESG quality scores grew substantially over the period (Q1 2020: 21 of 296, Q4 2021: 53 of 305).
- Low ESG quality equities saw their weight on the Communication Services sector leap to a high of 40% in Q2 2021 mainly due to the inclusion of Kakao Corporation. The company's score has improved dramatically since late-2021.

Resultingly, high ESG score equities have become nearly half-weighted on the IT sector in 2021.

24. ESG Quality Indices: Sectoral Weights
(In %, 4Q 2020 Average vs. 4Q 2021 Average)



Source: Bloomberg, S&P, Sustainalytics, IMF Staff Calculations

- Low ESG score equities were relatively more diversified in 2021, with an average weight of 29% on communication services, followed by 17% on healthcare, and 14% on consumer discretionary, among others.