

Sustainable Bonds: Fixed income that drives the change





Upward market volumes and main issuers

03Fixed income instruments same profitability but different focus

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01. What are Sustainable Bonds?

Sustainable bonds (often referred as GSS+ bonds [±]) are fixed income instruments focused on sustainability, that typically follow the ICMA Principles [±]. Main types are:

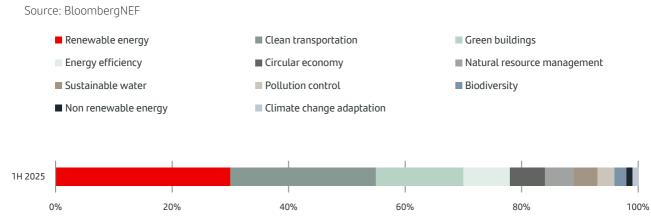


Green Bonds

Their Use of Proceeds (UoP) is exclusively focused on green projects aimed at generating positive environmental impact such as renewable energy, energy efficiency, pollution prevention, clean transportation, or sustainable water management. [+] As the market keeps developing, subsegments of green bonds have recently emerged, including:

- **European Green Bonds** (EuGB): based on a regulatory voluntary standard, rely on the EU Taxonomy to define green economic activities, ensuring transparency in line with market best practices and establishing pre- and post-issuance reviews. [+] First EuGBs were issued in early 2025, with over a dozen instruments in the market already, offered by a variety of issuers including corporates, banks, sovereigns, multilaterals and agencies.
- Blue Bonds: focused on marine and ocean-based projects. The UoP are dedicated to the sustainable use and preservation of ocean and freshwater resources. [+] Blue bonds have recently gained momentum, although an inaugural trade from the Seychelles was issued back in 2018. [+] [+]
- Nature-themed Bonds: focused on protecting, restoring, or sustainably managing natural ecosystems, biodiversity, and land. As biodiversity preservation is strongly interconnected with areas like climate change or water preservation, they can overlap with green and blue bonds. For example, a project to restore mangroves can sequester carbon (climate change mitigation), increase resilience of coastal areas (climate change adaptation), and restore a coastal ecosystem. [+]

Figure 1. Green bonds use of proceeds in 1H25



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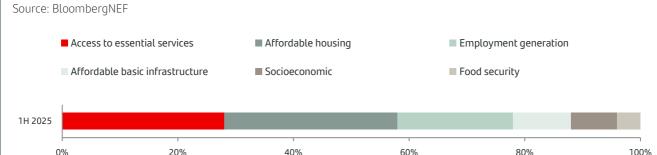
01. What are Sustainable Bonds?



Social Bonds

UoP is exclusively focused on projects seeking positive social outcomes, that include affordable housing, affordable basic infrastructure, access to essential services like healthcare, employment generation programs, food security/sustainable food systems, access to education, and socioeconomic advancement. [+] Subsegments of social bonds are Pandemic bonds or orange bonds, mainly focused on gender-related topics. [+]

Figure 2. Social bonds use of proceeds in 1H25





Sustainability Bonds (green + social)

Where the UoP is exclusively focused on a mix of the above mentioned green and social projects, aligned with the core components of green and social bonds. [+]



Sustainability-Linked Bonds (SLBs)

Are forward-looking performance-based instruments, whose financial characteristics depend on the issuer's sustainability improvements. Issuers make a commitment to achieve pre-defined key sustainable performance targets, and the financial characteristics of the bond depend on the achievement of key performance indicators (KPIs). In this type, proceeds are used towards general purposes. [+] [+]



Transition Bonds

Despite not explicitly recognized under the ICMA Principles, they can be structured as UoP, where proceeds are exclusively used in projects tackling climate transition initiatives, or towards more sustainable practices in a KPI-linked structure, moving from "brown" to "green" assets for example. [+]

Finally, **Cat (catastrophe) bonds**, are a different type of instruments (also not part of the ICMA Principles), but very linked to climate change. They are used to transfer risk from the (re)insurance industry to other investors, allowing the issuer to avoid repaying the bond's principal if, and only if, catastrophic conditions occur under defined triggers. Despite they have been around since the 1990s, the increasing severity of climate change effects is boosting the issuance of these type of instruments. [+]



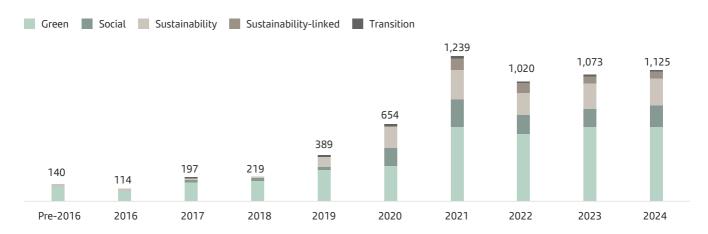
02. Upward market volumes and main issuers

As of July 2025, the total issuance of GSS+ bonds aligned with Climate Bonds Methodologies tipped over \$6tn, from \$2bn 15 years ago. [±] According to the World Bank, labelled sustainable bonds have consistently surpassed \$1tn annual issuance after reaching its peak in 2021. [+]

Green bonds are the largest category, comprising over 50% of the volume issued, with notable sovereign, multilateral and development banks as issuers. Social bonds saw a significant increase after the COVID 19 pandemic (experienced a 10-fold increase YoY in 2020) but have plateaued since. [+]

Figure 3. Global annual sustainable bond issuance (\$bn)



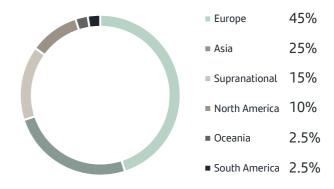


Europe remains the largest issuer, followed by Asia (specially China and Japan) and the supranational entities while North America has decreased. From emerging countries, Chile and Mexico lead with cumulative issuance of \$50bn and \$17bn respectively, as of Dec24.

Transition bond volumes are still incipient across regions, while for emerging markets green bonds are significantly bigger than the rest of GSS+ issuance, reflecting its level of maturity.

Figure 4. 2024 issuance by region according to ICMA

Source: ICMA





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02. Upward market volumes and main issuers

Figure 5. Cumulative labeled GSS+ bond issuance by market and type (\$bn)

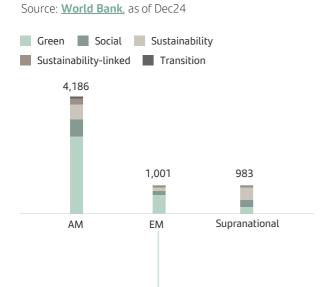


Figure 6. Cumulative labeled GSS+ bond issuance by market and issuer (\$bn)



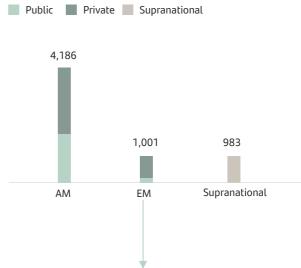
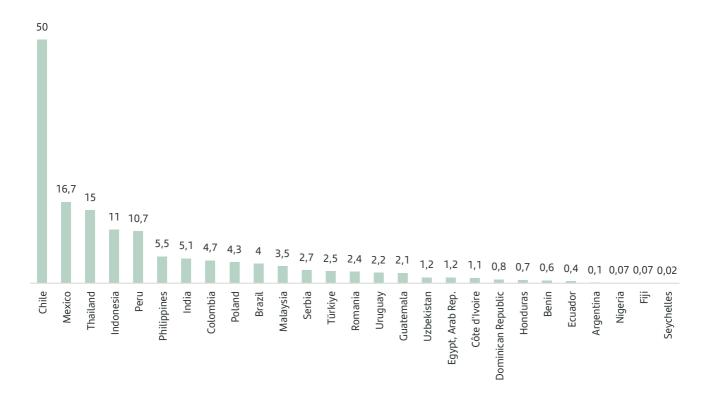


Figure 7. Emerging markets accumulated GSS+ issuance by country (\$bn)

Source: World Bank, as of Dec24





03. Fixed income instruments with same profitability but different focus

For several years, green bonds were issued at slightly lower spread than comparable general purpose fixed income options. Corporates were raising capital at a lower cost than in the conventional bond market, implying that investors were willing to accept slightly smaller yields in exchange of financing climate/social solutions.

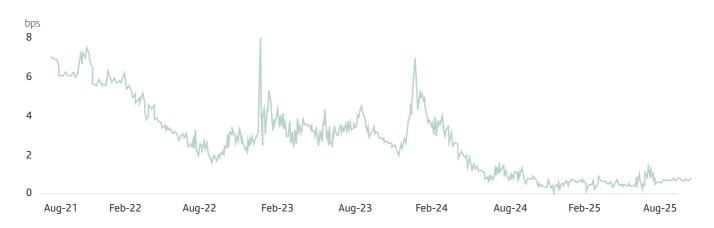
Referred to as the green premium or "greenium", yield data reported discounts of 3-8bps for green instruments versus comparable vanilla options. [+]

For emerging markets, where there are less issuances, according to MSCI greenium is reportedly higher, c.11bps. [+] According to BloombergNEF, 1H25 issuance greenium was mainly explained by Chinese Yuan denominated bonds. Moreover, greenium is also influenced by sectors and issuers, with utilities showing the biggest premium pricing of their labeled bonds.

Currently greenium has been reduced to **low-single digit levels or negligible in developed** markets, specially since 2024. [±]

Figure 8. Twin bunds Greenium | secondary trading

Source: Santander CIB and Bloomberg. Line show the yield difference between each pair of Bunds, being a positive value a tighter level of the Green format vs the vanilla one



Main reasons to explain this evolution are:

Green bonds are no longer a novelty:

especially since 2021, supply has caught up with demand and labelled bonds are no longer scarce, so impactoriented investors have enough paper, and prices are not inflated.

Stabilisation of inflows into sustainable-focused funds:

after a sharp increase in AUM of sustainable funds in the years following the pandemic, flows have remained somewhat more stable in recent years, with additional demand being more limited.

Rates increase:

renewed focus on credit fundamentals and macro evolution compressed risk premia across asset classes, so investors have been less keen on accepting lower yields on non-pecuniary benefits.

Transparency

improved: taxonomies, second-party opinions, and post-issuance allocation reports have reduced information asymmetry, leaving little hidden value for investors to monetise.

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04. GSS+ bond issued examples



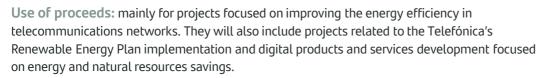
IFC social bond to support low-income communities in emerging markets [+]

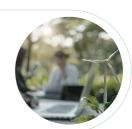
Details: \$ 2bn, 3y, IFC's largest ever social bond, and the largest \$ denominated social bond issued by a supranational. Over 5x oversubscription.

Use of proceeds: projects to support low-income communities in emerging markets, including affordable basic infrastructure (e.g. clean drinking water, sewers, sanitation, transport, energy); food security; access to essential services; affordable housing; womenowned SMEs who lack access to finance; and companies that incorporate people at the "base of the economic pyramid" into their value chain.

Telefonica Green bond on energy efficiency [+]

Details: € 1.75bn structured in two tranches, 8y and 12y, with coupons of 3.698% and 4.055% respectively. 3x oversubscription.







Abertis SLB bond linked to transition [+]

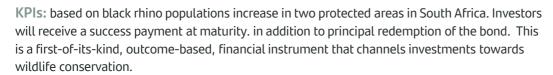
Details: € 600mm placement, 6.5y, 4.125% coupon. Potential 25 bps 'step-up' of any penalty coupon payable, maximum accumulated penalty of 75 bps payable. 6x oversubscription.

KPIs [+]: SLB structure

- GHG emissions for Absolute Scope 1 and 2: reduction of 40% by 2027, and 50% by 2030 vs 2019
- Scope 3 emissions: reduction of 16% by 2027, and 22% by 2030 in CO2 Tn emitted per million of km travelled by customers using Abertis-managed infrastructure
- Electric vehicle charging points installed: 633 new charging points by 2027 in countries where Abertis has motorway management operations.

World Bank/IBRD Biodiversity- linked bond- "Rhino Bond" [+]

Details: \$150mm placement, 5y, 94.84% issue price with redemption at par







World Bank Blue Bond against Plastic Pollution in the Oceans [+]

Details: \$10mm placement, 3y, Coupons step up schedule: 2.35%/2.70%/ 3.15%

Use of proceeds: preserving freshwater and marine resources, supporting the SDG 14 (Life Below Water) and SDG 6 (Clean Water & Sanitation). Project examples: large regional fisheries programs, water and marine pollution reduction, improving water sanitation, support of sustainable coastal development

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05. Conclusions

Sustainable bonds are compelling, fixed income investment instruments to finance green/social projects and climate transition towards a more resilient global economy. The development of a sizeable market for these instruments reflects a maturing context that is increasingly capable of mobilizing capital towards global sustainability priorities.

Despite recent progress, significant challenges remain in scaling the sustainability bond market. As issuance grow, so does the need for increasingly robust frameworks, rigorous impact measurement, and credible reporting. Multiple ongoing initiatives aim to strengthen local expertise and harmonize standards, seeking to unlock the full potential of these instruments.

Sustainable bonds are expected to keep playing an increasingly strategic role in aligning capital markets with global environmental and social objectives. For investors, sustainable bonds offer not only financial returns and portfolio diversification, but also a pathway to contribute to their green, social and transition preferences.

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Appendix

ICMA:

- Green Bond Principles https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principles-gbp//

 / https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Green-Bonds-brochure-150616.pdf
- Sustainable bonds for Nature https://www.icmagroup.org/assets/documents/Sustainable-Finance/2025-updates/Sustainable-Bonds-for-Nature-A-Practitioners-Guide-June-2025.pdf
- Social Bond Principles https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/social-bond-principles-sbp//

 / https://www.icmagroup.org/assets/documents/Sustainable-finance/2025-updates/Social-Bond-Principles-SBP-June-2025.pdf
- Sustainability Bond Guidelines https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/sustainability-bond-quidelines-sbg/
- Sustainability-Linked Bond Principles https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/sustainability-linked-bond-principles-slbp/
- Impact disclosure guidance https://www.icmagroup.org/assets/documents/Sustainable-finance/Impact-Disclosure-Guidance-October-2024-181024.pdf
- GSS bonds mapping to the SDGs https://www.icmagroup.org/assets/documents/regulatory/green-bonds/june-2019/mapping-sdgs-to-green-social-and-sustainability-bonds06-2019-100619.pdf

UN:

- UN DESA UNDP GISD SDG Bond Frameworks https://www.gisdalliance.org/sites/default/files/2024-04/GISD%20Alliance%20Guidance%20on%20Sovereign%20SDG%20Bonds-FINAL.pdf
- UN Blue Bond Guidance https://unglobalcompact.org/library/5798
- Orange bond initiative: https://www.unwomen.org/sites/default/files/2023-11/shahnaz.pdf

Climate bonds initiative:

- Climate Bonds Standard https://www.climatebonds.net/our-expertise/standard-sector-criteria-certification/the-standard
- Transition bonds guide https://www.climatebonds.net/files/documents/publications/Financing-the-Corporate-Climate-Transition-with-Bonds.pdf
- 4. TNFD: Disclosure recommendations https://tnfd.global/recommendations/
- 5. EU Green Bond framework https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32023R2631



Sources

- WEFO: Sustainable finance in 2025: These are the key sectors redefining global markets Why investors must hone in on sustainable finance in 2025 | World Economic Forum
- TIDELINE: Scaling Solutions: The Fixed Income Opportunity Hiding in Plain Sight https://tideline.com/impact-fixed-income/
- Climate bonds initiative: Global sustainable debt volume aligned with Climate Bonds definition hits USD6 trillion milestone https://www.climatebonds.net/news-events/press-room/press-releases/global-sustainable-debt-volume-aligned-climate-bonds-definition-hits-usd6-trillion-milestone
- ICMA: the principles & related guidance https://www.icmagroup.org/sustainable-finance/the-principles-quidelines-and-handbooks/
- ICMA: sustainable bond market data https://www.icmagroup.org/sustainable-finance/sustainable-bonds-database/
- European Commission: blue bond <a href="https://projects.research-and-innovation.ec.europa.eu/en/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/restore-our-ocean-and-waters/blue-bond
- European commission: international platform on sustainable finance https://finance.ec.europa.eu/system/files/2023-12/231204-ipsf-social-bonds-report_en.pdf
- The World Bank: Seychelles introducing the World's First Sovereign Blue Bond https://thedocs.worldbank.org/en/doc/cbaf1cefc5164a7f340716ef0af6fd7e-0340012025/original/Case-Study-Blue-Bond-Seychelles.pdf
- The word Bank: labelled bonds https://thedocs.worldbank.org/en/doc/cd82b4033281dab2cb1a1c71eeb691e4-0340012025/original/Labeled-Bond-Quarterly-Newsletter-Issue-No-10.pdf
- Copenhagen business school: No More Greenium: What the Vanishing Green Bond Premium Means for Sustainable Finance
 https://nordicesglab.cbs.dk/no-more-greenium-what-the-vanishing-green-bond-premium-means-for-sustainable-finance/
- IMF: How Large is the Sovereign Greenium? https://www.imf.org/en/Publications/WP/Issues/2023/04/07/How-Large-is-the-Sovereign-Greenium-530332
- IFC Issues Record \$2 Billion Social Bond to Support Low Income Communities in Emerging Markets https://www.ifc.org/en/pressroom/2024/ifc-issues-record-2-billion-social-bond-to-support-low-income-communities-in-emerg
- Telefónica issues a €1,750 million green bond: https://www.telefonica.com/en/communication-room/press-room/telefonica-issues-a-e1750-million-green-bond/
- Abertis completes a pioneering sustainable bond issue totaling €600Mn: https://www.abertis.com/news/abertis-cierra-una-emision-pionera-de-bonos-soste/?lang=en#:~:text=The%20Group%20has%20successfully%20completed,opportunities%20arising%20at%20any%20time.
- Abertis: SUSTAINABILITY-LINKED BOND PROGRESS REPORT 2023
 https://abertis.com/media/web_abertis/20240612%20Abertis%20SLB%20Progress%20Report%20redisseny_FINAL%20clean_UPDATED_20240612110905.pdf
- World bank: Wildlife Conservation Bond Boosts South Africa's Efforts to Protect Black Rhinos and Support Local Communities
 https://www.worldbank.org/en/news/press-release/2022/03/23/wildlife-conservation-bond-boosts-south-africa-s-efforts-to-protect-black-rhinos-and-support-local-communities

