Sustainable Debt Global State of the Market 2024

Climate Bonds INITIATIVE

Prepared by Climate Bonds Initiative

1. Introduction

Contents

This is the 14th iteration of Climate Bonds Initiative's (Climate Bonds) Global State of the Market Report. The scope of this report includes analysis of green, social, and sustainability (GSS) bonds considered to be in alignment with Climate Bonds Dataset Methodologies (Appendix 1) plus sustainability-linked bonds (SLBs).

By the end of 2024, Climate Bonds had recorded USD6.9tn of cumulative GSS and SLB (collectively GSS+) volume, of which USD5.7tn (83%) was found to be aligned. This indicates strong appetite for thematic debt, with the difference between the two numbers highlighting the rigour of Climate Bonds curation.

This report describes the shape and size of the aligned GSS+ debt market as of 31 December 2024.

Aligned GSS+ scorecard

	Green	Social	Sustainability	SLB
Total size of market (cumulative)	USD3.5tn	USD1.1tn	USD998bn	USD47.2bn
Number of countries	98	53	75	25
Number of currencies	60	48	44	13

About the Climate Bonds Initiative

Climate Bonds is an international organisation working to mobilise global capital for climate action. It promotes investment in projects and assets needed for a rapid transition to a low-carbon, climate-resilient, and fair economy. The mission focus is to help drive down the cost of capital for large-scale climate and infrastructure projects and to support governments seeking increased capital markets investment to meet climate and greenhouse gas (GHG) emission reduction goals. Climate Bonds conducts market analysis and policy research; undertakes market development activities; advises governments and regulators; and administers a global green bond Standard and Certification scheme. Climate Bonds screens green finance instruments against its global Taxonomy to determine alignment, and shares information about the composition of this market with partners. The Climate Bonds team has also expanded its analysis to other thematic areas, such as social and sustainability bonds via the development of screening methodologies for investments that give rise to positive social impacts and added resilience. Certification against the Climate Bonds Standard (CBS) represents about 10% of global green bond market volumes. This scheme is underpinned by rigorous scientific sector-specific Criteria to ensure that Certified bonds and issuers are consistent with the 1.5°C target of the Paris Agreement. Obtaining and maintaining Certification requires initial and ongoing third-party verification to ensure the assets meet the metrics of Sector Criteria.

Climate Bonds Standard and Certification Scheme

In 2023, the scope of the Climate Bonds Standard and Certification Scheme expanded beyond use of proceeds (UoP) instruments to assets, entities and sustainability-linked debt. The Climate Bonds Standard now covers the whole range of sustainable financing methods, including green equity, transition finance, general purpose debt and performance-linked instruments. The Certification label provides investors with assurance that the transition plans of a company or an SLB issuer are credible and based on science-based climate goals, and that strong governance practices have been adopted.

Following two further enhancements to the Standard in early 2024 (CBS v4.1 and v4.2), the Certification label can now be offered to:

1. early-stage R&D into new emission-reducing technologies,

2. planned assets, allowing asset owners to demonstrate alignment of their green projects with science-based Sector Criteria during the development stage, and

3. DCF agrifood entities, showcasing their deforestation- and conversion-free (DCF) supply chains.

The Climate Bonds Standard and Certification Scheme is a globally applicable integrated approach aligned with the best practice standards that supports the mobilisation of sustainable and transition finance towards a net-zero future.

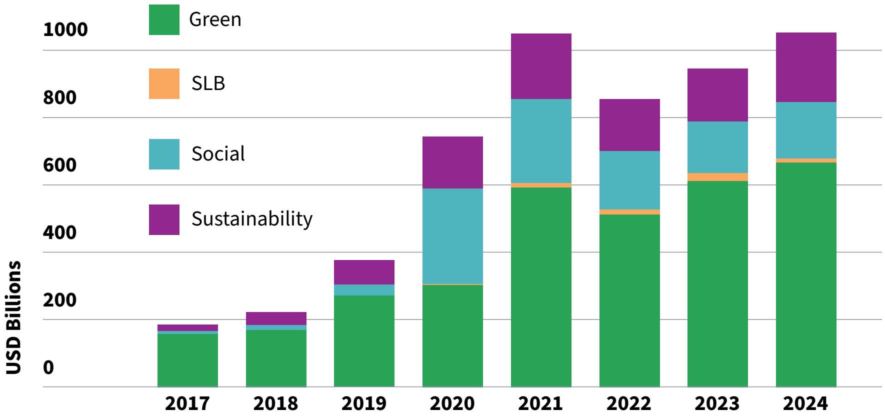
2. Report highlights

As of 31 December 2024, Climate Bonds had recorded aligned GSS+ instruments with cumulative volume of USD5.7tn from 54,025 instruments.

In 2024, Climate Bonds captured aligned volume of USD1.05tn, 11% more than the 2023 figure of USD946.9bn. The green theme accounted for approximately two-thirds (64%) of this, which added USD671.7bn, reflecting a 9% YOY increase.

Additionally, there was a YOY increase of 9% and 32% in the volume of social and sustainability bonds, respectively. The smallest segment, SLBs experienced a significant 65% decrease in aligned volume, falling to USD7.9bn compared to USD22.8bn in 2023.

Aligned GSS+ issuance increased to USD1.05tn in 2024

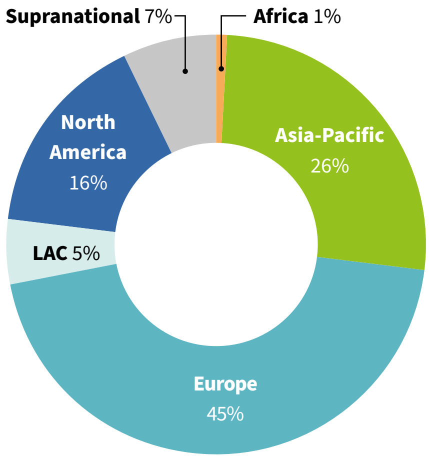


Source: Climate Bonds Initiative

GSS+ market at a glance

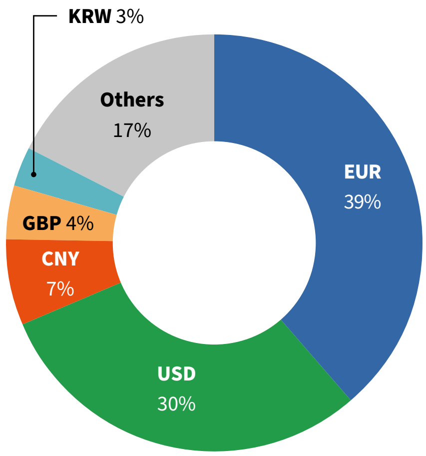
- USD1.05tn in aligned deals were priced in 2024, marking a record year with 10,331 deals and a YOY increase of 31%.
- Two-thirds (64%) of the aligned deals were priced under the green theme worth USD672bn followed by sustainability, social, and SLB.
- Europe was the largest source of aligned GSS+ debt instruments with a volume of USD475bn representing 45% of the 2024 total. The USA delivered a 45% rise YOY and represented 16% of the volume in 2024. Supranationals (SNAT) were more active in 2024 accounting for 7% of the volume.
- January was the busiest month of the year with aligned GSS+ volume reaching USD130bn from 161 issuers and 461 GSS+ bonds.
- GSS+ deals were priced in 48 currencies with 69% of the issuance from the top two currencies; EUR (USD407.4bn) and USD (USD317.7bn).
- The Sovereign GSS+ Bond Club continues to grow its membership, and was just one issuer away from its next critical milestone as Honduras became the 59th aligned issuer with its November sustainability deal. Cumulative aligned sovereign GSS+ volume had reached USD656bn by the end of 2024.
- The Thai government issued the first ASEAN sovereign SLB in 2024: a THB30bn (USD868m) fully aligned, 15.5year deal.

Europe was the largest source of 2024 GSS+ aligned volume



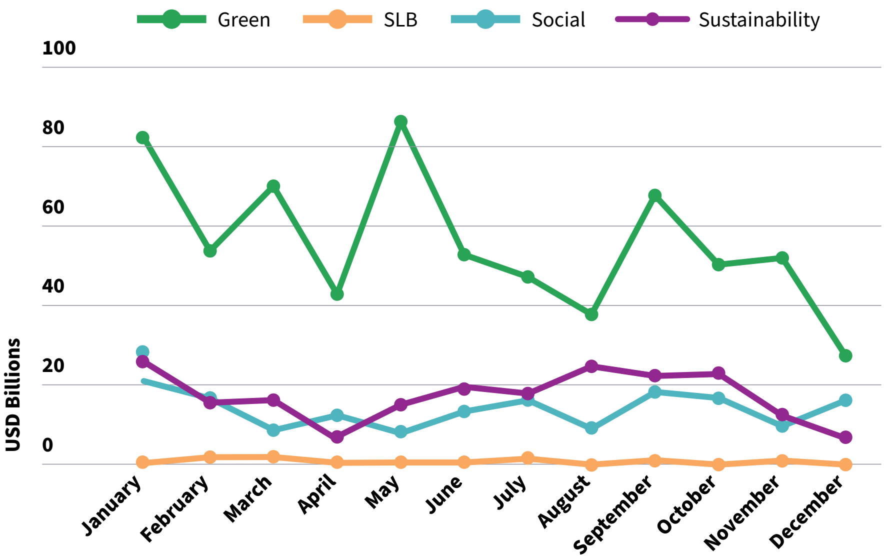
Source: Climate Bonds Initiative

69% of aligned GSS+ deals were in EUR and USD in 2024



Source: Climate Bonds Initiative

Aligned GSS+ issuance peaked in January with USD130bn



Source: Climate Bonds Initiative

GSS+ scorecard 2024

Aligned green debt scorecard

	2024	2022	Change YOY
Size of market	**USD672bn**	USD614bn	9.37%
Number of issuers	**948**	881	7.6%
Number of instruments	**3,242**	3,015	7.53%
Number of countries	**66**	72	-8.33%
Number of currencies	**38**	40	-5.0%

Aligned social debt scorecard

	2024	2023	Change YOY
Size of market	**USD167.63bn**	USD153.5bn	9.2%
Number of issuers	**203**	190	6.8%
Number of instruments	**5,324**	3,501	52%
Number of countries	**36**	32	12.5%
Number of currencies	**30**	32	-6.3%

Aligned sustainability debt scorecard

	2024	2023	Change YOY
Size of market	**USD206.3bn**	USD156.5bn	31.8%
Number of issuers	**264**	231	14.3%
Number of instruments	**1,741**	1,295	34.4%
Number of countries	**49**	44	11.3%
Number of currencies	**36**	32	12.5%

Aligned SLB scorecard (includes the aligned, strongly aligned, and aligning categories from Climate Bonds SLB Dataset)

	2024	2023	Change YOY
Size of market	**USD7.9bn**	USD22.8bn	-65.3%
Number of issuers	**20**	32	-38%
Number of instruments	**24**	50	-52%
Number of countries	**13**	14	-7.1%
Number of currencies	**7**	8	-12.5%

3. Green

Green bond market highlights 2024

- In 2024, aligned annual volume reached USD671.7bn, comfortably breaking through the half-trillion mark for the fourth consecutive year, and demonstrating an increase of 9.4% YOY.
- Aligned sovereign green volume increased by 8.5% to USD134bn versus USD123.5bn in 2023.
- Europe dominated the aligned green bond market with volume of USD388.4bn, an increase of 16.8% YOY. The largest individual issuer was the EU (supranational) with aligned issuance of EUR19.32bn (USD20.9bn) composed of one new issue and four taps.
- In 2024, private sector issuers continued to visit the green bond market in force, as aligned issuance from non-financial corporates grew by 30% YOY.
- June was the most prolific month in 2024 with aligned green issuance of USD86.5bn, a 30% increase compared to May 2023 the busiest month of the previous year.

The 2024 green bond market in numbers

TOP 3 NON-SOVEREIGN ISSUERS

1. **EU** (USD20.9bn)
2. **EIB (European Investment Bank)** (USD16.6bn)
3. **KFW** (USD13.36bn)

TOP 3 ISSUER TYPES

1. Non-Financial Corporate (USD202bn)
2. Financial Corporate (USD142bn)
3. Sovereign (USD134.1bn)

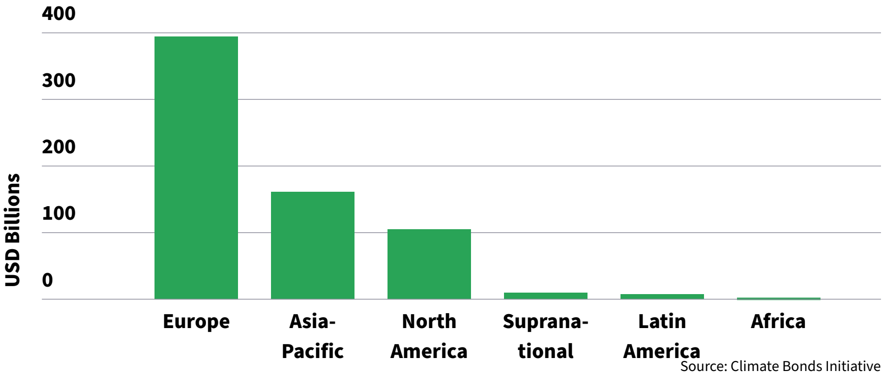
TOP 3 COUNTRIES

1. **USA** (USD84.7bn)
2. **Germany** (USD73.3bn)
3. **USA** (USD68.9bn)

TOP 3 DEAL CURRENCIES

1. **EUR** (USD323.9bn)
2. **USD** (USD134.8bn)
3. **CNY** (USD64.75bn)

The number of green deals increased 8% yoy however remains lower than the peak in 2021



Source: Climate Bonds Initiative

Europe delivers more than half of aligned green bonds

More than half of the 2024 aligned green bond volume originated from Europe (58%) contributing USD388.4bn, and 17% YOY growth compared to the USD322.3bn captured in 2023. The ten largest issuers accounted for 39% of the volume, led by the EU which added EUR19.32bn (USD20.92bn) through one new issue and four reopenings of its green bonds. Sovereigns were dominant in the top ten largest issuers claiming six of the top ten places.

Aligned green bonds originated from Croatia, Sri Lanka, and Tanzania for the first time in 2024, further diversifying the ever-increasing investment pool. Entities from 98 countries have now priced 30,653 aligned green debt instruments.

US Green Municipal Bonds: Power purchase agreement financing by the California Community Choice Financing Authority

Green municipal (muni) issuers from the USA were busy in 2024 as the volume priced by states, cities and local government bodies reached USD22.6bn, a 22% increase from USD18.6bn in 2023, marking a record high. California was the most active with USD12.8bn, or 57% of the volume, originating from institutions across the state. Fourteen Californian governmental bodies placed 20 green muni series in total, with the California Community Choice Financing Authority (CCCFA) being the largest issuer and pricing USD9.1bn in 2024. This equates to 40% of the total muni volume from the USA over the year. All green munis issued by the CCCFA are project revenue bonds.

The CCCFA is an organisation created in 2021 with the goal of reducing the cost-of-power purchases for member community choice aggregators (CCAs). These are programmes that allow local authorities in the region of southern California to purchase electricity on behalf of residential, commercial, and industrial users within their service area, through pre-payment structures.[1] This is an innovative approach compared to the investor-owned utilities such as Southern California Edison.

All green munis issued by CCCFA are used to finance the prepayment of 'renewable' electricity, primarily generated from solar, wind, and hydroelectric, via power purchase agreements (PPAs). A PPA is a long-term contract signed between a buyer and a seller wherein the former buys electricity supply from the latter which is typically an energy generator. The structure of PPAs not only promotes investment in renewable energy generation facilities but also has the advantage of ensuring price stability and predictability for buyers, as the contracts specify pre-determined electricity prices, and buyers do not need capital investments on electricity generation infrastructure. The demand for clean PPAs is on the rise, especially among hyperscalers such as data centre operators, as PPAs have become the primary clean energy procurement method for these customers.[2,3]

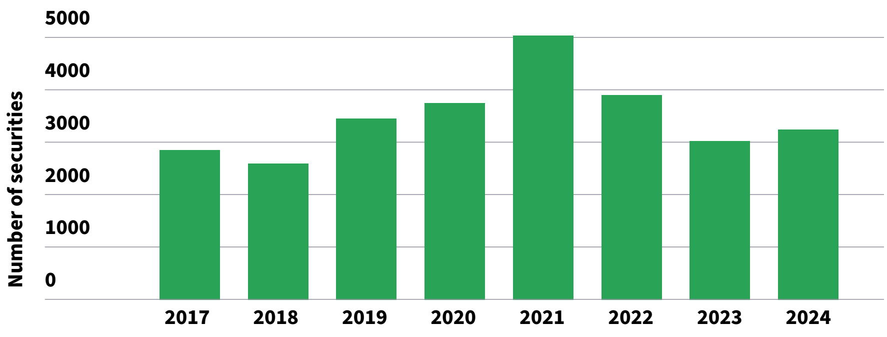
California is frequently ravaged by wildfires while also being vulnerable to other impacts from climate change. Hence, the state is at the forefront of climate finance in the USA, and it recently approved USD10bn of spending in November 2024 on projects including water resilience, biodiversity protection, wildfire prevention etc., financed by general obligation bonds.[4]

Representatives from 2023's new country sources also priced deals in 2024, including Cyprus, Uzbekistan, and Zambia. Asia-Pacific was the second most prolific region for 2024 green bond volume, as it was in 2023, contributing 24% of the total aligned volume (USD160bn) with 43% of which coming from China. Aligned volume from LAC increased 27.5% YOY, Brazil's **Raizen Energia SA** recorded the largest volume in that region with USD2.5bn across three bonds.

Following a strong year in 2023, issuance volume from Africa fell 25% to USD1.35bn, with the **African Development Bank** accounting for the majority (USD0.94bn).

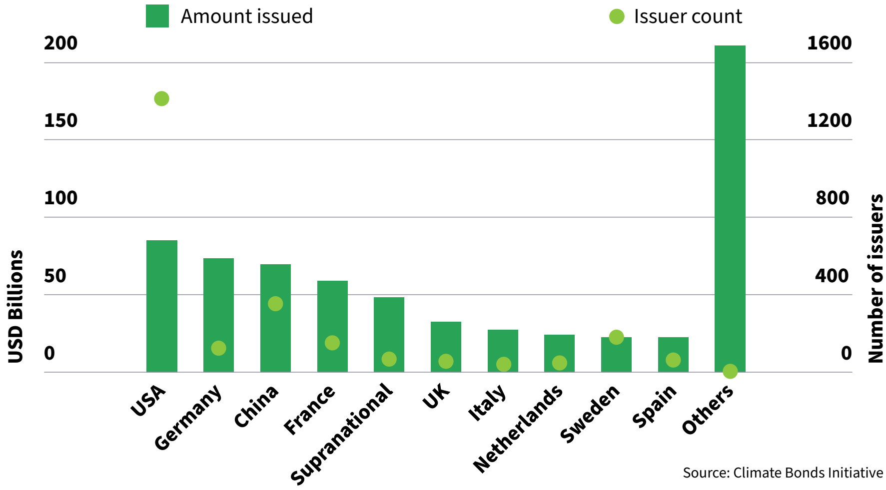
Green issuance from North America (which includes the USA and Canada) picked up significantly with a YOY increase of 51% compared to 2023 when it experienced a dip. The USA aligned volume recorded in 2024 was USD104.7bn which is just slightly below the record issuance year of 2021 (USD105.9bn). From North America, **California Community Choice Financing Authority** (CCCFA) was the largest contributor for the second consecutive year with USD9.1bn, a significant increase on USD5.9bn in 2023.

The number of green deals increased 8% yoy however remains lower than the peak in 2021



Source: Climate Bonds Initiative

The US was the largest source of green volume in 2024



Source: Climate Bonds Initiative

Top 10 aligned green debt issuers in 2024 (excluding sovereigns)

Issuer name	USDbn
EU	20.9
EIB	16.6
KFW	13.4
EDF	11.8
California Community Choice Financing Authority	9.1
Pattern Energy	8.8
Fannie Mae	8.1
Stack Infrastructure Inc.	6.30
Industrial and Commercial Bank of China Ltd	5.87
Volkswagen Financial Services Overseas AG	5.31

US issuers lead in number of deals priced

A total of 3,242 aligned green bonds were recorded in 2024, an increase of 7.5% compared to 3,015 in 2023. There was a 38% increase in the number of such deals originating from Europe, which rose to 964 versus 698 in 2023. This translated into a 16.8% rise in volume to USD388.4bn from USD332.3bn. The three most prolific issuers by deal count in 2024 were **Fannie Mae** (205 deals with combined volume of USD8.08bn versus 83 deals and USD2.8bn in 2023), **New York Metropolitan Transport Authority** (66 deals with combined volume of USD3.04bn), and **San Diego Unified School District** (62 deals with combined volume of USD9.07bn).

The top 10 aligned green debt issuers league table remains dominated by sovereigns, with the first three places taken by the **EU**, **Germany**, and the **UK**. Similarly, 2023 saw the **UK**, **Germany** and **Italy** take the top three spots. Two development banks claimed two of the top three places if sovereigns are excluded.

The USA is the leading country source

The **USA** claimed the top position in the aligned green bond market in 2024, with USD84.7bn priced over 1,413 deals, which reflects an average deal size of USD59.9m. Once again, this demonstrates the prevalence of smaller deals from numerous issuers, given the average deal size of USD48.6m in 2023.

Germany ranked second with USD73.3bn of aligned volume, or 11% of the total, and an increase of 11% YOY. The top two issuers, the **German government** and **KfW**, accounted for over 40% of the volume originating from Germany, together pricing USD32.6bn across 25 deals.

China dropped to third position from the top position in 2023, however issuance remained robust contributing to 10% of the total in 2024. China's issuance for the year stood at USD68.8bn, a drop of 18% on the USD84.2bn captured in 2023.

Australia, Canada, France, Greece, Japan, the Philippines, Romania, Singapore, Sweden, Switzerland, and the **USA** all demonstrated a noticeable uplift in aligned green debt issuance volume YOY.

Kuwait, Sri Lanka, and **Tanzania** all issued debut green bonds in 2024, together issuing three instruments worth USD529m. First-time issuers in 2023, **Cyrpus**, **Uzbekistan**, and **Tanzania** all returned to the market in 2024. **The Bank of Cypru**s issued a USD322m aligned green bond; **Joint-Stock Commercial Bank Agrobank** of Uzbekistan priced two green bonds, one in local currency and one USD denominated, together totalling USD454m; and in Tanzania the Tanga Urban Water Supply and Sanitation Authority issued a USD20.8m green bond.

Top 10 country sources of aligned green bonds 2024

Country	Volume USD bn	Deal count
USA	84.7	1413
Germany	73.3	126
China	68.9	351
France	58.6	150
Supranational	48.3	53
UK	31.9	49
Italy	26.7	36
Netherlands	23.9	41
Sweden	22.9	180
Spain	22.2	60

Q4 2024: A busy green bond quarter for China's big four banks

The four largest commercial banks in China are **Bank of China (BoC), China Construction Bank (CCB), Agricultural Bank of China (ABC)** and **Industrial and Commercial Bank of China (ICBC),** all of which are majority owned by the Chinese government. These four play a substantial role in China's financial system and are also at the frontier of sustainable finance. Q4 2024 marked one of the busiest quarters for green bond transactions from these banks as three of them priced five deals with combined volume of USD8.61bn.

BoC Paris Branch priced a USD300m, 3-year offshore green bond, financing solar and wind projects across France, Portugal, and Spain. In the domestic market, there were 3-year and 4-year benchmark transactions from **ICBC** in December totalling CNY30bn (USD4.13bn) with proceeds earmarked for solar and wind power generation, and public transport. **CCB** and **BoC** came to the market with CNY20bn (USD2.81bn) in October and CNY10bn (USD1.37bn) green bonds in December, respectively, also financing renewable energy and public transport.

All green projects financed by these domestic transactions comply with the eligibility criteria listed in the Green Bond Endorsed Projects Catalogue (2021), which is a classification system introduced by Chinese regulators to set green finance standards in the Chinese market and has seen significant uptake among issuers in various sectors since its introduction.[5] The Common Ground Taxonomy (CGT), jointly launched by the International Platform on Sustainable Finance (IPSF) with the support of China and the EU at COP26 is another impactful climate change mitigation-focused sustainable finance classification system adopted by several Chinese issuers.[6] As of the end of August 2024, 340 Chinese green bonds were deemed to comply with the CGT.[7]

Chinese green bond issuers typically pre-identify qualifying projects for inclusion in sustainable instruments and disclose the asset pool at issuance. Low-carbon energy and public transport projects are extremely popular green project categories for Chinese banks. Climate Bonds data shows that the big four banks had priced 126 green bond transactions totalling USD90.8bn at the end of 2024, and USD67.1bn, or 74%, had been earmarked for these two project categories, in particular solar and wind power generation facilities, and the construction and operation of subways. Such projects have become more prominent over the past two years, as the proportion increased to 92% of the UoP raised from green bonds issued in or after 2022.

Hard currencies prevail

EUR dominated the green debt market for the seventh consecutive year with 48% of the aligned volume amounting to USD323.9bn across 515 instruments. The USD was the second most prominent currency accounting for USD134.8bn of the volume from 1,543 instruments. Of the aligned green volume, 85% came from five currencies: EUR, USD, CNY, GBP, and SEK. The EUR, USD, CNY, and GBP held the top four positions as was also the case in 2023 and 2022.

The EUR recorded the largest YOY increase among the top five currencies in terms of aligned green debt issued, rising from 44% in 2023 to 48% in 2024. Aligned green debt instruments from the EU and sovereigns from Germany, France, Italy and Austria all contributed to this increase, together accounting for over 25% of the aligned EUR green debt priced in 2024.

The INR, which experienced a massive surge in 2023 placing fifth, fell back to 14th place in 2024. Deals dominated in the Dominican peso (DOP) and the Tanzanian shilling (TZS) for the first time in 2024 were well received by the aligned green bond market.

Private sector introduced more than half the green volume

Private sector issuers in the non-financial and financial corporate sectors priced 51% of the green volume in 2024 (USD344bn). Non-financial corporate issuers contributed 30% of the 2024 market share across 763 aligned green instruments from 418 issuers amassing a sum of USD202bn.

The US renewable energy and transmission infrastructure company, **Pattern Energy**, priced the largest single non-financial corporate deal, with its USD8.8bn green loan, which was the most significant part of a USD11bn non-recourse financing package. The financing included an integrated construction loan and letter of credit facility, two separate term facilities, an operating phase letter of credit facility, an innovative tax equity term loan facility, and a holding company loan facility. The UoP was earmarked to finance the construction of SunZia Transmission and SunZia Wind, which together represent the largest clean energy infrastructure project in US history.[8]

Financial-corporate issuers emerged as the second largest issuer type with a 21% share of aligned green volumes, down from 27% in 2023. The 670 instruments amounted to USD142bn. The largest three issuers were **Industrial and Commercial Bank of China (USD5.87bn), Volkswagen (USD5.3bn),** and **China Construction Bank Corporation (USD4.1bn)**.

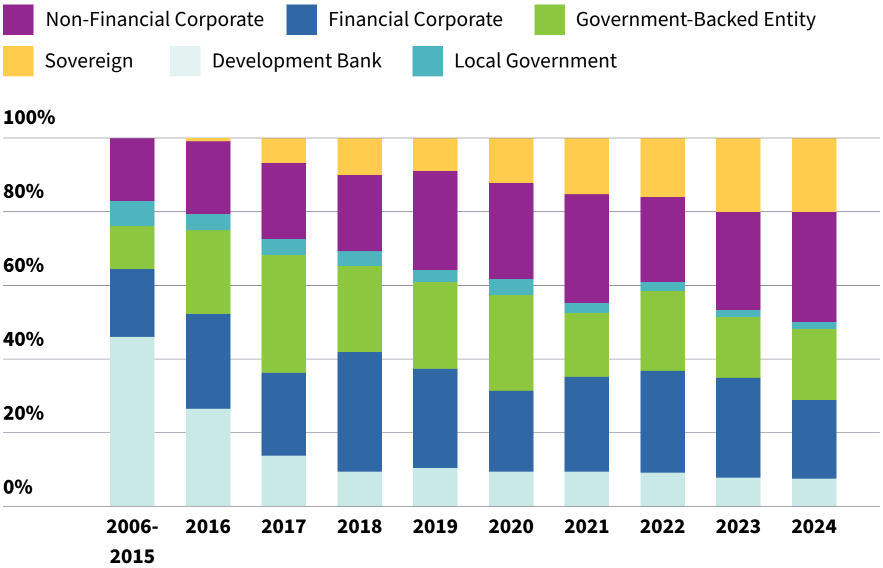
Aligned volume from sovereigns (20%) and government-backed entities (19%) placed a close third and fourth, respectively. Germany made the largest contribution (USD19bn) to the sovereign segment while the EU was the largest government-backed entity issuer (USD20.9bn).

SPO volume increases

Second-party opinion (SPO) was the preferred type of external review in 2024, with an increase YOY in both the volume reviewed (+10%) and the number of instruments assessed (+18%) indicating both issuer and investor demand for the service. Norway, France, and Canada exhibited the largest increase in bonds reviewed while the Philippines, Canada, and Romania demonstrated the largest increase in volume assessed.

Climate Bonds promotes enhanced market transparency through disclosure and acknowledges this progress. Investors are increasingly demanding impartial evidence of the validity of the environmental credentials of green bonds, indicating a heightened awareness of greenwashing risks. Issuers are also eager to steer clear of liabilities resulting from potential errors.

30% of the green aligned volume in 2024 came from non-financial corporates



Source: Climate Bonds Initiative

Largest deal in each issuer type in 2024

Issuer type	Issuer name	USDbn
Development Bank	KFW	4.3
Financial Corporate	China Construction Bank Corp.	2.8
Government-backed Entity	European Union	7.6
Local Government	Queensland Treasury Corporation	1.8
Non-Financial Corporate	Pattern Energy	8.8
Sovereign	Republic of Italy	9.7

Transparency & Reporting in the GSS Bond Market

The *Transparency & Reporting in the GSS Bond Market* report contains many interesting results from the analysis conducted, showcases best practice examples, and provides recommendations as to what can be done to drive progress.[9]

Climate Bonds assessed GSS deals priced from 2020–2023, totalling USD1.4tn issued, which covered over 5,000 bonds where all deals analysed were considered to be aligned with Climate Bonds Green and Social & Sustainability Methodologies. The survey sample covers 75 of the largest global issuers of GSS bonds across all issuer types during that period.

The analysis revealed that while the quality of reporting varies widely it is generally good and has improved since Climate Bonds' 2021 study.

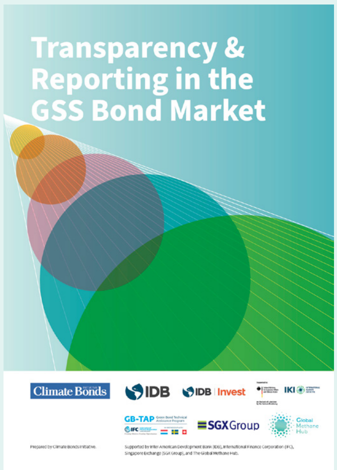
Highlights:

There were increased levels of commitment to report across the issuer sample surveyed.

- Of the issuers surveyed, 93% committed to report both allocations and impacts.
- Dedicated GSS reports were published by 91% of issuers, often annually, of which 60% made them accessible and easy-to-find.
- By issuer type, sovereigns and local governments demonstrated an improvement in transparency of reporting, as well as the adoption of best practices, building on the findings in the study in 2021.
- ICMA's project classification was by far the most frequently used to categorise projects with 80% of issuers surveyed referencing and relying upon ICMA's guidance and principles. Additionally, while impact reporting still lags allocation reporting in many aspects ICMA's Harmonised Framework for Impact Reporting was the most frequently cited.

Climate Bonds makes a series of recommendations within the report for high-quality and standardised reporting, and proposes the following four elements as a minimum:

- **Scope** – the need to report both allocations and impact.
- **Bond identification** – the scope of reports in terms of instruments and period covered, percentage of proceeds allocated, and the associated impact should be clearly stated.
- **Accessibility to disclosure** – making disclosure easy to locate.
- **Frequency and timing** – consistent and clear.



In 2024, 43 SPO providers were involved in providing reviews for aligned green instruments. CICERO reviewed 485 instruments (versus 445 in 2023) followed by Sustainalytics with 340 instruments (versus 272 in 2023).

Major second-party opinion providers for green instruments in 2024

SPO Name	Instruments by volume (USDbn)	Instruments reviewed
Sustainalytics	127.6	340
ISS ESG	109.2	293
Vigeo Eiris	81.6	44
CICERO	61.8	485
Moody's	30.9	66

4. Social and sustainability

Social and sustainability bond market highlights of 2024

- In 2024, the aligned volume of social and sustainability (S&S) labelled debt increased for the first time since 2021, rising by 20.6% (USD373.9bn) compared to 2023. Prior to 2024, the volume of S&S bonds had reduced by an average of 15.6% from 2021, which recorded the highest annual recorded issuance of S&S bonds at USD441.7bn.
- In 2024, social bond volume increased by 9% to USD167.6bn from USD153.5bn in 2023.
- Sustainability volume increased by 32% to USD206.3bn in 2024 from USD156.5bn in 2023. Just under USD1tn (USD 998.1bn) in sustainability-labelled debt has been priced since 2008.
- Government-backed entities were the most significant contributor to aligned S&S volume, accounting for 33% of the total (USD123.8bn), followed by development banks, which priced 27% (USD101.5bn).

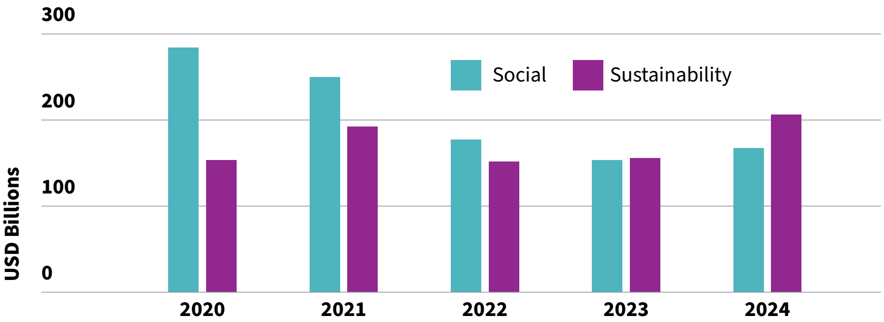
Sustainability

Development banks drive growth in the sustainability market

In 2024, the sustainability theme constituted 19% of aligned GSS+ deals. Aligned sustainability volume reached USD206.3bn, a 31% increase compared to 2023 (USD156.5bn). This growth came from development banks, which accounted for 41.8% of the aligned volume of sustainability deals issued in 2024 (USD86.2bn). While this was not the highest volume of sustainability bond issuance from development banks, it returned to similar levels reached during the COVID-19 pandemic in 2020, where development banks issued USD96.7bn of sustainability-labelled debt.

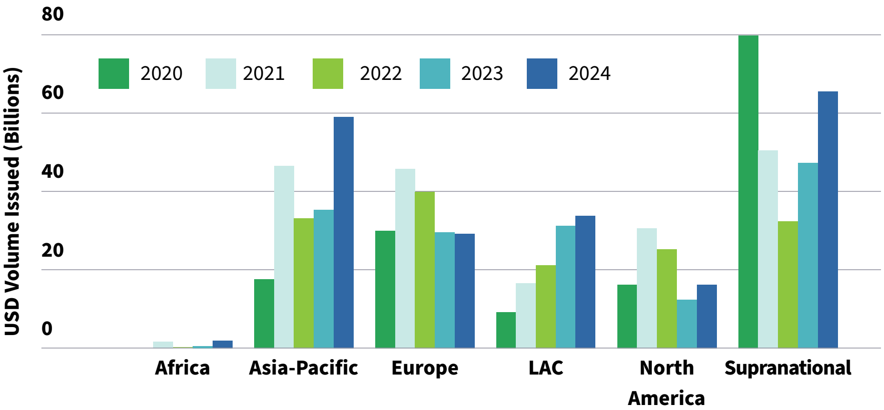
Aligned volumes increased from other issuer types too. Non-financial corporate entities including **Malaysian Rail Link (MYR4bn/USD1.5bn), Compass Group (EUR1.3bn/USD1.4bn),** and **American Movil (MXN20bn/USD1.2bn)** collectively accounted for 12.7% of aligned sustainability volume in 2024 (USD26.3bn), a 40% increase from 2023. In 2024, a further 100 non-financial corporates issued sustainability bonds in the market compared to 2023. Additionally, 120 entities issued their debut sustainability bonds contributing USD42.7bn; in comparison to 106 entities which priced aligned deals for the first time in 2023, with a collective volume of USD34.5bn.

Sustainability bond issuance volume above social for the second year



Source: Climate Bonds Initiative

2024 aligned sustainability volume surged in APAC

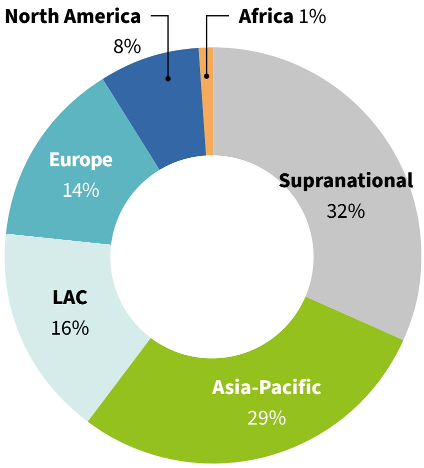


Source: Climate Bonds Initiative

Europe lags in sovereign issuance of sustainability bonds

Since 2008, Europe has surpassed all other regions as the source of the most aligned cumulative volume of sustainability bonds, reaching USD219.5bn. In 2024, Europe contributed 14.3% of aligned sustainability volume, however, issuance from the region has been declining since its 2021 peak of USD45.7bn. In 2024, European entities collectively priced sustainability volume of USD29.4bn. More recently, European entities have recorded 13x more volume in green bonds versus sustainability bonds. While the region retains its reputation for being the hub of sustainable finance as indicated by its 45% share of total GSS+ issuance in 2024, European sovereign sustainability bond issuance is low compared to other regions. In 2024, aligned sovereign sustainability bond issuance from Europe contributed just USD1.5bn, a significantly lower amount compared to that from LAC (USD15bn). Of the 50 countries in Europe, only seven have priced a sovereign sustainability bond, which could be explained by the greater number of green bond appropriate projects (to which to allocate funds) available to European sovereigns.

Supranationals account for the largest issuance by volume



Source: Climate Bonds Initiative

The Asia-Pacific region overtook the LAC region as the largest source of sustainability-labelled debt in 2024, accounting for 29% of aligned sustainability volume (USD59.1bn). Aligned volume from Asia Pacific increased by nearly USD24bn compared to 2023, where China was the largest contributor with USD13.2bn in aligned sustainability volume, 310% higher than 2023.

China's S&S deals demonstrate a robust increase in alignment

In 2024, the **US**, **China**, and the **UK** were the only major markets demonstrating growth in S&S bonds. The total aligned volume of S&S bonds from **China** increased from USD13bn in 2023 to USD22.6bn in 2024, making it the sixth largest S&S market, following **SNAT**, **USA**, **South Korea**, **Japan**, and **France**.

The alignment rate improved significantly in 2024, rising from 29% in 2023 to 70% in 2024 of amount issued, marking a new record high and further aligning the Chinese market with international standards. The aggregate issuance of sustainability bonds has surpassed that of social bonds, with the total issuance volume of S&S bonds in China increasing by 73.5% year-on-year, growing from USD13bn in 2023 to USD22.6bn in 2024.

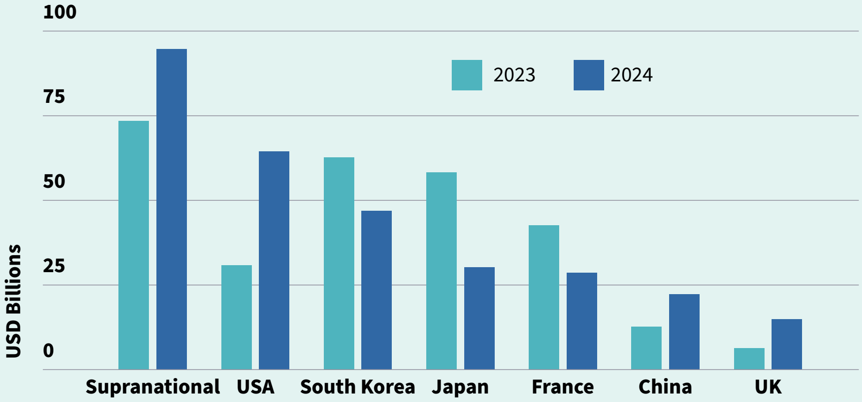
In August 2024, **Zhuji Development Ltd** priced the year's largest aligned sustainability bond in the Chinese market. The UoP of the USD520m deal was earmarked to support affordable infrastructure, affordable housing, green buildings, buildings, and water projects.

There are three reasons behind the market growth:

1. S&S bonds are viewed by China's financial industry as having the potential to offer a new growth area for financing tools with positive social effects.

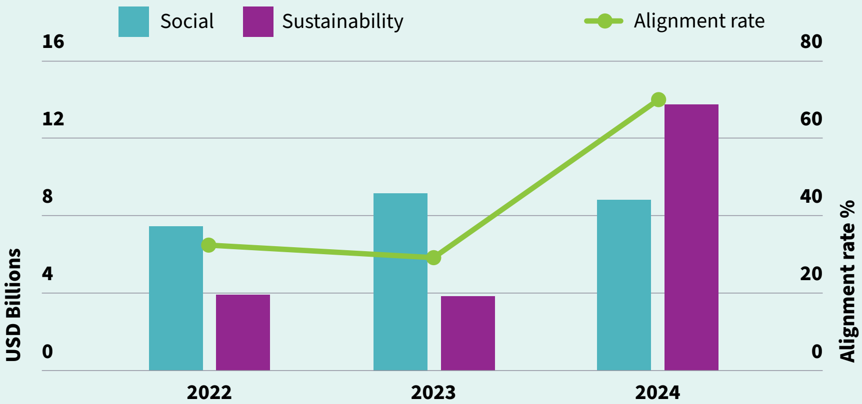
2. Chinese sustainable finance practitioners, especially investment bankers who support bond issuers, have developed a better understanding of sustainable finance and are now more aligned with international standards.

Supranationals, the USA, China, and the UK demonstrate growth in S&S



Source: Climate Bonds Initiative

S&S deals from China see significant upward trend in alignment rate



Source: Climate Bonds Initiative

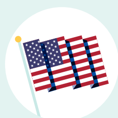
3. More issuers use second-party opinion (SPO) providers when issuing bonds. According to Climate Bonds data, issuers that use a SPO are more likely to meet the Climate bonds dataset methodology Criteria, especially those from developing countries.

The USA is the largest country source

In 2024, USD206.3bn of aligned sustainability-labelled debt originated from 49 countries, eight of which were represented in the sustainability market for the first time. For comparison, in 2023, sustainability deals originated from 44 countries. The largest contribution came from the USA at USD14.2bn, driven by government-backed entities which collectively issued 574 sustainability bonds in 2024. China made the second largest contribution (USD13.2) from 44 issuers, and Mexico was third (USD13bn) with aligned deals from 10 issuers.

USA leads on sustainability labelled debt issuance in 2024

- In 2024, the USA emerged as the top issuing country of sustainability bonds, totalling USD14.2bn across 840 deals.



- Sustainability deals from US entities were priced exclusively in USD.
- The US issuance volume originated from 32 entities, with over 50% of the volume coming from government-backed entities (USD7.2bn) such as the **New York City Housing Development Corporation** and the **New York State Housing Finance Agency**.

The World Bank

SNAT was the largest source of aligned sustainability volume in 2024 with USD77.9bn. **The largest issuers were the World Bank (USD54.3bn), the International Development Association (USD11.1bn), and the Inter-American Development Bank (USD8.1bn).**

In 2024, the World Bank was the largest issuer in the GSS+ market, and the largest single source of sustainability bonds accounting for 26% of the volume. It priced 262 deals across 18 different currencies evenly distributed over each quarter of the year. Since 2022, the World Bank has progressively increased presence in the sustainability bond market, reaching cumulative volume of USD300bn by the end of 2024. Through sustainability bonds in local currencies such as KZT (Kazakhstani tenge) and UYU (Uruguayan peso), the World Bank is working alongside the International Development Association and its Private Sector Window to establish credible market solutions to support inclusive investments that address the United Nations Sustainable Development Goals (SDGs).[10]

2024 aligned sustainability bonds in numbers

TOP 3 REGIONS

1. **Asia Pacific** USD59.1bn
2. **LAC** USD33.8bn
3. **Europe** USD29.4bn

TOP 3 COUNTRIES

1. **USA** USD14.2bn
2. **China** USD13.2bn
3. **Mexico** USD13bn

LARGEST ISSUER

By volume: World Bank (IBRD), USD54.3bn

By deal count: World Bank (IBRD), 262 deals

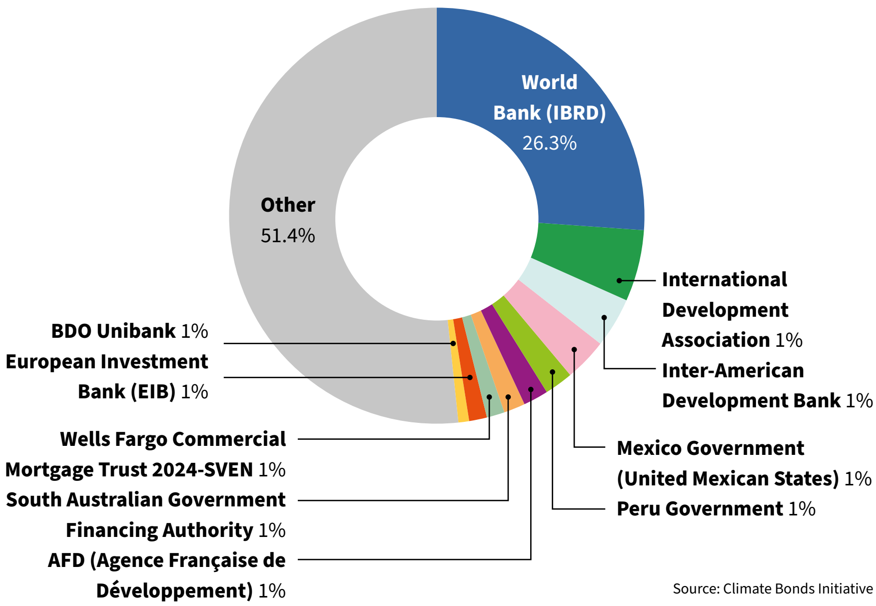
DEAL CURRENCY

- 81% of volume in hard currency
- Deals were issued in 36 currencies
- Top 3 currencies by volume: USD, EUR, GBP

Eight countries emerged as new sources of sustainability deals in 2024

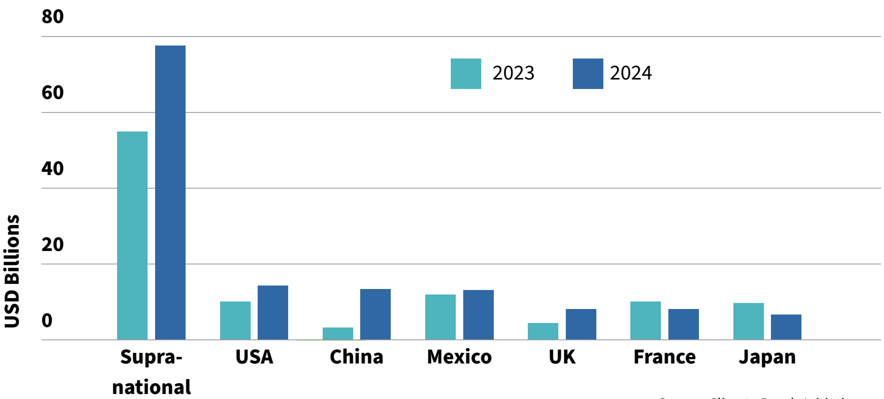
Country	Issuer	Amount USDbn
Serbia	Sovereign	1.5
Cote d'Ivoire	Sovereign	1.5
Guatemala	Banco Promerica (financial corporate); Local government	0.9
Qatar	QIIB Senior Oryx Ltd	0.8
Honduras	Sovereign	0.7
Kuwait	Warba Sukuk Ltd	0.5
Kazakhstan	Development Bank of Kazakhstan JSC	0.2
Dominican Republic	Banco de Ahorro y Crédito FONDESA SA - BANFONDESA	8.3

The world bank issued 26% of the sustainability bond volume in 2024



Source: Climate Bonds Initiative

USA leads the country ranking of aligned sustainability volume in 2024



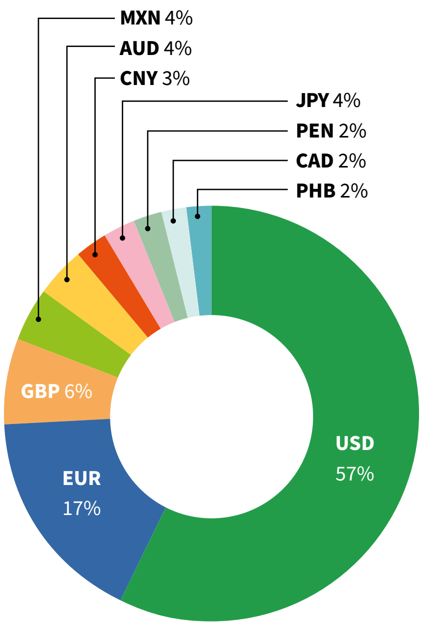
Source: Climate Bonds Initiative

Hard currencies contribute over three-quarters of sustainability volume in 2024

In 2024, hard currencies (USD, EUR, JPY, GBP, AUD, and CAD) contributed 81% of the aligned sustainability bond volume (USD168bn). In line with 2023, the USD dominated, with 52% of all sustainability deals priced in USD, 86% of which originated outside of the USA. USD sustainability volume increased by 66% compared to 2023 (USD65.1bn). Sustainability bonds from EUR and GBP took the second and third places with USD32.2 (16%) and USD12.2bn (6%) respectively.

In 2024, issuers of aligned sustainability bonds deployed 36 currencies, of which one bond was issued in Dominican peso (DOP), equivalent to USD8.3m. It was issued by **Banfondesa**, a bank in the Dominican Republic that focuses on serving microentrepreneurs, small-scale rural producers, and low-income families.[11]

USD remains the leading currency for sustainability bonds in 2024



Source: Climate Bonds Initiative

Issuers from 25 countries priced sustainability deals in USD

Country of origin	Total USDbn	Contribution to total	Country of origin	Total USDbn	Contribution to total
Supranational	50.8	46.7%	Serbia	1.5	1.4%
USA	14.2	13.1%	Cote d'Ivoire	1.1	1.0%
China	9.7	8.9%	Guatemala	0.9	0.8%
Saudi Arabia	4.4	4.0%	Qatar	0.8	0.7%
France	4.1	3.7%	Honduras	0.7	0.6%
Turkey	3.7	3.4%	India	0.6	0.6%
South Korea	3.4	3.1%	Kuwait	0.5	0.5%
Brazil	2.8	2.5%	Uzbekistan	0.4	0.4%
UAE	2.8	2.5%	UK	0.3	0.3%
Philippines	2.6	2.4%	China HK	0.1	0.1%
Japan	2.1	1.9%	Costa Rica	0.1	0.1%
Mexico	1.5	1.4%	Ecuador	0.03	0.01%
			Argentina	0.01	0.01%
Total				108.7	100%

Top 5 second-party opinion providers for sustainability instruments in 2024

SPO Name	Instruments by volume (USDbn)	Instruments Reviewed
Sustainalytics	43.1	250
ISS ESG	11.7	24
Moody's	11.5	32
Vigeo Eiris	10.3	18
S&P Global Ratings	10.2	197

External review providers

In 2024, 56% (USD114.7bn) of aligned sustainability bonds received external reviews from SPO providers, in contrast to 59% the previous year, with 873 instruments reviewed in 2024, an increase of 44% on 2023. These reviews were provided by 31 SPO providers, five of which reviewed a sustainability bond for the first time. These included AttestESG, BLX Group, CCX, European Quality Assurance (EQA), Kri Rating, and Lianhe Equator which became the first approved verifier in China for equity and sustainability-linked debt certification.[12]

In 2024, Sustainalytics was the top SPO provider for sustainability bonds, reviewing 250 deals with a combined volume of USD43.1bn; 55 deals more than it reviewed in 2023, when it was also the largest reviewer of sustainability deals. Sustainalytics has reviewed over 1,100 sustainability deals cumulatively, with the closest competitor being S&P Global Ratings, having cumulatively assessed 376 deals.

Social

In 2024, aligned social bonds contributed 16% to GSS+ volume. The volume of social bonds reached USD167.6bn, an increase of 9.1% compared to the USD153.5bn recorded in 2023.

There were 82 new issuers in 2024, which collectively contributed USD35.9bn.

Issuers of social bonds also emerged from the following countries for the first time: **UAE**, **El Salvador**, **Bolivia**, and **Mongolia**. **The Korea Housing Finance Corporation (KHFC)** was the largest social bond issuer in 2024, issuing USD14.8bn, or 9% aligned volume.

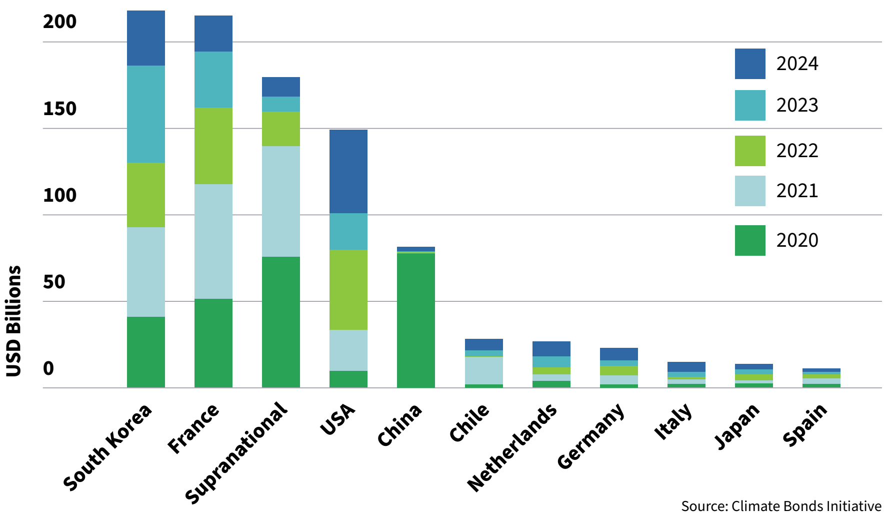
Since 2018, KHFC has priced cumulative aligned volume of USD151.8bn making it the largest source of social bonds. French government-backed entity **Caisse d'Amortissement de la Dette Sociale (CADES)** is second with cumulative social volume of USD143.3bn.

Social bond issuance, Europe leads but the USA bounces back

In 2024, Europe became the largest source of aligned social bonds contributing 31% (USD51.8bn). While this is lower than the volume priced in 2023 (USD54.8bn), Europe welcomed 15 new social bond issuers to the market, contributing USD5.2bn in 2024. Both Asia Pacific and Europe recorded a decline in social bond volume.

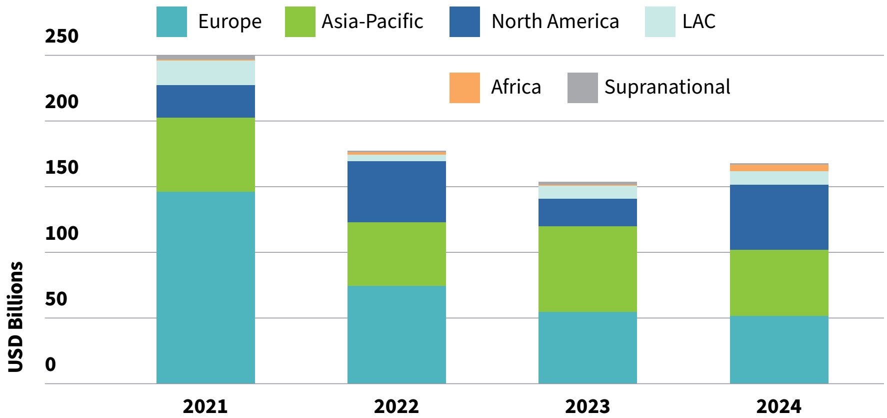
North America reported a 147% increase in 2024 compared to 2023 (USD20bn), which was almost exclusively attributed to issuers in the USA accounting for 99% of the social bond volume. Meanwhile in 2024, Canadian issuers only contributed USD0.5bn. The USA's increase in aligned social volume comes from government-backed entities such as **Government National Mortgage Association (Ginnie Mae)**, **Government National Mortgage Association (Fannie Mae),** and **Federal Home Loan Mortgage Corporation (Freddie Mac).**

South Korea replaces France as the largest source of social bond issuance



Source: Climate Bonds Initiative

Government-backed entities drive the return of North America's social bond issuance



Source: Climate Bonds Initiative

Top ten aligned social bond issuers in 2024 (ex-sovereigns)

Issuer	USDbn	Issuer	USDbn
Korea Housing Finance Corp	14.8	BNG Bank NV	5.5
Ginnie Mae	14.5	African Development Bank (AfDB)	4.2
Caisse d'Amortissement de la Dette Sociale	12.7	State Bank of India	3.6
Fannie Mae	6.9	Korea SMEs and Startups Agency	3.4
Freddie Mac	5.9	Hong Kong Mortgage Corporation Limited	3.1

Ginnie Mae

- Ginnie Mae issued the second largest volume of aligned social bonds in 2024 (USD14.5bn). As a debut social bond issuer in 2024, Ginnie Mae issued 1,253 deals, the highest number of social bonds issued by a single entity in one year. Prior to 2024, Ginnie Mae had only been active in the green bond market.
- Ginnie Mae is a government corporation within the U.S. Department of Housing and Urban Development, whose role is to connect global capital markets to America's housing finance system. It has a social impact and sustainability commitment to serve communities and households that fall under its target population, which includes first-time homeowners, low-to-moderate income households, veterans, seniors, and members of urban, rural, and tribal communities.[13]
- In 2023, Ginnie Mae launched a social bond label for investors looking to invest capital in its single-family mortgage-backed security programme, providing additional disclosure data to determine the social impact of its instruments.[14] This was ultimately a response to investor requests for greater transparency on social data within the organisation's mortgage pool.[15]

BancoSol prices the first social bond in the Bolivian currency

In 2024, Boliviano (BOB) and Jamaican dollars (JMD) were deployed for the first time in the aligned social bond market.

BancoSol, the first regulated bank in Bolivia dedicated to microfinance, issued one aligned social bond in BOB (USD29m) which is the second time a thematic bond had been priced in BOB, following a green bond from **Banco de Desarrollo Productivo** in 2023.

BancoSol was founded in 1992 and as of June 2024, was serving over one million entrepreneurs in the Bolivian micro and small business sector, providing microcredit to Bolivian families excluded from the conventional financial system. With the support of IDB Invest, BancoSol issued Bolivia's first social gender bond in the Bolivian stock market, with IDB Invest providing a partial credit guarantee of 50% of the issuance amount.[16] Resources funded through the bond will enable BancoSol to expand access to financing for businesses led by Bolivian women, closing economic gaps that currently burden BancoSol's female customers who make up 45% of the bank's credit clients.[17]

The 2024 aligned social bond market in numbers

TOP 3 REGIONS

1. **Europe** USD51.8bn (31%)
2. **Asia-Pacific** USD50.3bn (30%)
3. **North America** USD49.4bn (29%)

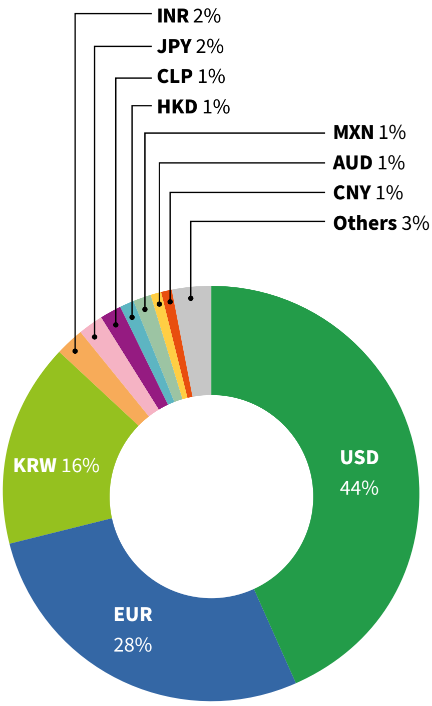
TOP 3 COUNTRIES

1. **USA** USD48.9bn (29%)
2. **South Korea** USD31.8bn (19%)
3. **France** USD20.8bn (12%)

TOP 3 ISSUER TYPES

1. **Government-backed entity USD102.6bn** (61%)
2. **Financial corporate USD27.9bn** (17%)
3. **Development bank USD15.3bn** (9%)

USD leads the way as the chosen denomination for social bonds



TOP 5 CURRENCIES FOR ALIGNED SOCIAL BONDS 2024

1. **USD** USD73.1bn
2. **EUR** USD46.3bn
3. **KRW** USD26.7bn
4. **INR** USD3.6bn
5. **JPY** USD3.4bn

USD SOCIAL VOLUME HISTORY

2024: USD73.1bn
2023: USD46.9bn
2022: USD61.2bn
2021: USD57.2bn
2020: USD41.9bn

Iceland and Slovenia enter the social bond market

- In 2024, issuance volume in the social bond market was driven by government-backed entities which accounted for 61% of all aligned social bonds (USD102.6bn).
- Sovereign issuers priced aligned social volume of USD7.7bn in 2024, a 30% increase YOY. The market welcomed two new sovereign issuers, Slovenia (USD346m) and Iceland (USD53.5m). Iceland's social bond was issued to finance areas addressing gender-equality for example increasing the supply of affordable housing for low-income women, marking a first for the sovereign debt market.[18] As one of the world's most gender-equality progressive countries, Iceland has positioned its sustainable finance framework to fund eligible projects that extend to social inclusion and improve the conditions for gender minorities.[19]

External review

- In 2024, 22 SPO providers reviewed social bonds, covering 74% of the social bond volume, with five SPO providers reviewing social bonds for the first time: EY, Lianhe Equator, MARC Ratings, IBIS, and Pacific Corporate Sustainability (PCS). The top five SPO providers by number of instruments covered were Sustainalytics (864), Kestel (605), S&P Global Ratings (353), Korea Ratings (106), and KIS Ratings.

The Climate Bonds Social & Sustainability Bond Dataset

A robust framework for assessing social and sustainability bonds with the aim of promoting impact-driven finance and going beyond green UoP.

The Climate Bonds Social & Sustainability Bond Dataset (SSBD) covers two main types of debt instruments, which are classified based on the projects or activities they finance:

1. **Social bonds** allocate 100% of net proceeds to projects that address or mitigate specific social issues and generate positive social outcomes, targeting underserved or vulnerable populations. Some social projects may also deliver environmental co-benefits. The issuer should classify a bond as a social bond based on the primary objectives of the underlying projects.

2. **Sustainability bonds** intentionally combine green and social projects, reflecting a broader commitment to both environmental and social impact.

Strengthening transparency and credibility in the GSS+ market

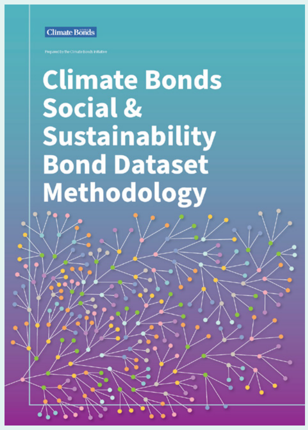
The updated methodology offers a robust, reliable framework for assessing the full spectrum of impact finance, ensuring greater transparency and credibility in social and sustainability bonds. It provides clear guidance for investors, issuers, and other stakeholders in evaluating the social and environmental impact of bonds. By fostering best practices in the GSS+ market, the methodology supports efforts to address critical social challenges, such as poverty, hunger, healthcare access, education and inequalities, while driving the transition to a low-carbon, climate-resilient, and just economy.

Key updates:

1. Enhanced assessment framework
A refined approach to evaluating the effectiveness of UoP, using an inclusive, bottom-up method that strengthens transparency in reporting and mitigates impact washing.

2. Comprehensive UoP mapping
A structured classification of eligible UoP categories, linking them to relevant SDGs, ICMA categories and key indicators, improving clarity and consistency in bond assessments.

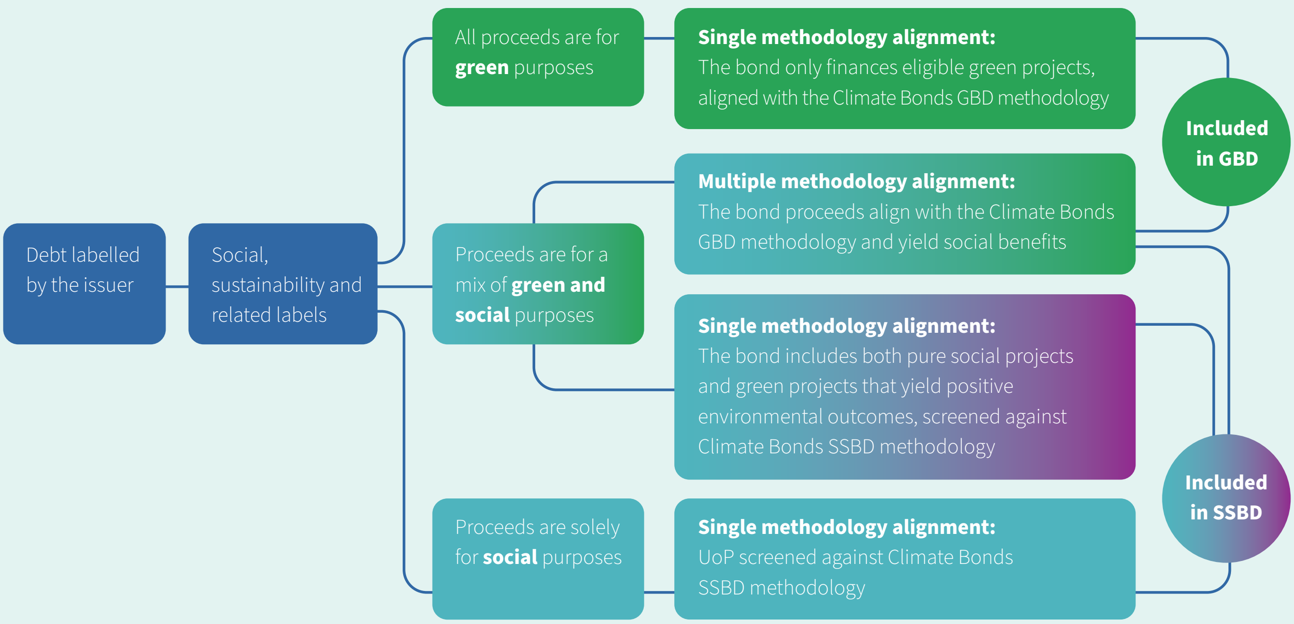
3. A 10% margin of flexibility
A newly introduced flexibility margin accommodates cases where metrics or alignment are uncertain, ensuring a more adaptable and practical assessment approach.



This methodology is an essential tool for those navigating the evolving GSS+ market, helping to assess the credibility of social and sustainability bonds with confidence.

For more information or to access the Social & Sustainability Bond Dataset Methodology, please refer to the Climate Bonds Initiative website.[20]

Charting the path to impact: classification and integration of S&S bonds



3. Sustainability-linked bonds

Sustainability-linked bond market findings 2024

- In 2024, aligned SLBs contributed under 1% to GSS+ volume.
- Aligned SLB volume exhibited a 65% decrease, falling to USD7.9bn compared to USD22.8bn recorded for 2023, with the overall SLB volume captured dropping by 38%.
- The percentage of the aligned amount issued fell to 19% in 2024 from 35% in 2023, which points to the potential for the aligned SLB market to expand. While the market is maturing the aligned percentage is struggling to gain ground.
- In 2024, the Thai government issued the first ASEAN sovereign SLB, a THB30bn (USD868m) fully aligned 15.5year bond.

Assessing credibility and ambition through SLBD alignment

An in-depth analysis of structural SLB features and transition plans is beyond the scope of this report but was included in Climate Bonds' dedicated SLBD report released in March 2024.[22] Its primary objective is to help users, particularly investors, identify deals with targets that are credible and aligned with the 'well below 2°C' goal of the Paris Agreement, as well as to highlight best practice and guide issuers. The assessment methodology incorporates some aspects of Climate Bonds Standard version 4.2 (CBS v4.2), including the Climate Bonds Sector Criteria where available.[23]

The SLBD screens deals under a methodology that classifies SLBs as aligned or not aligned based on multiple requirements. Three categories for aligned bonds exist:

- **Fully aligned:** targets are aligned with the sector-specific pathway (emissions below required threshold).
- **Strongly aligned:** targets are not currently aligned but will be by 2030.
- **Aligning:** targets do not meet the absolute/intensity threshold but are aligned on a percentage reduction basis.

A large proportion of the market does not meet the SLBD alignment requirements. Of the cumulative 17% of SLB volume issued and 13% of the SLBs priced that do, the vast majority are fully aligned (87% of the aligned volume).

Cumulative results: partial GHG scope coverage is the top reason for non-alignment (by amount issued)

Alignment	Category / Reason	Amount (USDbn)	Bonds	Issuers
Aligned	Fully aligned	49.1	113	70
	Aligning	4.7	14	10
	Strongly aligned	2.5	9	5
	Total aligned	**56.4**	**136**	**85**
Not aligned	Lack of GHG targets	84.3	413	245
	Partial GHG scope coverage in targets	129.3	255	136
	Lack of target disclosure	24.6	158	94
	Not in line with pathway	17.6	40	32
	Use of economic intensity target	8.6	20	17
	Partially not in line with pathway	11.1	26	13
	Total not aligned	**275.5**	**912**	**537**

NB: Alignment is determined for each SLB. Non-aligned figures represent bonds that failed to meet each requirement under the SLBDB's funnel methodology approach, which particularly affects 'not in line with pathway' figures.[21]

Reasons for non-alignment

Lack of GHG targets and partial GHG scope coverage account for 78% of the non-aligned volume issued, 73% of the non-aligned bonds, and 71% of the non-aligned issuers. The ranking of non-alignment reasons has remained broadly similar every year since 2020.[24]

Lack of GHG targets is the top reason for non-alignment by bond and issuer count, while partial GHG scope coverage is the leading reason by amount.[25] Eight of the top ten issuers have all or most of their SLBs linked to KPIs or targets that do not include all GHG emissions, even though these often represent the largest source of GHG emissions in their sectors.

Setting targets that are not in line with relevant pathways is fourth on the list of non-alignment reasons. Issuers should be setting sufficiently ambitious targets that meet Paris-aligned decarbonisation pathways (or at least meeting the same percentage reduction, i.e., considered aligning).

Alignment drops from the record reached in 2023

The share of aligned SLBs dropped in 2024 to USD7.9bn, equating to 19% of the amount issued and 11% of bonds (versus 35% and 20% in 2023, respectively). The volume of SLBs captured and the number of SLBs issued fell significantly less than the corresponding aligned figures (38%, 8.5%) demonstrating challenges in the alignment aspect of SLBs.

The fall in aligned SLB volume YOY was driven by a decrease in volume from some of the largest sources of 2023-aligned SLBs. Four of the largest sources in 2023 all demonstrated dramatic declines in issuance. **Chile**, which was the source of 37.5% of the aligned 2023 SLB volume (USD8.6bn) priced just USD500m in 2024, similarly aligned SLB volume from **France**, **Germany**, and **Denmark** also dropped (accounting for declines of 52%, 50%, and 75%, respectively).

The **Netherlands**, **Chile**, and **Finland** were the only countries to price 100% aligned SLB volumes in 2024. The Netherlands and Chile demonstrated similarly robust alignment qualities in their 2023 SLBs. **Germany**, **Denmark**, and **Sweden** all declined YOY in terms of percentage of aligned volume issued, while France improved and increased the aligned volume issued from 51% to 76%.

Thailand and **Turkey** priced their first aligned SLBs in 2024; one from the sovereign and one from a corporate issuer, and both countries had previously issued non-aligned SLBs in recent years. In Thailand, the **Thai Government** issued its first SLB raising THB30bn (USD865m), which is linked to two sustainability performance targets which include a reduction of 30% in GHG emissions by 2030 and an increase in new registrations of zero-emission vehicles to 440,000 per year by 2030. Thailand's **Precious Shipping** also issued two USD20m aligned SLBs.

In **Turkey**, agrifood business, **Ulker Biskuvi Sanayi AS** priced its debut USD550m SLB. Ulker published its sustainability-linked financing framework in May 2024 identifying two GHG emission reduction targets. The first target is to reduce absolute scope 1 and 2 emissions by 42% by 2030, and the second is a reduction in scope 3 emissions of 30% by 2030. Both targets have 2021 as their baseline.

While there are some promising signs for the SLB market, and Climate Bonds has supported the market's development with policy recommendations, sector criteria, research, and engagement with issuers and investors, challenges remain particularly regarding alignment.

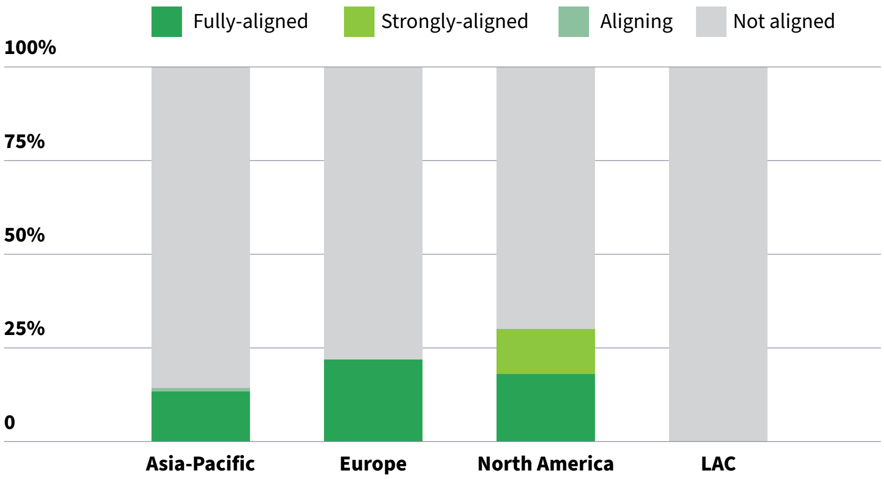
SLB issuance by region

- The share of SLBs originating from EM reached 38% of the volume and 61% of total SLBs by number (higher than 33% and 48%, respectively, in 2023) which is the highest since 2019.
- In 2024, Europe was the largest source of SLB volume (56%, USD23bn), which was also reflected in the volume of aligned deals (USD5bn) making it by far the most significant contributor of all the regions. The three largest aligned issuers from the region were **Goldstory**, **Carrefour**, and **Koninklijke Ahold Delhaize**.
- Asia Pacific was the only region to grow YOY increasing from USD13.8bn over 109 bonds in 2023 to 14.8bn across 144 bonds in 2024. Asia Pacific ranked second accounting for 15% of the SLB volume priced, driven by issuance from **China** (USD7bn); however, **Thailand** was the largest source of aligned SLB debt owed largely to the **Thai Government Bond** detailed earlier.
- Latin American SLB issuance volume declined significantly falling from USD14.3bn in 2023 (37 deals) to USD2.7bn (16 deals) in 2024. The decline was primarily driven by the fall in issuance from the two largest sources in 2023, **Chile** and **Mexico**.
- North America was almost entirely absent in the 2024 SLB market with the exception of one deal from Canada's **Telus Corp**, a communications company that priced a CAD500m (USD368m) SLB.

Top ten country sources of aligned SLBs in 2024

	Amount issued (USDbn)		Number of bonds		
Issuer domicile	**2024**	**Aligned %**	**2023**	**Aligned %**	**Number of issuers**
France	1.75	76%	3	60%	2
Netherlands	1.09	100%	2	100%	2
Germany	1.08	34%	2	33%	2
Thailand	0.91	71%	3	50%	2
Turkey	0.55	41%	1	50%	1
Denmark	0.54	50%	1	50%	1
Japan	0.54	16%	3	10%	3
Chile	0.50	100%	1	100%	1
UK	0.41	21%	1	25%	1
Mexico	0.32	36%	2	33%	1

Europe demonstrated the strongest alignement by region



Source: Climate Bonds Initiative

SLB issuance by country - Italy and China maintain their dominance

- In 2024, Italy was once again the largest source of SLBs by volume (25%, USD10.4bn) while **China** maintained its dominance pricing the highest count of SLBs, ranked second by volume. No issuers in either **Italy** or **China** priced any aligned SLBs in 2024 but there was one Chinese SLB pending alignment at year end 2024.
- Further down the SLB issuance by country volume rankings the alignment landscape becomes a little more optimistic. The third, fourth, and fifth places taken by **Japan**, **Germany**, and **France** demonstrated alignment of 16%, 34%, and 76%, respectively.
- **China** maintained its dominance in bond and issuer counts, with SLBs accessed by a broader pool of relatively small issuers. Among the top ten issuer domiciles, China's average bond size (USD86m) is only comparable to that of Japan (USD116m). Fourteen out of the twenty-seven SLB issuing countries priced SLBs with no alignment to Climate Bonds SLBD during 2024, which was mainly due to a lack of GHG emission KPIs or targets.
- The top three issuer domiciles cumulatively by amount issued in 2024 were **Italy** (USD10.4bn) with volume dominated by two issuers, **ENEL** and **Snam**); **China** (USD 7.1bn); and **Japan** (USD3.4bn).

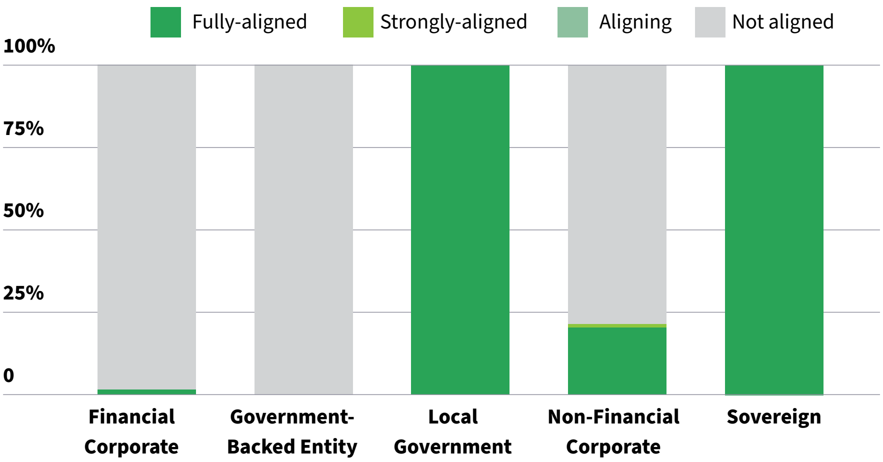
Private sector dominance continues to grow

- Non-financial and financial corporates continue to dominate the market, reaching 91% of the volume issued cumulatively versus 84% in 2023. Non-financial corporates were the source of 80% of the 2024 SLB market.
- While development banks were absent from the market in 2024, government-backed entity SLB volume increased YOY, volume priced by local government was stable, and there was only one sovereign SLB from Thailand representing the first sovereign ASEAN SLB (detailed in the sovereign section).

Wide range of economic sectors are represented

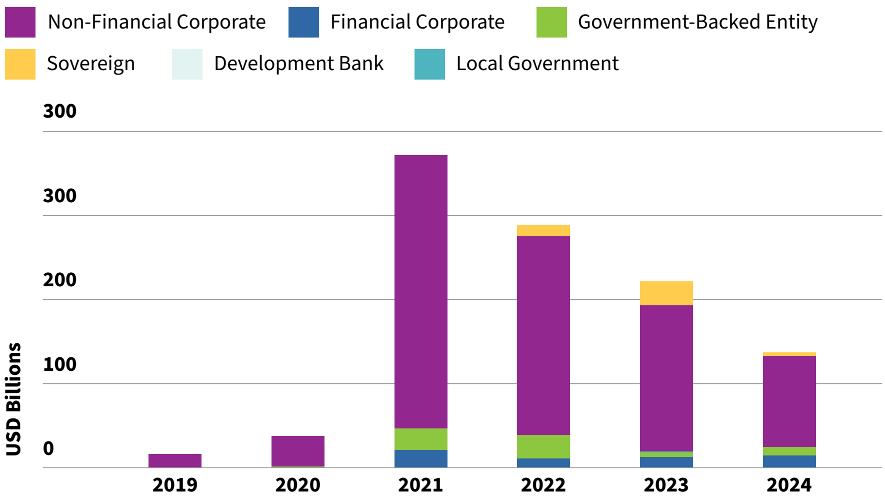
- **In 2024, the Climate Bonds SLBD recorded issues across nearly all economic sectors, with renewable energy the only absentee.** This continued broad deployment highlights the flexibility of SLBs as general-purpose funding instruments. It also demonstrates that issuers in any economic sector can tie their financing commitments to decarbonisation ambitions even if they do not have specific green expenditures.
- Industrials maintained their top position in 2024 by a relatively wide margin across all metrics (amount issued, number of bonds, and number of issuers). **Autostrade per l'Italia** was the largest industrial issuer in 2024 pricing USD1.1bn across two deals, neither of which was aligned due to the use of economic intensity (revenue) in KPIs or targets.

Sovereigns and local governments demonstrated the strongest alignment



Source: Climate Bonds Initiative

Financial corporates and government-backed entity SLB volume grew in 2024



Source: Climate Bonds Initiative

2024: ENEL was the largest SLB issuer in 2024

Top 20 issuers (2023)	Amount issued (USDbn)	Number of bonds	Alignment summary (2023)
Chile Government	8.6	6	All bonds aligned
Eni SpA	4.0	3	No bonds aligned (excludes scope 3)
Enbridge Inc	2.6	2	No bonds aligned (excludes scope 3)
Teva Pharmaceutical Industries	2.5	4	No bonds aligned (excludes scope 3)
Autostrade per l'Italia SpA	1.6	2	No bonds aligned (uses economic intensity)
HeidelbergCement AG	1.6	2	All bonds aligned
Enel SPA	1.6	2	1 bond aligned, 1 not aligned (excludes scope 3)
Carrefour SA	1.4	2	1 bond aligned, 1 not aligned (scope 3 not in line with pathway)
TDC Net A/S	1.1	2	All bonds aligned
Air France-KLM	1.1	2	All bonds aligned
Vestas Wind Systems A/S	1.1	2	All bonds aligned

- Beyond the top position there was a significant change in terms of the ranking of the various sectors. In 2024, the top five sectors were industrials, utilities, consumer discretionary, financials, and agrifood, which compares with industrials, government, oil and gas, agrifood, and communications in 2023.
- Not one sector demonstrated 100% alignment, in contrast to 2023 when four sectors achieved 100% alignment (cement, paper and pulp, renewable energy, and energy). The sectors with the highest percentage of volume aligned were agrifood (75%), government (76%), and communications (56%).

Industrials are the top issuing SLB sector in 2024 by amount, bonds, and issuers

Sector	SLB volume (USDbn)	Aligned volume	Number of bonds	Aligned bonds	Number of issuers
Industrials	7.42	13%	42	12%	33
Utilities	7.12	0%	18	0%	10
Consumer discretionary	6.46	37%	17	29%	12
Financials	4.34	1%	45	2%	25
Agrifood	2.84	75%	15	20%	6
Oil and gas	2.79	0%	4	0%	2
Materials	1.30	0%	7	0%	6
Cement	1.26	26%	7	29%	5
Government	1.26	73%	4	75%	4
Paper and pulp	1.20	42%	3	33%	3
Real estate	1.18	5%	17	12%	10
Communications	0.96	56%	3	33%	3
Consumer staples	0.54	0%	4	0%	2
Chemicals	0.49	0%	6	0%	4
Energy	0.48	0%	4	0%	4
Health care	0.33	0%	4	0%	3
Automotive	0.28	0%	3	0%	3
Technology	0.27	0%	4	0%	2
Shipping	0.17	12%	2	50%	2
Steel	0.14	0%	4	0%	2
Airlines	0.14	0%	1	0%	1
Total	**41**	**19%**	**214**	**11%**	**142**

4. The sovereign GSS+ bond club

As of the end of 2024, Climate Bonds had recorded cumulative aligned sovereign GSS+ volume of USD655.9bn from 59 issuers. The total number of EM countries that priced aligned GSS+ sovereign debt grew to 37 (from 34 in 2023), and debuts from Australia, Iceland, and Japan in 2024 pushed DM countries to 22. Green remains the largest theme, taking 80% of the cumulative volume.

Sovereign GSS+ bond market highlights 2024

- Sovereigns contributed 16% to aligned GSS+ volume in 2024.
- Aligned GSS+ deals amounting to USD167.4bn were issued by 37 countries, 4% more than the USD161.3bn recorded for 2023.
- Aligned sovereign GSS+ deals originated from all regions in 2024, led by Europe which delivered 60% of the volume.
- New instruments were priced by 29 countries, a further eight tapped existing deals, and 16 countries increased their GSS+ liabilities through both new and existing deals.
- In November, **Honduras** became the 59th country to join the Sovereign GSS+ bond club with its USD700m sustainability deal. Six other countries priced aligned debut GSS+ deals in 2024 beginning in January with the **Ivory Coast's** USD1.1bn sustainability deal. **Japan** priced two aligned GX Transition (green) bonds (JPY1.6tn, USD10.6bn). **Romania** priced EUR2.2bn and JPY33bn (USD2.4bn) of green bonds. **Iceland** priced a green bond (EUR750m, USD815m) and a social bond (EUR50m, USD54m). Both **Australia** (AUD7.6bn, USD5bn) and the **Dominican Republic** (USD750m) priced green bonds.

Europe leads on sovereigns

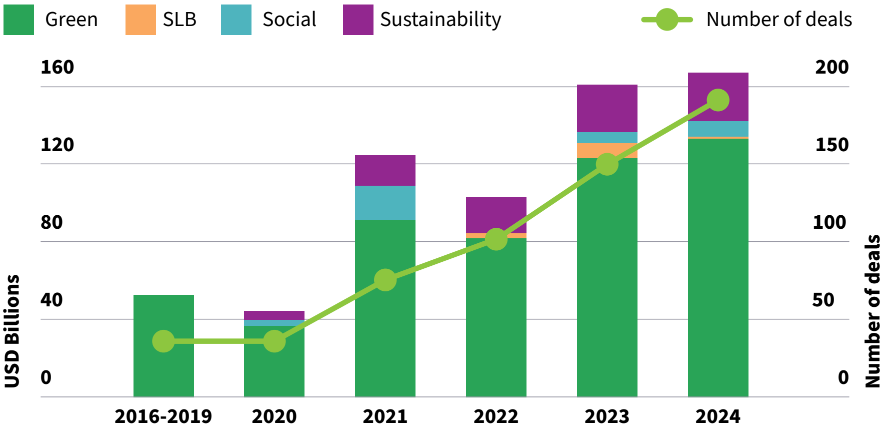
Regionally, Europe is the largest source of sovereign GSS+ debt, reaching cumulative aligned volume of USD437.6bn by the end of 2024, originating from 24 countries. Among the 27 EU member states, 18 have issued GSS+ instruments. During the year, USD101.9bn was priced across Europe, with the largest contributions coming from **Germany** (EUR17.5bn, USD19bn), **UK** (GBP13.5bn, USD17.3bn), and **France** (EUR14.1bn, USD15.3bn).

Sovereign scorecard

	Green	SLB	Social	Sustainability	GSS+ Total
Total market size (USDbn)	524.5	10.8	33.7	86.9	655.9
Number of issuers	38	2	7	28	60
Number of currencies	20	4	4	12	26
2024					
Market size (USDbn)	134.1	0.9	7.7	24.7	167.4
Number of issuers	24	1	4	12	37
Number of currencies	16	1	4	6	20

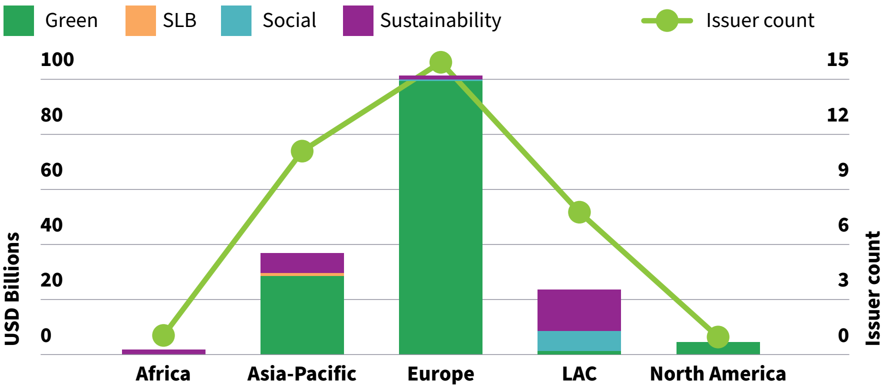
Note: the sum of the individuals themes does not equal the total where issuers have issued in multiple currencies and across many themes.

Green dominates GSS+ sovereign volume



Source: Climate Bonds Initiative

16 EU governments priced aligned GSS+ volume of USD101.9bn in 2024



Source: Climate Bonds Initiative

France retains poll position

France is an innovator in sustainable finance and remains the largest source of sovereign GSS+ debt with its green liabilities standing at EUR76bn (USD84.9bn) by the end of 2024.[26] In January, France priced its fourth green sovereign. The EUR8bn (USD8.7bn) 2049 maturity was priced by syndicate and obtained a EUR98bn (USD107bn) order book, covering the deal more than 12 times. This is on the higher end of the demand scale, and the longer tenor would have contributed to that. The French Treasury reported that 80% of the deal was allocated to investors describing themselves as green or socially responsible.[27] Climate Bonds research demonstrates that the deal obtained a marginal greenium or pricing benefit. The deal was reopened for EUR1.9bn (USD2.1bn) in October.

Massive potential for governments to convert expenditures

Most of the twenty largest issuers have massive potential to convert their expenditures to qualify for GSS+ funding. Despite a solid commitment to preferencing green expenditures, **France's** green volume still only contributed 3% to its total liabilities at the end of 2024. Among the 20 largest sovereign GSS+ issuers, **Chile** is the only issuer to have deployed green, social, sustainability, and SLB instruments, which contributed 42% to its total liabilities at the end of 2024. **Japan** has already begun an ambitious issuance programme, but its aligned volume remains a small fraction of its total liabilities.

Largest sources of sovereign GSS+ debt in 2024

	USD bn	Theme		USD bn	Theme
Germany	19.0	Green	**Peru**	4.4	Sustainability
UK	17.3	Green	**Canada**	4.4	Green
France	15.3	Green	**Spain**	4.0	Green
Italy	14.5	Green	**China HK**	3.9	Green
Austria	13.6	Green	**Belgium**	3.2	Green
Japan	10.6	Green	**Singapore**	3.0	Green
Mexico	7.1	Sustainability	**Thailand**	2.8	Sustainability, SLB
Chile	6.0	Social	**Indai**	2.6	Green
Australia	5.0	Green	**Romania**	2.4	Green
Netherlands	4.6	Green	**New Zealand**	2.3	Green

Aligned GSS+ as a percentage of total liabilities outstanding

	Total liabilities outstanding	Aligned GSS+ outstanding	Contribution to total liabilities	Themes
France	2,848.4	84.9	3.0%	Green
Germany	2,081.1	81.5	3.9%	Green
UK	3,532.9	73.5	2.1%	Green
Italy	2,777.8	53.7	1.9%	Green
Chile	116.0	48.8	42.1%	Green, social, sustainability, SLB
Hong Kong, China	241.2	28.2	11.7%	Green
Netherlands	441.0	27.2	6.2%	Green
Belguim	539.6	22.0	4.1%	Green
Mexico	761.4	19.3	2.5%	Sustainability
Spain	1,556.4	16.9	1.1%	Green
Thailand	273.4	15.3	5.6%	Sustainability, SLB
Austia	376.7	15.1	4.0%	Green
Peru	69.5	13.3	19.1%	Social, sustainability
Ireland	169.9	12.5	7.4%	Green
Indonesia	551.4	11.0	2.0%	Green, sustainability
Japan	10,679.3	10.6	0.1%	Green
Canada	1,092.8	8.4	0.8%	Green
Hungry	154.9	7.0	4.5%	Green
Singapore	214.6	6.8	3.2%	Green
India	1,746.9	5.7	0.3%	Green

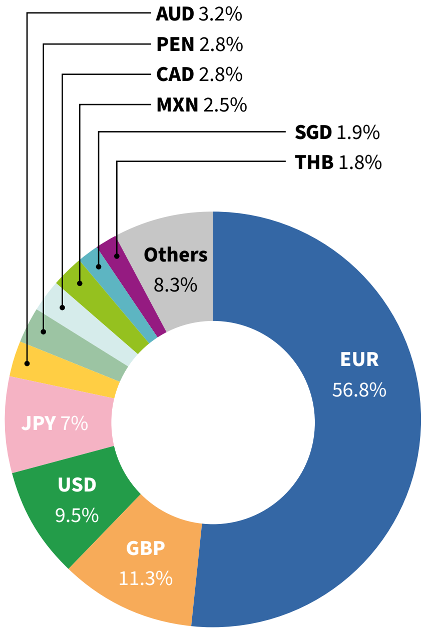
USD is the preferred currency of EM sovereign issuers

Sovereign issuers of aligned GSS+ deals have deployed 26 currencies, with 29 countries pricing in EUR which together with USD, and GBP collectively represents 81% of the total volume. While the **USA** is yet to price its first GSS+ treasury, 24 other countries have priced aligned deals in USD: one DM (**Hong Kong, China**) plus 23 EM countries.

In 2024, 20 currencies were deployed. The fifth largest of those was AUD, which was the only new currency in the sovereign space, introduced by **Australia** for its AUD7.6bn (USD5bn) debut green bond.

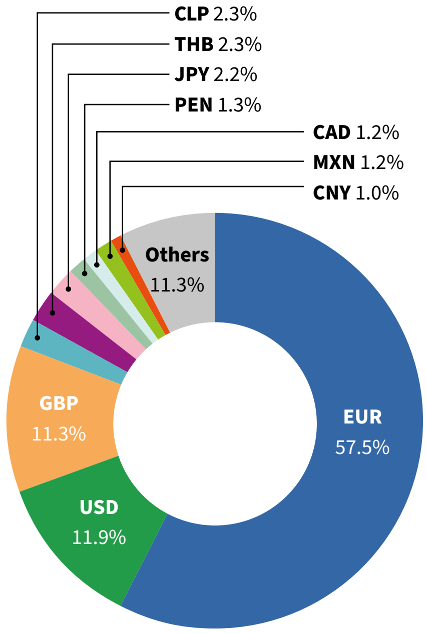
JPY took fourth place in 2024, with a 7% share of aligned GSS+ volume. Aside from Japan's GX Transition bonds (JPY1.6tn, USD10.6bn), JPY was also the chosen currency of **Hungary** (JPY1.3bn, USD9m), **Indonesia** (JPY25bn, USD159m), **Mexico** (JPY152.2bn, USD1bn), **Romania** (JPY33bn, USD222.4m), and **Slovenia** (JPY50bn, USD347m). This reflects issuers leveraging strong Japanese investor demand for GSS+ labels to diversify their funding sources.

JPY took 7% of the aligned sovereign GSS+ volume in 2024



Source: Climate Bonds Initiative

EUR, USD, and GBP together are 81% of aligned sovereign GSS+ volume



Source: Climate Bonds Initiative

Most sovereign volume is green

The green theme is the firm favourite of sovereign issuers, taking 80% of the cumulative aligned total. In 2024, 24 countries issued new green deals or taps, with combined volume of USD134.1bn, 9% more than USD123.5bn recorded in 2023.

Sustainability volume grew by 3% to USD24.7bn in 2024 from USD24bn in 2023. Twenty sovereign issuers had priced aligned sustainability deals with combined volume of USD86bn by the end of 2024. Twelve EM governments accessed the market in 2024, led by **Mexico** which priced USD7.1bn in a mixture of taps and new deals in JPY, MXN, and EUR.

Honduras became the 59th country and the twelfth from the LAC region to price a GSS+ deal when it issued its debut sustainability bond in November 2024. The USD700m ten-year deal referenced Honduras' framework for green, social, and sustainable thematic bonds published earlier that same month.[28] The 28 eligible project categories specified in the framework were selected for their potential to contribute to a reduction in poverty, or support climate action.

The social theme has attracted combined aligned volume of USD33.7bn from seven sovereign issuers altogether, among which Iceland is the only DM. In 2024, the social theme experienced growth of 31% YOY, the strongest rise among the sovereign GSS+ themes, with volume reaching USD7.7bn compared to USD5.9bn the prior year. Repeat social issuers **Chile** (USD6bn from one new issue and two taps), and **Colombia** (USD1.3bn from two taps) were joined by newcomers **Iceland** (EUR50m, USD53m) and **Slovenia** (JPY50bn, USD346.6bn).

Sovereign SLB issuance declined by 89% to USD868m compared to USD8bn priced by **Chile** in 2023. **Thailand** was the only source of sovereign SLB volume in 2024, and its November deal was the first from the ASEAN region. Thailand has two outstanding sustainability deals priced in 2020 and 2022.

Its 2040 maturity THB30bn (USD868m) SLB references Thailand's October 2024 sustainability-linked financing framework and includes material KPIs with ambitious targets, given Thailand is an EM growing its economy through industrial production.[29] The achievement of the SPTs is supported by policy action, such as Thailand's 2024 power development plan (explained in the framework), for use until 2037. It forms part of the national energy plan and states the intention to increase the share of energy from renewable sources to 51% by 2037 from 20% in 2023 in addition to measures that improve power supply management. The Thailand Board of Investment (BOI) has introduced several measures including policies, tax breaks, and non-tax incentives to raise EV use to 30% by 2030.[30] While this deal encourages accountability from Thailand, larger coupon adjustments would enhance its credibility as an incentive.

Thailand's debut SLB

KPI	SPT	Baseline	Bonds
Total GHG emissions (ktCO_2e)	Total GHG emissions (excluding land use, land use change, and forestry (LULUCF)) reduced by 30% by 2030.	BAU projection from a 2005 baseline.	2.5bps step up or down if targets are missed or met.
Registration of new zero-emission vehicles	Increase of 476% by 2030.	76,361 in 2023	2.5bps step up or down if targets are missed or met.

Nationally determined contributions: 2025 is the year to finance increased ambition

2025

Nationally determined contributions (NDCs) are the climate action plans of individual countries under the Paris Agreement, describing how they will decarbonise and adapt to climate change impacts. The Paris Agreement mandates that NDCs be updated every five years, with ambition ratcheting in each iteration. NDCs 3.0, due in 2025, will outline country level climate plans until 2035. Updates are informed by the Global Stocktake, which assesses global progress toward the Paris Agreement goals. Countries can use this opportunity to stretch their mitigation and adaptation ambitions by enhancing the scope, depth, and urgency of their actions.

Only 13 out of 195 countries had submitted by the original 10 February deadline. Those countries were Andorra, Brazil, Ecuador, the Marshall Islands, New Zealand, Singapore, Saint Lucia, Switzerland, the United Arab Emirates (UAE), the UK, Uruguay, the United States, and Zimbabwe.[31]

Among these, the UAE, Brazil, and Azerbaijan are expected to increase fossil fuel production up to 2035.[32] The UAE is one of the ten largest oil producing nations and has committed to reducing its emissions by 47% by 2035 compared to a 2019 baseline. The territory plans a shift away from fossil fuels through solar capacity, waste to energy technologies, and nuclear energy. These activities can be financed through the green bond market and simultaneous plans to cut fossil fuel production and exports could engender the required credibility to obtain investor confidence and perhaps pricing benefits.

Brazil's NDC was strengthened to a 59-67% GHG emissions reduction on 2005 levels by 2035, however it was evaluated by Climate Action Tracker to be insufficient, largely due to uncertainty over the LULUCF contribution.[33]

The UK NDC, while ambitious at 78% by 2035, is undermined by doubts over policy backing. This is why it is crucial for ambitious NDCs to be backed by strong, fully costed, sovereign transition plans. Climate Bonds is developing guidance for sovereign transition planning, with a focus on how to unlock the financing needed to deliver targets.

Canada, Japan, Montenegro, Maldives, and Cuba had all submitted by the end of February. The UNFCCC extended the deadline for submissions to September 2025, urging countries to prioritise the quality of their climate action plans over meeting the initial deadline.[34]

It is important to remember that while NDCs have a strong signalling effect regarding ambition, they are not binding and are just one tool which must be combined with and supported by robust policy and adequate, committed financing.

The enhanced NDCs were required to provide improved targets for 2030 and 2035.

However, several of those submitted did not increase 2030 targets, implying the need for substantial emissions reductions 2030–2035, for example by 41% in the UAE. This creates uncertainty over the ability of countries to meet such targets, again highlighting the need for strong policy backing of targets, and to demonstrate near-term action to inspire confidence in them.

Financing NDCs is a major challenge for all parties but particularly for least developed countries (LDCs). Most countries have six options, each of which can be supported through the GSS+ market:

1. Public finance. Many countries such as Canada, France, Germany, Japan, and the UK have earmarked national budgets to invest in low-carbon technologies, renewable energy, and infrastructure i mprovements. Such expenditures can be funded through the green bond market which would also attract private sector investment and stimulate local issuance. Fiscally constrained budgets can still be tilted to green, through fiscally efficient policies such as reallocating subsidies from fossil fuels to cleaner energy sources, as deployed by Canada, Germany, New Zealand, the UK, and Costa Rica among others.

2. Public-private partnerships (PPP). Countries can leverage public investment to mobilise private investment, transfer technology, share risks, and scale climate action projects. PPPs ensure that countries can access a diversified financial base to meet their climate goals. The Ultra Mega Solar Power Project in Madhya Pradesh, India, which increased India's solar energy generation capacity by 2.5% was the result of a successful PPP.[35] The Netherlands has implemented PPPs such as its Room for the River project to address resilience to flooding.[36]

3. Private investment. Policy action can stimulate private investment in NDC-aligned projects. This requires a comprehensive policy framework that tilts the playing field to green, providing the standards and targets for industrial sectors, developing demand and supply chain security, and smoothing investment processes.[37] Much of this can be done at minimal cost to the public purse, although a certain level of public risk-sharing will be required.

4. International climate finance. Developed countries have committed to providing financial support for developing countries to meet NDCs and national adaptation plans, with the annual goal recently increased from USD100bn to USD300bn by 2035 at COP29 in 2024.[38]This funding is channelled through mechanisms such as the Green Climate Fund (GCF) and the Global Environment Facility (GEF), with the goal of assisting countries to meet their NDC targets. Strong national transition planning can help developing countries to access these funds.

5. Multilateral development banks (MDBs) and bilateral development finance institutions (DFIs): Organisations such as the World Bank and Asian Development Bank (ADB) play a crucial role in helping LDCs address their mitigation and adaptation priorities. They provide loans, grants, guidance, capacity building, and technical assistance to support climate ambitions. MDBs and DFIs can maximise their impact by prioritising private capital mobilisation whenever possible, rates of which are particularly low in LDC financing.[39]

6. Carbon markets and climate finance mechanisms: Some countries like Mexico, China, and South Korea, or regions such as the EU deploy carbon markets/ emissions trading systems or carbon offset mechanisms. These allow them to invest in carbon reduction projects both domestically and internationally.

5. Blue- and water-labelled GSS+ market

Introduction

The blue label remained a considerable source of GSS+ bonds in 2024. While not quite matching the uptick witnessed in 2023 (+163%), GSS+ bonds with a blue theme collectively amounted to USD6.4bn across 37 instruments (versus USD7.4bn, 40 bonds in 2023). Estimates point to an investment opportunity of over USD3tn until 2050 for areas such as the decarbonisation of marine transportation, protection of marine and coastal ecosystems, marine renewable energy, and sustainable aquaculture.[40]

Climate Bonds screens bonds bearing the blue label for its GBD (environmental UoP) and SSBD (social and environmental UoP) while SLBs from issuers with operations in the blue economy are eligible for inclusion in Climate Bonds SLBD. For example, a blue bond focused solely on green projects such as marine renewable energy, would be considered green-themed, whereas a blue bond including categories with inherent green and social characteristics, such as sustainable coastal and marine tourism, would be considered sustainability-themed.

Climate Bonds reinforces the need for blue bond issuers to follow the appropriate ICMA principles according to the thematic nature of the stated UoP.[41]

Scope of the analysis

The methodological approach for this research consists of data analysis of GSS+ bonds recorded in Climate Bonds' three datasets: GBD, SSBD, and SLBD. Three different mapping exercises were done for this piece:

1. A mapping of all bonds in which issuers labelled their bonds explicitly with blue and water tags according to publicly available information recorded in the different Climate Bonds datasets.
2. A mapping of bonds where Climate Bonds recorded water as one of the bond's UoP categories.
3. A mapping of bonds meeting one of these three pre-defined criteria: bearing a blue or water label; or having water as one of its UoP categories as recorded in the Climate Bonds datasets; or having one keyword related to the blue economy in its UoP categories.[42]

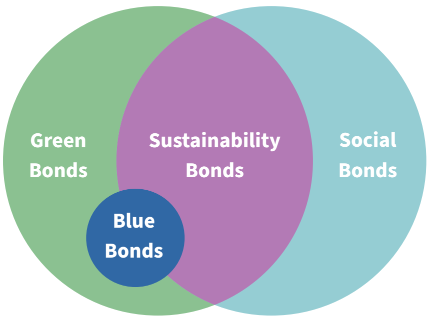
The results of the mappings demonstrate the potential of the blue label to expand within the current GSS+ market. The water label can be considered a subset of blue, and considered a blue label at the same time. Results show that several labelled debt instruments aside from blue and water bonds have already dedicated proceeds to projects and assets associated with different blue economy activities.

The precise total capital flows towards blue sectors are difficult to map accurately because issuers do not always report the specific allocation of proceeds to different project categories in advance. Moreover, Climate Bonds datasets do not track post-issuance allocations but record flat allocations (i.e., equal amounts in each category) unless relevant data is available when the instrument is issued. Therefore, the results of this mapping exercise represent a proxy and do not reflect the actual capital flows being directed to blue economy investments through GSS+ bond instruments.

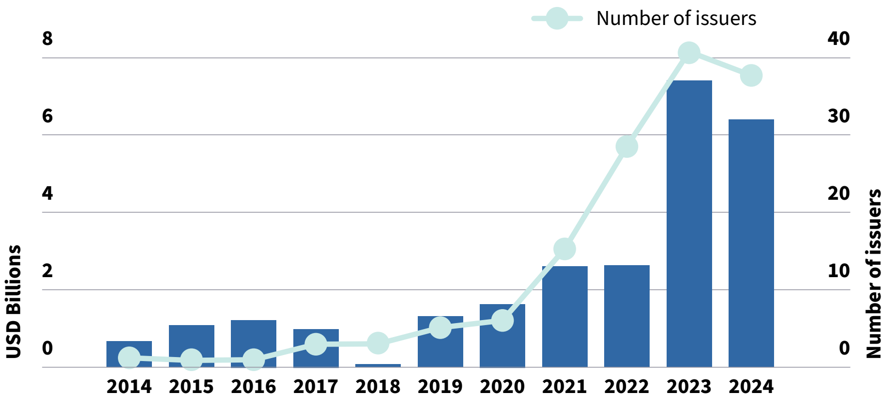
Disclosure and tagging practices must evolve before Climate Bonds can capture and track blue-related finance with a greater degree of accuracy in the global thematic debt market. Using blue and water labels while adopting best practices regarding disclosure and technical eligibility criteria for projects and assets will make it easier to gauge capital flows to the blue economy.

Blue bonds can be considered 'green' or 'sustainability', according to their UoP categories

(adapted from ICMA principles)



2024 saw a 13% YOY decline in blue and water labelled GSS+ bonds



Source: Climate Bonds Initiative

The emergence of blue and water labels

The first water-labelled bond recorded by Climate Bonds in 2014 was a EUR500m bond that matured in 2019, issued by the **NWB Bank**, which was the only water-labelled bond issuer recorded from 2014–2017. **NWB Bank** is a Dutch public bank that funds water and municipal authorities. Therefore, water bonds are an integral part of its operations, with most proceeds dedicated to adaptation efforts, such as flood protection, water management, and water quality activities.[43] Its most recent water bond, priced in 2024, was a EUR1bn deal maturing in 2031. In 2024, it also priced a smaller EUR50m water bond maturing in 2051.

In 2024, Climate Bonds recorded aligned blue- or water-labelled debt volume of nearly USD5.4bn which represents 83% of the total blue or water-labelled debt volume recorded in 2023, and an 18% decrease. Despite the more recent surge, blue- and water-labelled instruments still comprise less than 0.5% of the GSS+ debt market, signalling a large amount of untapped potential.

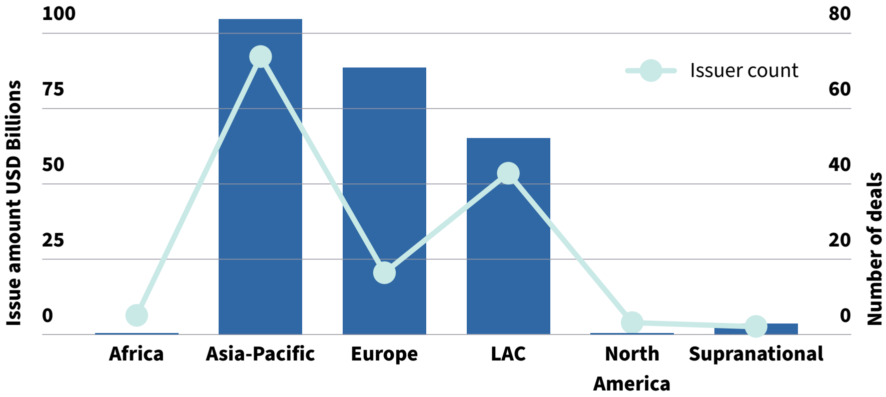
Regional blue landscape

Asia Pacific, with 40% (USD10.5bn) of the cumulative volume issued, replaced Europe in 2024 as the main source of blue- and water-labelled bonds issued. Europe accounted for 34% and LAC 22%. Europe and Asia Pacific are the regions with the largest shares of cumulative GSS+ debt, so their rankings are no surprise. In Asia Pacific, the private sector is by far the largest source of issuance accounting for 60% of the blue- or water-labelled debt volume, while in Europe government-backed entities dominate the market representing 83% of the volume, and in LAC non-financial corporates account for 65%.

Government-backed entities and non-financial corporates dominate

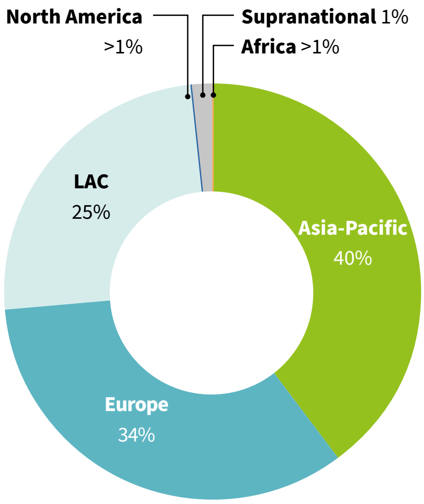
The cumulative issuance from government-backed entities and non-financial corporates is USD8.6bn, however the number of deals is far greater from non-financial corporations (52 versus 24). In 2024, non-financial corporations and sovereigns were the only issuer types to mark an increase in volume. The former, largely driven by multiple issues from **Companhia de Saneamento Básico do Estado de São Paulo - Sabesp** (4, USD1bn); and the latter, solely driven by a sovereign from the **Republic of Indonesia** (USD1bn), marking the second consecutive year of issuance from Indonesia in this market.

Asia-Pacific represents 40% of the market



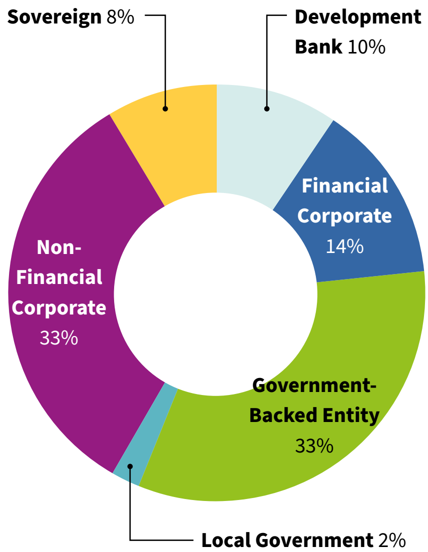
Source: Climate Bonds Initiative

Asia-Pacific and Europe account for 74% of the market



Source: Climate Bonds Initiative

Government-backed entities and non-financial corporates account for two-thirds of the market



Source: Climate Bonds Initiative

6. Policy overview

Green defence

As 2030 approaches, governments increasingly need to confront what 'whole economy transition' means. Decarbonisation efforts can no longer be focused on specific sectors but need to be embedded across all areas of the economy, including those not typically associated with environmental action, such as health, education, and even the defence sector.

Decision makers cannot avoid the interaction between defence priorities and key climate-related objectives, for example resilience and energy security. Engaging with the defence sector is critical, not only to meet these objectives but also to ensure its decarbonisation. Not engaging runs the risk of the sector being excluded from sovereign transition planning and absorbing much of limited carbon budgets.

The defence sector accounts for a large share of public budgets, emissions, and raw materials consumption, which is projected to increase, therefore, it has high decarbonisation potential. Defence spending equates to 2% of EU GDP, 3.4% in the USA, and 1.7% in China.[44],[45] The UK recently pledged to reach defence spending of 2.5% GDP by 2027, and Japan pledged to double spending to 2% GDP by 2027.[46],[47] However, defence is not included in national carbon budgets or NDCs, despite accounting for up to 5.5% of global emissions and large proportions of central government emissions (50% in the UK).[48]

Additionally, the sector accounts for a large proportion of government procurement. Green public procurement across all government spending can provide demand certainty to green industry which is crucial in more nascent industries. Green procurement practices and offtake agreements in defence spending can stimulate renewable energy, green steel, and synthetic fuel production.

R&D is an important element of defence investment, which in the defence sector can facilitate the wider transition. For example, aviation accounts for a significant portion of defence emissions so R&D to develop sustainable aviation fuels will also facilitate decarbonisation of a major hard-to-abate sector.

Governments across the world will need to ramp up climate resilience investment for defence. This not only directly ensures resilience of critical defence infrastructure, but also broader national and global resilience to reduce social unrest, resource scarcity, and migration which increase the likelihood of conflicts. Recognising the value of climate resilience and global mitigation efforts to conflict prevention and geopolitical stability, which therefore minimises pressures on defence budgets, ensures that climate mitigation and resilience remain as high priorities.

7. Sector Criteria guide issuers to make genuine contribution

Climate Bonds Standards team has been working to update, strengthen, and expand the Sector Criteria for agriculture and food systems

According to the latest IPCC assessment, agrifood system emissions from production to consumption, represent around 31% of global GHG emissions. Although most of the sector's emissions come from agricultural production and land use change, a third occurs during the post-production stage. Thus, addressing the challenges and reducing emissions from this critical sector will be essential to reaching the global climate goals.

Climate Bonds has worked on updating, strengthening, and expanding **Agriculture Production (Crop and Livestock) Criteria**. The aim was to offer guidance on the emissions reductions required to transition to net-zero and sustainable agriculture production and keep it aligned with the most up-to-date science and technologies. The Criteria propose emissions reduction trajectories for the sector, expand the scope to Certify not only UoP bonds but also sustainability debt instruments and entities, and incorporate safeguards for other environmental impacts and social aspects. The new versions were launched in 2024 and are now available for Certification.[49]

Additionally, as part of the food systems work, Climate Bonds launched **Alternative Proteins Criteria** in April 2025 and started the development process for the entire **Food Value Chain Criteria**, both of which will be available for Certification in 2025.

As the **Alternative Proteins** sector is growing very rapidly it represents an excellent opportunity for green investment in projects and assets that reduce emissions from traditional protein sources, such as livestock. The **Alternative Proteins Criteria** provide the first certification scheme focused on sustainable protein alternatives, which will facilitate capital flows to scale the sector and contribute to the transformation of the food industry.

Furthermore, the Food Value Chain Criteria will address eight key factors identified as emissions drivers across the food value chain:

- Energy use
- Transport
- Buildings
- Cold chain
- Packaging
- Food loss and waste
- Sustainable sourcing
- Consumption patterns

With these Criteria, Climate Bonds demonstrates its commitment to promoting science-based standards and alignment with a net-zero future by increasing their applicability, coverage, and impact in a strategic sector such as the agrifood system.

Collaborative projects

New Agrifood Criteria from Climate Bonds unlock investment opportunities for climate action

Climate Bonds has launched four new sets of Agrifood Criteria, developed with support from the Gordon and Betty Moore Foundation through The Finance Hub. These science-backed tools empower investors, industry leaders, and policymakers to drive real transformation in the agrifood sector.

For the first time, market-ready screening tools outline transition pathways to mobilise capital for reducing emissions and environmental pressures in agriculture while fostering rural economic development.

Covering **Agriculture Production (Crops & Livestock), Alternative Proteins, the Food Value Chain, and Deforestation- and Conversion-Free Sourcing (DCF)**, these Criteria provide forward-thinking solutions tailored to industry needs and clear, expert-backed actions to align investments with critical climate goals.

By sharing these tools, Climate Bonds reinforces its commitment to a net-zero future and reshaping global food systems for sustainability.

Methane Abatement Financial Taskforce

COP28 marked a turning point in the oil and gas industry's commitment to reducing methane and flaring emissions. The Oil & Gas Decarbonization Charter (OGDC) brought together 50 companies, including 29 national oil companies (NOCs), in a ground-breaking commitment to eliminate methane and flaring pollution, which was an unprecedented step for a segment that had previously remained largely outside global emission reduction initiatives. Since then, the OGDC has expanded to 54 companies, reinforcing its potential as a key driver of industry-led climate action. Additionally, the World Bank launched the Global Flaring and Methane Reduction Partnership's Trust Fund (GFMR) to provide NOCs with technical expertise and seed funding for methane and flaring abatement projects, further supporting the transition toward lower-emission oil and gas operations.

Climate Bonds, sponsored by the Global Methane Hub (GMH), is leading the Methane Abatement Financial Taskforce (MAFT) alongside the Environmental Defense Fund (EDF), Columbia University, and other partners. This initiative aims to develop guidance for integrating methane abatement into oil and gas debt structuring, exploring how debt capital markets can accelerate investment in methane mitigation projects. Climate Bonds has played a pivotal role in this effort, helping to define mitigation activities for investors, and oil and gas companies, to structure financing that aligns with fiduciary responsibilities and climate goals. The forthcoming guidance will provide a framework for scaling up methane mitigation financing, with a particular focus on NOCs, ensuring that capital seekers and providers can confidently engage in transactions that drive measurable emissions reductions.

8. Climate Bonds supports local taxonomy development

Climate Bonds provides expert guidance in designing sustainable taxonomies, supporting over 30 national and regional governments in creating clear definitions and science-based criteria for green economic activities aligned with national priorities and the Paris Agreement.

As pioneers in the field, Climate Bonds launched the first green taxonomy in 2012, which became the foundation for voluntary and mandatory frameworks worldwide, and the new gambit to combat greenwashing.

As a trusted partner, Climate Bonds helps countries develop taxonomies that bridge the gap between financial markets and sustainability goals. This work ensures that taxonomies are not just theoretical concepts but practical tools that drive real-world impact.

This involves close collaboration with governments, international organisations, multilateral development banks, development agencies, regulators, and local experts, ensuring each taxonomy is tailored to its unique context while promoting global interoperability.

For years, Climate Bonds has led the way in green taxonomy development, focusing on mitigation. Now, this expertise is expanding into adaptation and resilience (A&R) to accelerate global capital flows into resilience investments, both through the innovative Climate Bonds Resilience Taxonomy (CBRT) and the development of A&R objectives under national taxonomies (e.g., **Rwanda**, **Brazil**, and **Senegal**).

In 2024, **Australia**, **New Zealand**, **Thailand**, **Rwanda**, **Brazil**, and the **Common Ground Taxonomy (CGT)** made the most significant progress in Climate Bonds' taxonomy work. The key developments in each country are summarised below:

Australia

Led by the Australian Sustainable Finance Institute (ASFI), the Australian Taxonomy is a joint industry-government initiative developed in partnership with the Commonwealth Treasury.

Building its experience with other sustainable finance taxonomies globally, Climate Bonds has provided technical assistance for the development of the taxonomy's technical screening criteria including substantial contribution, do no significant harm (DNSH,) and minimum social safeguards (MSS) criteria. The taxonomy was co-developed with experts and stakeholders across the Australian financial system in order to design credible, usable, and internationally interoperable criteria that could also be tailored and adapted to the Australian context.

The initial phase of the taxonomy development process that started in July 2023 and ended in February 2025 focused on six priority sectors:

- Electricity generation and supply;
- Minerals, mining, and metals;
- Built environment;
- Manufacturing and industry;
- Transport;
- Agriculture and forestry.

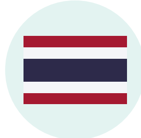
New Zealand

The Centre for Sustainable Finance (Toitū Tahua (CSF)) is leading the effort to design and develop the first phase of the Aotearoa New Zealand (NZ) Taxonomy with the support of Climate Bonds as a technical partner. The work builds on the Recommendations Report published in July 2024, which provided an initial set of recommendations for the design of the Taxonomy.[50] The report was developed by an independent technical advisory group (ITAG) convened by the CSF. Climate Bonds served as a delivery partner for the project and provided technical assistance to the ITAG for the formulation of the recommendations based on the organisation's experience with other benchmark taxonomies.

Aiming to be interoperable with the Australian Taxonomy, the NZ Taxonomy is initially focusing on the design of technical screening criteria for the agriculture and forestry sectors. It will address two environmental objectives, namely climate mitigation and climate A&R. In addition, it will also cover DNSH and MSS criteria.

Furthermore, the Taxonomy will integrate the knowledge and rights of iwi/Māori groups as a transversal theme across the entire Taxonomy, highlighting the leadership of Aotearoa New Zealand in recognising the contribution and rights of indigenous peoples and local communities as custodians of biodiversity, and as partners in its conservation, restoration, and sustainable land use.

Thailand



In 2024, the development of phase II of the Thailand Taxonomy was initiated, continuing work on phase I, which was finalised in 2023. Climate Bonds was selected by the International Finance Corporation (IFC) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in an open competition as the main technical contractor for both phases, and 2024 brought sectors such as industry, agriculture, and construction to the Thailand Taxonomy. The second phase of development continues to utilise the innovative 'traffic lights' scheme to create not only a green label but also a transition label to facilitate economic transformation and attract investor funds to hard-to-abate sectors. In phase II, Thailand's taxonomy has received several innovative elements. It is the first taxonomy having sustainable aquaculture practices and the first one having generic criteria and thresholds that allow industries not traditionally covered by this type of document (e.g., light manufacturing industries that are not significant sources of emission) to benefit from the taxonomy. Phase I of the taxonomy was also updated to include the production of sustainable aviation fuels.

Rwanda

The second phase of the Rwanda Taxonomy was initiated and largely finalised in 2024, a continuation of the first phase initiated and finalised in 2023 and presented at COP28. During the second phase, sectors such as industry, waste management, water, and information and communications technology (ICT) were added. The Climate Bonds team also developed roadmaps to integrate the Taxonomy into green budget tagging and lending policies for local development institutions.

An innovative mechanism for assessing the substantial contribution of activity to A&R has been integrated into the Rwanda Taxonomy 2024 for the first time. It was based on the CBRT published in mid-2024, the first such detailed document of its kind for labelling adaptation investments. The methodology mechanism is based on the use of 1,500 metrics distributed among thematic clusters (building, energy, ecosystems, etc.) and linked to the specific natural hazards to which the Taxonomy user wants to build resilience.

Brazil

The first phase of the Brazilian Sustainable Taxonomy (BST) is an initiative led by the Brazilian Ministry of Finance and supported by GIZ and the United Nations Environment Programme Finance Initiative (UNEP FI). On the environmental front, Climate Bonds and its long-term partner Ambire Global are providing technical consultancy for the development of the criteria for the objectives of climate change mitigation, adaptation to climate change, and the conservation, sustainable management, and use of soil and forests.

The BST is structured around priority sectors that are crucial to Brazil's environmental and socio-economic landscape, selected on their potential to substantially contribute to environmental objectives, economic and social relevance, and interoperability with existing international taxonomies. In 2024, the focus was on identifying key economic activities through a robust quantitative and qualitative approach, and developing technical screening criteria to guide sustainable investments. These criteria are currently undergoing a two-phased public consultation process to ensure transparency and stakeholder engagement. The final publication of the BST is expected in the second half of 2025, representing a major step forward in Brazil's sustainable finance agenda.

CGT [51]

In November 2024, the International Platform on Sustainable Finance (IPSF) presented the Multi-Jurisdiction Common Ground Taxonomy (M-CGT), a comparison of the sustainable finance taxonomies of China, the EU, and Singapore. The scope of M-CGT builds on the bilateral EU-China CGT, covering green activities and their corresponding substantial contribution criteria that meet the climate change mitigation objective. The M-CGT analysed and mapped a total of 110 activities across eight focus sectors, supported by Climate Bonds.

The M-CGT serves as a technical reference document for a wide range of market participants including financial institutions, corporates, investors, and external reviewers. It allows them to assess what could be considered green across the three jurisdictions in scope, based on the activities, environmental objectives, and criteria covered in the M-CGT. The M-CGT will also serve as a reference for jurisdictions that are developing their domestic green taxonomies and has been designed to accommodate the comparison of more jurisdictional taxonomies in the future. This will increase the number of taxonomies that are interoperable and help facilitate cross-border green capital flows.

Projects in **Cambodia**, **Fiji**, **Indonesia**, **Hong Kong**, **Peru**, and **Senegal** have also launched in 2024, with publications anticipated in 2025.

9. Certification at Climate Bonds reinforces rigour

The Climate Bonds Standard and Certification Scheme experienced robust growth of 42% in 2024, as Certified volume rose to USD31.1bn compared to USD21.9bn the prior year. Cumulative Certified issuance to the end of 2024 amounted to USD298.7bn, just short of 10% of cumulative aligned green bond volume to date.

The Certification of Japan's two-tranche GX transition bond (JPY1.6tn, USD11bn) in early 2024 was the largest Certification against the Climate Bonds Standard to date. The deal was a major milestone in sovereign-led transition finance, supporting advanced sustainable technologies and early-stage research and development.[52]

Other notable firsts in 2024 included the Certification of the first Indian municipality bond. **Vadodara Municipal Corporation's** INR1bn (USD12m), 5-year bond will finance investments in water, waste management, and flood resilience projects. Bloomberg data records 47 local and regional government bond issuers from India at the end of 2024, with combined outstanding volume of USD900bn. This level of autonomous funding offers a huge opportunity for Indian municipality issuers to leverage the green bond market to support a pipeline of green mitigation, and adaptation and resilience (A&R) expenditures.[53]

Climate Bonds Certified deals originating from **Australia** reached an all-time high, totalling USD6.7bn or a 41% of aligned green volume, reinforcing Climate Bonds' important role in the rapid growth of the Australian sustainable finance market. Annual aligned green volume from Australia grew by 83% in 2024 reaching USD16bn compared to USD8.8bn in 2023.

Among the issuers obtaining Climate Bonds Certification was **Firstmac**, Australia's largest non-bank lending company to either owner occupiers, or landlords for residential property. The privately owned entity priced a pair of long dated residential mortgage-backed securities (RMBS), Certified against Climate Bonds Low-Carbon Buildings Criteria. The AUD306M (USD203.5m) 2055 deal was priced in June, followed by the AUD240m (USD156.2m) 2056 in November. The proceeds of both deals were earmarked to finance or refinance buildings with rooftop solar installations.

In June 2024, South Australia's main electricity distributor, **South Australian Power Network (SAPN)** priced a 3- and 8.5-year dual tranche deal with combined volume of AUD495m (USD330m). The deal was Certified against Climate Bonds Electric Grids and Storage Criteria with proceeds earmarked to support SAPN's transition to a distributed and decarbonised energy system, and adaptation and resilience projects, such as network bushfire readiness to maintain and enhance grid resilience and reliability.

Climate Bonds Standard V4.2 reinforced the rigour and expanded the scope of Certification to planned assets and assets under development.[54] The new DCF Entity Certification label was also introduced in 2024, enabling Agrifood entities to showcase their deforestation and conversion-free supply chains.

Looking ahead to 2025, the Climate Bonds Standard and Certification Scheme is set to evolve further, integrating resilience criteria to address climate adaptation and strengthen market frameworks. Climate Bonds is working with interested parties in obtaining the Entity Certification label, setting a precedent for company-level alignment with net-zero pathways. Climate Bonds is also focused on applying its Sector Criteria in hard-to-abate sectors, supporting the decarbonisation of critical industries such as cement and steel. The revamped Climate Bonds Agriculture Production Criteria launched in 2024, introduced innovative science-based transition pathways for several important commodities. These developments reaffirm Climate Bonds' commitment to driving robust standards and mobilising finance at the scale required for climate action.

10. Capacity building and technical assistance offers guidance and customised solutions

The Capacity Building and Technical Assistance (CBTA) team offers expert guidance on GSS+ bond issuance, transition planning, and sustainable finance lending criteria. CBTA take a science-based approach, aligning with a 1.5°C pathway, ensuring best practices while customising solutions to fit the unique needs of each market and region. With Climate Bonds' extensive global network and deep understanding of diverse policy and regulatory landscapes, CBTA deliver tailored, high-impact support for every client. Below is a brief overview of the comprehensive scope of CBTA's work in 2024:

Case study 1: Development of an e-learning course

The project achieved significant success in advancing subnational sustainable finance, with key outcomes including the successful delivery of thematic workshops, webinars, and development of e-learning courses. These initiatives have made substantial contributions to building capacity among stakeholders, particularly in the areas of sustainable finance, nature-based solutions (NbS), and ESG risk management. Below are some of the key successes that highlight the overall impact of the project.

Successful stakeholder engagement and knowledge transfer

One of the greatest successes of the project was its ability to engage a diverse and wide-ranging group of stakeholders. A total of 264 participants attended the thematic workshops, which were held across four countries, while 482 participants attended the webinars. This level of participation highlights the project's ability to attract the right audience, including public officials, project developers, and financial sector representatives, all of whom play a crucial role in driving climate-resilient investments at the subnational level. These workshops and webinars provided practical insights, case studies, and actionable knowledge that stakeholders can apply in their day-to-day work, greatly enhancing their ability to integrate NbS into investment projects and adopt sustainable financial practices.

High-quality, relevant content, and practical applications

The project's ability to deliver high-quality, relevant content was also a major success. Participants consistently highlighted the practical nature of the materials, the value of real-world case studies, and the application of financing mechanisms that could be directly integrated into their work. The inclusion of sector-specific strategies, such as those tailored to regenerative agriculture, further added value and demonstrated the project's commitment to addressing the diverse needs of the stakeholders involved.

Commitment to long-term capacity building

A key achievement was the project's focus on building long-term capacity, rather than merely offering one-time training. The sustained engagement through workshops, webinars, and e-learning courses contributed to a continuous learning process. This demonstrates the project's impact not only in terms of immediate knowledge transfer but also in fostering an environment of ongoing professional development in the field of sustainable finance.

Case study 2: Transition plan assessments

Climate transition plans are vital tools for companies to demonstrate their commitment to a 1.5°C-aligned, net-zero economy. Given the urgency to reverse rising greenhouse gas emissions, many companies are re-imagining their operations in the context of a net-zero future. As more companies seek guidance on this critical transformation, Climate Bonds' expertise on the topic is increasingly sought after. Climate Bonds' collaborative cross-team approach which includes research, taxonomy, and policy expertise, provides organisations with a clear, actionable roadmap for what a credible and ambitious transition plan should look like. From corporates to financial institutions, CBTA has collaborated on navigating the complexities of decarbonisation across supply chains and all emission scopes. Some of the most challenging sectors have been tackled, including steel, cement, chemicals, energy industries, and agriculture, leading the way in transforming hard-to-abate industries toward a sustainable future. Below is an example of the methodology employed in a project where CBTA supported transition.

Gap assessment of existing sustainable finance offerings

As part of this successful project, sustainable lending criteria were developed that empowered financial institutions to elevate their climate ambitions, starting with assessing each institution's current sustainable finance offerings and evaluating their engagement with transition efforts. Where gaps were identified, tailored solutions were designed, ensuring Climate Bonds' support was customised to meet the unique needs and business activities of each institution. The approach involved closing these gaps by benchmarking against Climate Bonds' science-based Criteria, motivating financial institutions to set more ambitious targets, particularly in hard-to-abate sectors, and align their strategies with climate goals.

Establish milestones and KPIs for corporate transition planning for SMEs that make up the supply chain of global brands

Through the successful implementation of Climate Bonds' science-based, 1.5°C aligned Criteria, CBTA supported small and medium-sized enterprises (SMEs) in selecting material key performance indicators (KPIs) and targets that comprehensively addressed emissions scopes 1, 2, and 3, both in the short, medium, and long term. A critical aspect of the approach was integrating regional nuances and understanding the diverse needs of investors, which allowed CBTA to craft transition plans that significantly enhanced SME access to sustainable bank financing. This work helped the clients gain a competitive edge by aligning their operations with climate elements, while positioning them to attract greater global brand interest and financing opportunities.

Mapping the role and impact of the carbon market on driving transition

Given that many organisations are citing the use of carbon markets to drive transition, the CBTA team performed an analysis of its effectiveness. One of the research papers analysed how carbon markets can be used to provide a funding source for decarbonisation activities to spur innovative energy transition solutions and the risks associated with doing so.

11. Climate Bonds teams around the world

Climate Bond's work involves many teams around the world who are collectively focused on identifying opportunities, addressing difficulties and concerns, and finding solutions with one collective ambition: to mobilise global capital for climate action.

The main body of this report has relied upon the data collected by the Market Intelligence Data team which is then analysed by the Market Research team to identify market developments and trends. In addition to offering an in-depth analysis of the GSS+ market landscape, trends, and outlook, this report has highlighted the work done by the Standards, Taxonomy, Certification, and CBTA teams. This section provides a brief overview of the work undertaken by many of the other teams at Climate Bonds.

Market Research Team

The Climate Bonds Market Research team produces standalone reports while also supporting a wide range of varied projects which endeavour to serve Climate Bonds ambition, collaborating with partners both internally and externally. The Market Research team translates Climate Bonds definitional work into solutions for issuers, investors, and policy makers.

The Climate Bonds Sustainable Debt Summary and Global State of the Market research report series, which includes both global and region/country specific reports, describe the shape and size of the investible opportunity set. This data illustrates to asset owners and asset managers that there are investable climate, social, and sustainable opportunities, which they can allocate capital to.[55]

Additionally, the Market Research team conducts market, sector, country, and product analysis to inform standalone and collaborative reports. More recently the team has assessed transition plans for priority decarbonisation sectors and financial institutions against proprietary frameworks, to support investors in designing their own frameworks for identifying and evaluating transition investments, examine the quality of post-issuance reporting and make recommendations for improvements.

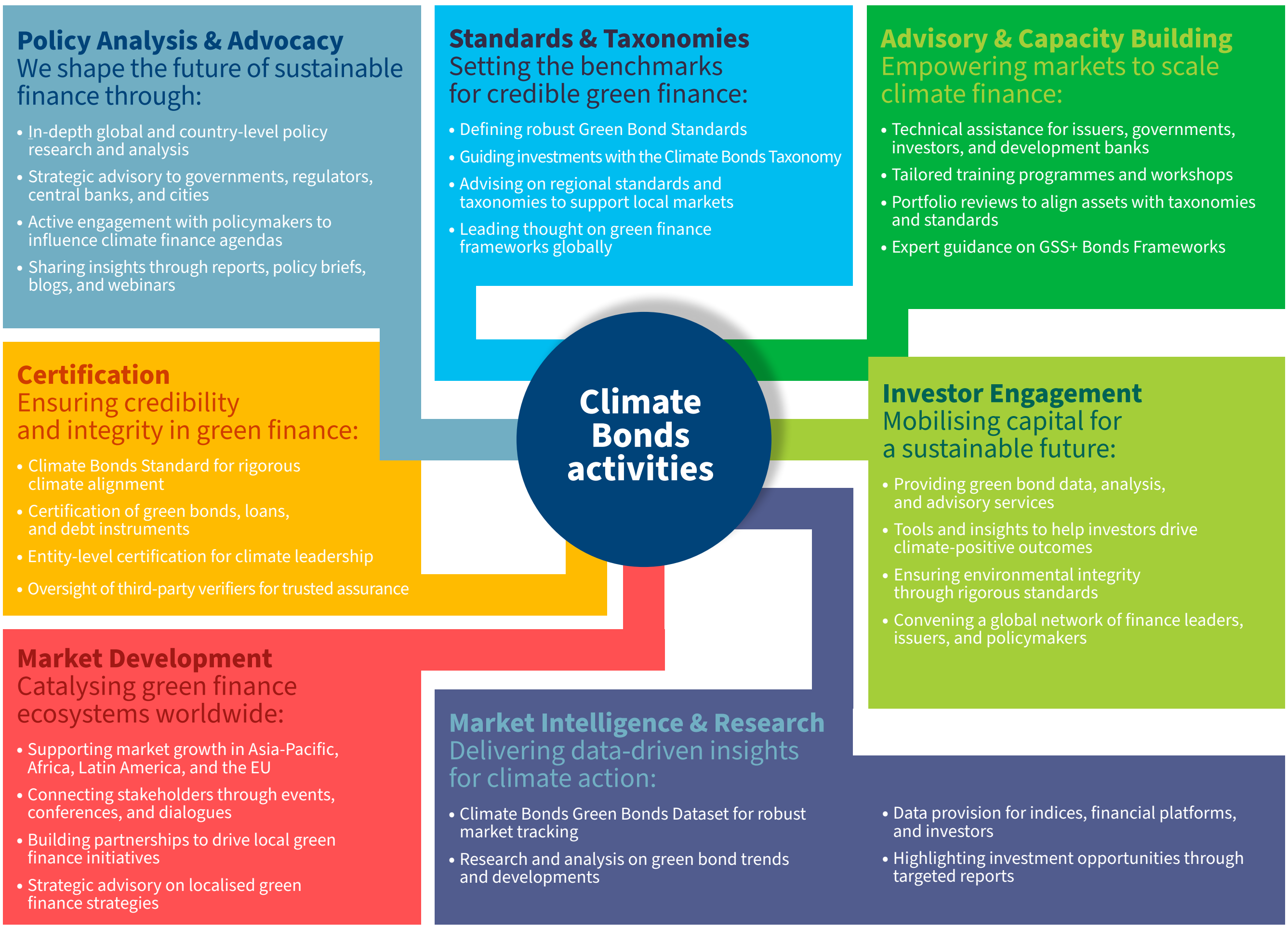
Market Intelligence Data Team

2024 highlights:

The Market Intelligence Data team had another busy year screening labelled issuance from around the globe. The total number of bonds screened increased YOY by 25% with green increasing by 4%, S&S by 44%, and SLBs declining by 9%. The screened data creates the three data products that are part of the Market Intelligence Data Subscription Service which are delivered to clients monthly. The data team supply asset managers, index providers, issuers, NGOs, and academics with the data to meet their various use cases such as index eligibility, portfolio profiling, and research. In addition to regular screening activities, the team also released the updated green bond methodology which improved interoperability with the market, especially for the cement, steel, and blue economy sectors.

Outlook for 2025:

Following on from the release of the updated green bond methodology, 2025 has already seen the release of the new S&S methodology (detailed on page 16), with enhanced criteria



for the assessment of UoP in S&S, as well as integration of criteria around affordable housing, in addition to environmental and social resilience. A new version of the SLB methodology is anticipated, which will review the current alignment rationale where required.

Thought Leadership

Climate Bonds expands its guidance on credible transition plans

Following the earlier publication of a checklist for credible corporate transition plans, Climate Bonds is shortly to release best practice guidance on bank transition plans, and on sovereign transition plans.[56] Transition plans are set to become a key source of information for investors and lenders seeking to finance the transition to a low-carbon, climate-resilient economy, whether through labelled instruments such as SLBs or SLLs, general purpose debt including corporate and sovereign lending, or equity. Transition planning processes can also help increase national climate ambition. Investment planning that prioritises private finance mobilisation can reveal greater capacity for climate action, allowing more ambitious target setting. This work builds on existing guidance and assessment frameworks, as Climate Bonds seeks to promote consistency in market definitions, guidance, and standards.

Policy

Policy at Climate Bonds is managed by the Global Policy Team (GPT) and the EU Policy Team, both of which work collaboratively internally and externally to maximise Climate Bonds' impact and influence on the policy landscape.

Global Policy Team

The GPT supports policymakers globally with the objective of accelerating sustainable investment and capital market flows into GSS+ bond markets. Climate Bonds works at all policymaking levels from international to local endeavouring to tilt global financial systems to deliver climate action.

Hard-to-abate transition on the global agenda

In 2024, the G20 sustainable finance working group specifically focused on the transition of hard-to-abate sectors. Climate Bonds' input paper *The role of policymakers in mobilising private finance to ensure a credible and just transition in steel and cement* highlighted this decade as the best chance for a stable transition in these sectors.[57]

There is increasing recognition of the role of development finance institutions (DFIs) in mobilising private capital. Climate Bonds' policy paper *The Role of DFIs in Accelerating the Mobilisation of Green Capital* sets out key recommendations for European DFIs, shareholders, and the European Commission, which can unlock greater mobilisation potential to deliver climate impacts.[58] The GPT are now actively working with development banks to help them to develop tailored de-risking policies.

However, public sector risk-sharing is limited. Policymakers and investors will need to identify innovative ways to de-risk key climate investments. As seen at COP29, the insurance sector is increasingly being called on to fulfil this role and de-risk climate resilience and transition investments.[59]

The EU Policy Team

The EU team provides thought leadership, research, and advocacy on sustainable finance regulations, including the EU Taxonomy, EU green bond standards, and transition finance. Through partnerships and stakeholder engagement, the team supports the development of credible, science-based criteria to ensure investments drive meaningful climate action.

The EU team is actively building networks in Brussels and with key institutions, launching its first Climate Bonds Connect event at the European Parliament in 2024, with the support of 30% of the European political parties.

Climate Bonds' work is gaining EU-level recognition, and in 2024, its *20 Policy Levers for Decarbonising Buildings in Europe* report was the first Climate Bonds publication to feature on the European Commission's BuildUP portal.[60]

In an evolving EU political landscape, Climate Bonds is refining its positioning and messaging to push for stronger climate action, including ensuring fossil fuel companies take methane abatement seriously. The team produces positions on EU legislative files such as the Omnibus proposal, competitiveness compass, and Clean Industrial Deal.

China Team

2024 Highlights

In 2024, Climate Bonds China continued to support the development of a robust transition finance taxonomy at both national and subnational levels in China. Climate Bonds produced research reports analysing the transition investment landscape and identifying implementation challenges in key sectors such as steel, power, and the agricultural-food system. In collaboration with the Climate Bonds policy and market research teams via targeted market briefings and engagement, Climate Bonds endeavours to foster high-quality GSS+ market development in Greater China, ensuring that its practices align more closely with international standards.[61],[62]

2025 Outlook

In 2025, the China team will support the further development of incentive structures for China's green and transition finance market. Climate Bonds China plans to launch an initiative focused on A&R finance, with comprehensive research into the necessary policy frameworks, incentive structures, and the continued development of related taxonomies. The China team will continue to promote innovative actions and financial instruments to catalyse decarbonisation financing in high-emitting sectors, which will involve research into the power market and coal transition mechanisms, both in China and emerging economies.

India Team

Climate Bonds in South Asia engages with policymakers, regulators, financial institutions, businesses, and investors to advance sustainable finance and manage climate risks. In India, the team's work, while primarily focused on India, also expands to other countries in the region, promoting credible transition planning and climate risk analysis, encouraging capacity building, and supporting the development of policies and taxonomies to ensure market integrity through Certification.

Climate Bonds aims to drive financial flows by fostering investor engagement and creating narratives that build consensus toward a resilient and sustainable finance market in India. The India team's efforts also focus on enhancing knowledge and understanding, and awareness of green, transition, and resilience (GTR) concepts, together with the associated GSS+ instruments, among key stakeholders including financial institutions, corporates, and pension and insurance funds.

From a policy perspective, Climate Bonds is working with regulators on climate risk and transition, and other topics such as proposing mandatory carve-outs, fiscal incentives, guarantees, and mechanisms such as carbon capture and storage (CCS) into sustainable finance frameworks. Climate Bonds involvement includes contributing to the technical committee on climate finance taxonomy, ensuring that taxonomies reflect emerging best practices and support the development of a credible and harmonised sustainable finance market. Additionally, Climate Bonds is in the process of establishing a resilience programme to further strengthen the market's capacity to address climate-related risks and opportunities.

The India team's engagement spans national, sub-national, and international levels, including participation in multi-stakeholder assemblies such as the G20 and COP. Climate Bonds' leadership in India is reflected by its presence on influential policy committees on climate risk and finance, including those under IFSCA, Niti Aayog, and the Ministry of Finance; ensuring its work continues to shape the broader sustainable finance agenda in the region.

Japan Team

2024 Highlights

In 2024, the Japan team made significant strides in advancing credible transition finance and shaping national policy discussion.

Policy influence and GX Bond Certification: Climate Bonds guidelines were referenced by METI in official documents, and Climate Bonds CEO Sean Kidney was appointed as an advisor to the GX Acceleration Agency. Climate Bonds provided technical input to METI, MOF, and MOE on the GX Strategy for energy transition and transition finance. Climate Bonds Certified Japan's first climate transition bond, positioning Japan's sovereign issuance within international best practices and excluding LNG and operational use of ammonia co-firing from UoP.[63,64]

Corporate Transition Guidance: The Japan team developed the Transition Strategy Toolkit with IGES and hosted a high-impact webinar with participants across finance, corporate, and consulting sectors.[65]

Investor Engagement: The Japan team held bilateral dialogues and various roundtables with asset managers (e.g., GPIF, Nippon Life, Dai-ichi Life) and co-hosted sessions with AIGCC and PRI to drive credible transition assessments.[66]

Municipality collaboration: Climate Bonds published a Joint Statement with the Hokkaido Government and the City of Sapporo, which aims to promote Green Transformation (GX) and the Asset Management Special Zone in Hokkaido with Regional Revitalisation in Hokkaido.[67]

Outlook for 2025

In 2025, Climate Bonds Japan will focus on driving systemic change toward a credible and ambitious 1.5°C-aligned transition, with particular emphasis on reducing LNG reliance to ensure energy security, accelerating decarbonisation in the energy sector, and promoting methane reduction.

Climate Bonds Japan's work will centre around four key areas.

- **Policy engagement:** Advocating for the removal of LNG from government policies and support schemes, and promoting the adoption of transition finance policies that align with international standards. Through close engagement with METI, MOF, MOE, and GX Acceleration Agency, Climate Bonds aims to influence Japan's policies and key regulatory frameworks.
- **Investor mobilisation:** Climate Bonds will strengthen the capacity of Japanese investors, including banks, asset owners, and asset managers, to integrate transition assessments and decarbonisation targets into their investment strategies.
- **Corporate transition:** Climate Bonds will work directly with high-emission corporations, particularly in the electric utilities and gas sectors, to support the development of credible, science-aligned transition plans.
- **Local government collaboration:** Climate Bonds Japan team will continue engagement with local governments to support the scaling of revitalisation through renewable energy, regional energy efficiency, and green investment pipelines, ensuring alignment with international standards and attracting both domestic and international capital.

Latin America and the Caribbean Team

2024 Highlights

G20 Engagement: Climate Bonds, as a knowledge partner for the Brazilian G20 presidency, contributed with an input paper emphasising the crucial role of policymakers in mobilising private finance to support a credible and just transition in the steel and cement sectors. Presented during the third meeting of the Sustainable Finance Working Group (SFWG) in Belém, the paper served as a key reference being cited in the 2024 G20 Sustainable Finance Report.

Latin America and Caribbean (LAC) Stock Exchange network: Last year Climate Bonds forged a partnership with 10 stock exchanges in LAC, which are highly relevant for the development of the sustainable market in the region. Through the signature of agreements, stock exchanges have committed to collaborate with Climate Bonds to promote and reinforce their sustainable market.

Adoption and implementation of the Colombian Green Taxonomy (TVC): Climate Bonds successfully advanced the adoption and implementation of the TVC within Colombia's financial and real economy sectors by building capacity through 38 training sessions that engaged 2,700 participants, and by developing 33 tailored tools to support key actors throughout the implementation process. Through the technical assistance processes, COP334.7bn was mobilised toward green and sustainable projects. This achievement marks a significant milestone in strengthening sustainable finance practices and the greening of the financial system in Colombia.

Outlook for 2025

The LAC region will play a pivotal role in sustainable finance, particularly as it prepares to host COP30 in the Brazilian Amazon. Additionally, emerging markets such as Chile, Peru, and Brazil will introduce their local green and sustainable taxonomies, while others like Panama, Costa Rica, and the Dominican Republic will advance in their taxonomy implementation.

Building on this momentum, the LAC team will continue to expand its presence and support in the region, strengthening its role in the development of sustainable finance frameworks. By fostering collaboration, driving innovation, and engaging with key stakeholders, the team will be well-positioned to contribute to the region's growing sustainable finance ecosystem in 2025 and beyond.

Collaboration at Climate Bonds

Collaboration lies at the heart of Climate Bonds' ethos, which can take the form of internal collaboration across teams and/or working with external partners. The **Mobilizing sustainable finance for methane abatement** programme, funded by the **Global Methane Hub,** is a great example of Climate Bonds' collaborative initiatives. The two-year project, with a global reach which involves almost every team across Climate Bonds, also involves partnerships with a multitude of external experts in the field; the Climate Policy Initiative being one of the key partners in this work.

The project goal is a reduction in methane emissions and increased methane abatement finance in line with 1.5-degree scenarios through facilitating finance flows to activities and entities that are cutting methane emissions in key sectors, including fossil fuel energy, agriculture, and waste.

Climate Bonds aims to promote thought leadership via advisory groups and events e.g., webinars, conferences, and lunch and learn sessions, which have been scheduled to take place over the duration of the project.

Stakeholder engagement activities have been, and will continue to be, held over the course of the project. Events that have already taken place to date include COP side events (November 2024), Verifiers Assurance Roundtable (November 2024), and the China Sustainable Investment Forum seminar (December 2024).

As the first year of the project draws to a close, several reports are due to be published. Those that have been published from teams across Climate Bonds involve thought leadership, policy, market research, standards, taxonomy, and many of the regional teams. Subject matter and details of reports published to-date include:

Transition Finance Framework & Assessment Guidance Developed. Climate Bonds published a report on lessons learned from bank disclosures (January 2025), which is a stocktake on the state of bank net-zero disclosures, highlighting best practices and areas for improvement. [68]

Policy Research. Three Opportunities in Japan for 2025 gave a new year's reflection on green transformation where Climate Bonds issued a joint statement with Sapporo City and Hokkaido on GX promotion and regional revitalization.[69]

Benchmarking methane in transition plans: Published the Transparency & Reporting in the GSS Bond Market which is a comprehensive study of post-issuance reporting in the GSS bond market, aimed at enabling a healthy and transparent market.[70]

Climate Bonds values such an opportunity to investigate, research, reporting, and influence the relatively unexplored, yet critical, area of methane abatement. As work continues in this field, further publications and related events will be forthcoming.

12. Outlook

Aligned GSS+ volume had reached USD5.7tn by the end of 2024 and was anticipated to break through the USD6tn mark by mid 2025. That said, there is still enormous untapped potential for this market, with aligned cumulative figures representing just 4% of a growing global debt market as of year-end 2024, and supply and demand imbalances persisting in the primary markets.[71] **The gap between the USD6.9tn issued at year-end 2024 and the USD5.7tn meeting the requirements of Climate Bonds Dataset Methodologies suggests there is an opportunity for issuers to be more ambitious and embrace greater rigour in their planning and disclosure.**

The green bond market continues to thrive with labels such as blue and transition continuing to develop and adding to the diversity of the investible opportunity set. The leadership being shown by sovereign issuers through new and repeat issuance is guiding the growth of GSS+ markets around the globe raising the profile of decarbonisation plans and encouraging crowding in from the private sector.

Around half of all debt issuing nations have now mobilised the GSS+ market which suggests that governments are prioritising expenditures with green and social purpose. Social and sustainability labels have been used to support inclusive, sustainable growth contributing to a just transition, and the success of these labels in EM demonstrates the influence that policy support can have on market growth. Climate Bonds expects the following themes to shape and drive the GSS+ market in 2025:

1. Government defence spending and energy security. As noted in the policy section while not a new theme as such Climate Bonds believes that, partially driven by the on-going unpredictable political landscape, there will be a continued focus on defence sector spending and shoring up national energy security.[72],[73] As the majority of national budgets are stretched, funding for both of these areas could lead to an increased supply of related GSS+ bonds.

2. (Re-) Issuance triggered by a steep maturity schedule. The GSS+ bond market is reaching a coming-of-age moment which means that many of the GSS+ bonds issued in past years are scheduled to mature. All the GSS+ labels face a significant upcoming maturity profile between 2025–2030, the percentage of each label due to expire is between 40-48% (Green 40%, Social 48%, Sustainability 47%, SLB 43%) together amounting to 43% of the total aligned GSS+ market outstanding at the end of 2024. By country over the next three years China, South Korea, and France are scheduled to have the largest amounts of aligned GSS+ debt mature. By issuer type development banks, financial corporates, and government-backed entities are those that account for the largest shares of the upcoming maturity schedule, and they have also been the most prolific issuer type by volume and deal count which bodes well for the potential issue profile. Auspiciously, the experience of issuers attests to the authenticity of the market, given that many will have returned to it in the interim, and will continue to depend on it to refinance with like-for-like instruments as with other fixed income markets.

3. Transition finance framework assessment and validation. Climate Bonds is participating in, contributing to, and supporting the development of an increasing number of financial institution transition-finance framework assessments. Climate Bonds is responding to a rising demand for external validation of transition-finance frameworks across the financial market spectrum. Market participants endeavour to enhance the credibility of their investment decision-making process by collaborating with external and independent partners to seek their expertise in the field.

4. Sustainability-linked bonds can be scaled. While SLBs are by far the smallest segment of the GSS+ market they continue to show potential for scale. More issuers are endeavouring to uplift the quality of the market by referencing credible transition plans in their selection of KPIs and SPTs, with the support and guidance of Climate Bonds and others. Sovereign SLB issuance could be a catalyst for growth in this market, as with other GSS labels, which is given impetus by the recent SLB issue from the Thai government and the planned SLB sovereign issue from Slovenia.[74]

5. A&R being further integrated into the sustainable debt market. The damaging effects of global warming are being felt with growing frequency and severity, which according to the IPCC affects approximately 3.3-3.6 billion people living in areas highly vulnerable to climate change. Major investment is required to build resilience against climate-related impacts, yet there is a substantial gap in A&R financing. Private capital has a vital role to play, with the sustainable debt market offering a significant opportunity to bridge the A&R financing gap. To this end, the Climate Bonds Resilience Taxonomy (CBRT) was published in 2024, which aims to enable a convergence between the social and green themes, promoting the eligibility of many social expenditures for larger green programmes of issuers to support further growth in the GSS+ market.[75]

Appendix

Scope of analysis

This report includes four sustainable debt themes based on the projects, activities, and expenditures financed: green, social, sustainability, and SLB. The GSS+ themes can be described as follows:

Green: dedicated environmental benefits (captured since 2012).

Social: dedicated social benefits (captured since 2020).

Sustainability: green and social benefits combined into one instrument (captured since 2020).

SLB: changes in coupon (almost always step-ups) linked the fulfilment of key performance indicators (KPIs) against entity level sustainability performance targets (SPTs) (captured since 2021).

Transition bonds

Historically, Climate Bonds recorded but did not screen bonds bearing the transition label. As of January 2024, Climate Bonds stopped reporting transition bonds as a separate category but regards them as a sub-set of the green label. Climate Bonds now adds such bonds to the Climate Bonds Green Bond Dataset, and screens them against its Green Bond Dataset Methodology.[76]

Green, social, and sustainability bonds	Aligned	Pending	Excluded
Cumulative USD billion as of 31 December 2024	5.7tn	26.1bn	1.2bn

SLBs	Fully aligned	Strongly aligned	Aligning	Not aligned
Cumulative USD billion as of 31 December 2024	49.1bn	2.5bn	4.7bn	275.5bn

List of acronyms

A&R: adaptation and resilience
ABS: asset-backed securities
AFFLU: agriculture, forestry, food, and land use
CBS: Climate Bonds Standard
CBS v4.2: Climate Bonds Standard V4.2
DM: developed market
EM: emerging market
ESG: environmental, social, and governance
EU: European Union
GBD: green bond dataset
GBP: (ICMA) Green Bond Principles
GHG: greenhouse gas
GSS: green, social and sustainability
GSS+: GSS and SLB bonds
KPI: key performance indicator
LAC: Latin America and Caribbean
MDB: multilateral development bank
S&S: social and sustainability
SME: small and medium-sized enterprise
SSBD: social and sustainability bond dataset
SBP: (ICMA) Social Bond Principles
SDG: sustainable development goal
SLB: sustainability-linked bond
SLL: sustainability-linked loan
SNAT: supranational
SPT: sustainability performance target
UoP: use of proceeds
YOY: year-on-year

Methodology overview

This report draws on three Climate Bonds datasets:

1. Green Bond Dataset (GBD)

2. Social and Sustainability Bond Dataset (SSBD)

3. SLB Dataset (SLBD)

Bonds meeting the requirements outlined in Climate Bonds' screening methodology qualify for inclusion in the datasets and are classified as aligned. Labelled bonds for which there is not enough information to determine eligibility for dataset inclusion are classified as pending until sufficient disclosure is available to decide. Bonds failing to meet the requirements of Climate Bonds' screening methodology are classified as non-aligned and are excluded from the datasets.

Green, social, and sustainability bonds captured by Climate Bonds meeting the requirements outlined in its screening methodology qualify for inclusion in the datasets and are classified as **aligned**. Labelled bonds for which there is not enough information to determine eligibility for dataset inclusion are classified as **pending** until sufficient disclosure is available to decide. Bonds failing to meet the requirements of Climate Bonds' screening methodology are classified as non-aligned and are **excluded** from the datasets.

SLBs are assessed according to Climate Bonds Sustainability-Linked Bond Dataset Methodology (SLBD Methodology) and classified according to four levels of alignment.[77]

1. Fully aligned: SLB targets cover all material sources of emissions and are aligned with the relevant pathway.

2. Strongly aligned: SLB targets cover all material sources of emissions and will be aligned with the relevant pathway by 2030.

3. Aligning: SLB targets cover all material sources of emissions, are aligned with the pathway on a % reduction basis, and the issuer has the basic tenets of a transition plan.

4. Not aligned: SLB targets fail to meet any of the above criteria, or do not meet the other requirements detailed in the SLBD Methodology.

As Criteria are developed, Climate Bonds will update its GBD methodology and then begin screening bonds from issuers in those sectors for inclusion, whether labelled as transition or as green. The Climate Bonds Taxonomy defines the assets and activities that are aligned with a 1.5-degree pathway, accepting financing with either label.

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