Sustainable Debt Market Summary Q3 2023

November 2023

Climate Bonds Initiative

GB-TAP Green Bond Technical Assistance Program

IFC International Finance Corporation — Creating Markets, Creating Opportunities — IN PARTNERSHIP WITH

Supported by the GB-TAP, International Finance Corporation

Key figures

- **By the end of Q3 2023**, the Climate Bonds Initiative (Climate Bonds) had recorded cumulative volume of **USD4.2tn** of green, social, sustainability, and sustainability linked (GSS+) debt in alignment with its screening methodologies (aligned), plus a further USD12.7bn in unscreened bonds bearing the transition label.
- **Year-to-date (YTD), aligned GSS+ bonds** (including transition) **accounted for USD618.2bn**, recording a 10% decline as compared to USD685.8bn for the same period in 2022.
- **Aligned GSS+** as a percentage of total issuance **volume remains at 5%**.
- **Aligned GSS+** debt for Q3 2023 accounted for USD169.1bn, an **Aligned 13% year-on-year (YoY) drop** compared to the USD195.8bn recorded for Q3 2022.
- **Cumulative aligned green bond volumes** broke through the USD2.5tn mark in Q3, reaching **USD2.6tn**.
- **Spotlight** on the **Middle East and Africa**

Scorecard: GSS+ debt recorded by Climate Bonds

	Q3 2023		2023 YTD		Cumulative since 2006	
	USDbn	% total	USDbn	% total	USDbn	% total
Green	110.6	65	415.0	67	2613.0	62
Social	27.4	16	95.8	16	762.7	19
Sustainability	22.1	13	88.8	14	764.2	18
SLB	8.6	5	16.8	3	42.5	1
Transition	0.7	0.4%	1.7	0.3	12.7	0.3
Total	**169.5**	**100**	**618.2**	**100**	**4228.1**	**100**

GSS+ bonds captured by Climate Bonds

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 database inclusion are classified as **pending** until sufficient disclosure is available to decide.

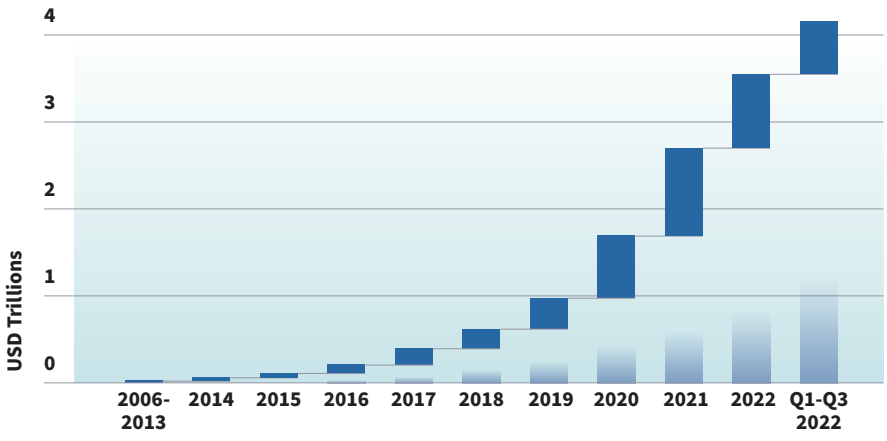
Bonds failing to meet the requirements of Climate Bonds screening methodology are classified as **non-aligned** and are excluded from the datasets.

	Aligned	Pending	Non-aligned
Cumulative as of 30/9/2023	4.2tn	102.1bn	917.6bn
YTD	616.5bn	92.6bn	183.6bn
Q3	168.781	32.8bn	43bn

Cumulative GSS+ volume

At the end of Q3 2023, Climate Bonds had captured GSS+ volume of USD4.2tn, which has originated from supranational plus 103 countries. Supranational remains the largest source of aligned GSS+ volume (USD660.7bn), with the USA (USD612.6bn), France (USD488.2bn), and China (USD431.28bn) being the largest country sources. Other than China, South Korea (USD149bn) and Chile (USD53.4bn) are the only emerging markets (EM) to appear in the top 15 most prolific countries. In all three cases, strong policy support has contributed to the growth of robust local and international markets.

Cumulative aligned GSS+ debt reached USD4.2tn at the end of Q3



Source: Climate Bonds Initiative

Aligned GSS+ deals have been priced in 61 currencies. Most the volume has either been in EUR (41%) or USD (32%), with CNY as the third most dominant currency responsible for just 8%.

Government-backed entities (USD997.2bn), financial corporates (USD946.8bn), non-financial corporates (USD895.0bn) and development banks (USD698bn) are the source of 84% of cumulative GSS+ volume. Among the government backed entities, the largest issuers of aligned GSS+ debt were the European Union (USD164.6bn), French social security provider Caisse d'Amortissement del la Dette Sociale (CADES) (USD158.6bn), and Fannie Mae (USD117bn). The sovereign issuer type has contributed 10% to total GSS+ volumes, which as highlighted in prior iterations of this paper, suggests substantial potential considering sovereign debt is responsible for around two thirds of the overall debt market.

Year to date GSS+ volume

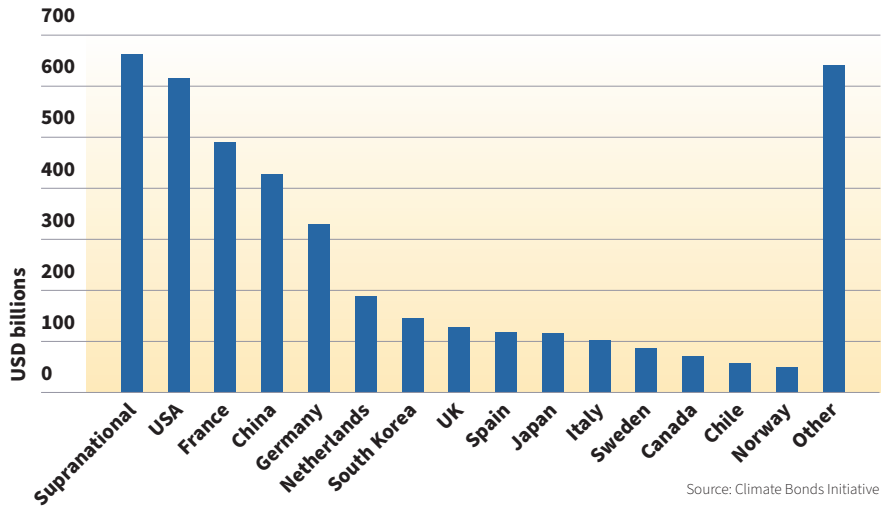
USD618.2bn of aligned GSS+ debt was priced in the first three quarters of 2023, remaining at 5% of total debt issuance.[1] The green theme contributed 67%, social bonds added 16%, sustainability bonds 14%, SLBs 3%, and unscreened transition bonds made up the final 0.3%.

Quarterly comparisons

Aligned GSS+ volume reached USD172.2bn in Q3, a decline of 23% compared to Q2 (USD225.2bn), and a decline of 13% compared to Q3 2022. YOY there was a drop in aligned deals originating from development banks and government-backed entities.

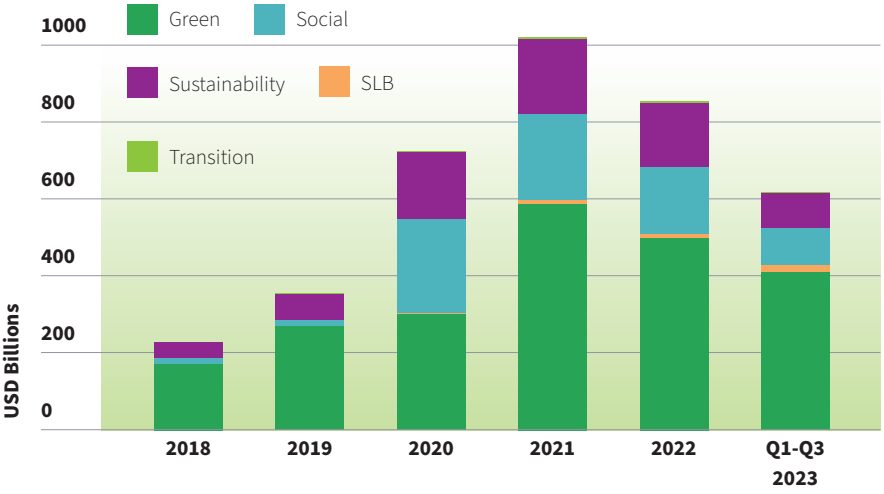
In Q3 2023, GSS+ volumes came from eight issuer types, dominated by the private sector. Non-financial corporates made the largest contribution with USD64bn across 240 deals followed by financial corporates with USD39.4bn from 185 deals. Among the public sector issuer types, government-backed entities made the largest contribution with USD24bn.

Supranational is the largest source of aligned GSS+ volume



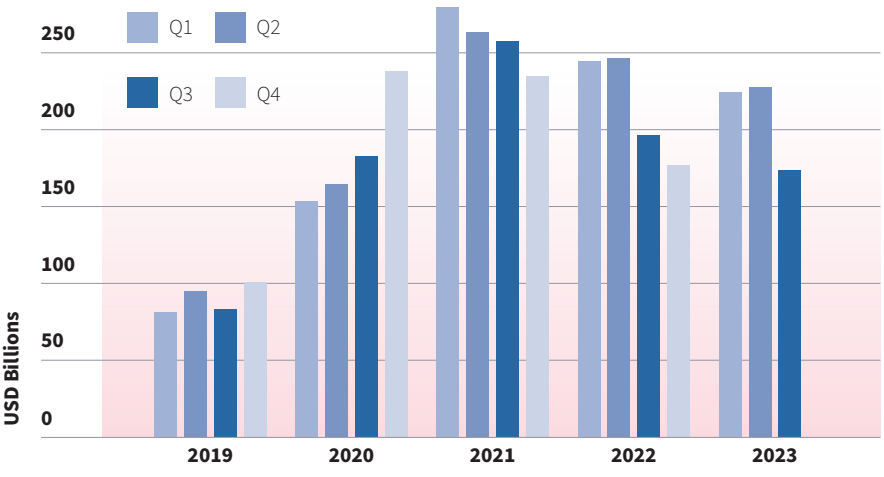
Source: Climate Bonds Initiative

Green bonds contributed 64% to aligned volume in 2023



Source: Climate Bonds Initiative

Aligned GSS+ volume declined in Q3



Source: Climate Bonds Initiative

Q3 2023 market highlights

Green

- By the end of Q3, Climate Bonds had recorded cumulative aligned green bond volumes of USD2.6tn, breaching the USD2.5tn milestone.
- YTD aligned green bond volumes were 3% ahead of the same period in 2022, reaching USD415bn compared to USD402bn a year ago.
- Q3 aligned green bond volumes exhibited a negligible (0.5%) decline on the prior year to USD110.6bn compared to USD111.2bn in 2022.
- EUR dominated the green bond market in Q3 with a 37% market share followed by USD 23% and CNY contributing 8%. EUR is the currency of choice for 47% of cumulative green bond volumes reflecting the high number of dedicated investors in the region.
- Aligned green bonds captured in Q3 2023 originated from 41 countries. Germany was the largest source with volume of USD17.7bn split between 35 deals. The most prolific country by deal count was the USA with 322 amounting to USD15.5bn.
- Renew Power (India) priced an INR640bn (USD7.8bn) loan, the largest volume of green debt from a single entity in Q3.

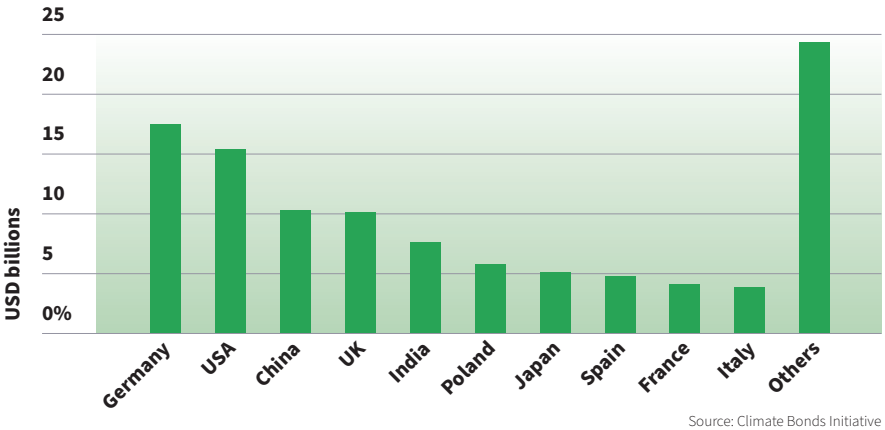
Social

- Cumulative aligned volumes of social bonds had reached USD797.3bn by the end of Q3.
- YTD aligned social bond volumes were USD95.8bn, a 25% drop compared to the USD127bn recorded for the first three quarters of 2022. Social bond volumes experienced a YoY increase of 1500% to USD248bn in 2020 in response to the COVID-19 pandemic and have declined annually thereafter.
- Aligned social bonds recorded in Q3 2023 reached USD27.4bn, a drop of 30% against the USD38.9bn recorded in the same quarter a year earlier.
- CADES maintained its reputation as the largest issuer of social bonds with a single USD4bn deal accounting for 14% of the total in Q3 2023.
- The CADES deal contributed to the USD claiming the top currency spot in the social theme with 38% of the aligned volume, followed by EUR 25% and KRW 16%.

Sustainability

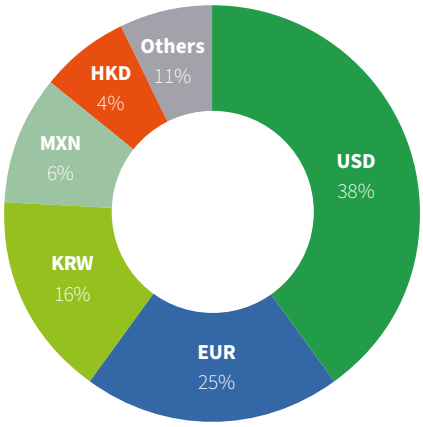
- Cumulative aligned sustainability volumes had reached USD762.7bn by the end of Q3 2023.
- Aligned sustainability volumes of USD88.8bn were recorded in the first nine months of 2023, a decline of 38% compared to the USD143.3 recorded during the same period of 2022. This was exacerbated by an 85% drop in the volume of aligned deals recorded from supranationals to USD7.3bn in the first three quarters of 2023, compared to USD47.6bn a year ago. Brazil, Mexico, and Japan demonstrated the largest increases.
- Q3 sustainability bond volume declined by 50% to USD22.1bn, compared to USD44.3bn in Q3 2022.
- USD made largest contribution with 40% of the aligned sustainability bond issuance followed by EUR 22% and JPY 11% of issuance.
- The Development Bank of Japan issued aligned volumes of USD3bn making it largest aligned sustainability issuer in Q3 2023.

Germany was the largest source of aligned green debt in Q3 2023



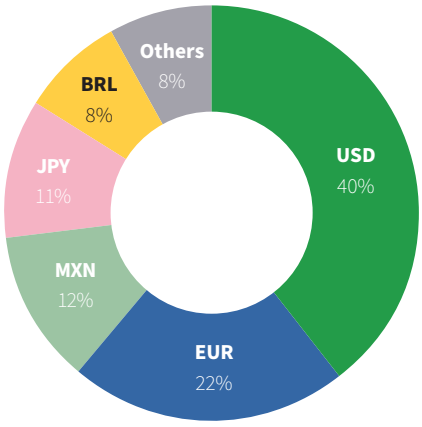
Source: Climate Bonds Initiative

USD dominated aligned social volumes in Q3



Source: Climate Bonds Initiative

40% of aligned sustainability volumes were priced in USD



Source: Climate Bonds Initiative

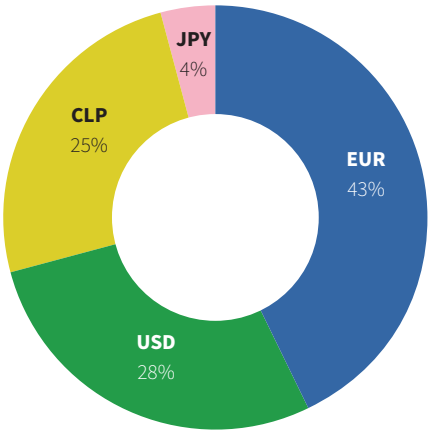
Top ten country sources of aligned sustainability debt Q1-3

Country source	Market Type	USDbn 2022	USDbn 2023	Percent change YOY
Mexico	EM	5.9	10.7	80%
Japan	DM	5.3	9.0	69%
Supranational	N/A	47.6	7.4	-85%
France	DM	9.0	6.4	-29%
USA	DM	18.6	6.3	-66%
South Korea	EM	10.5	5.2	-50%
Thailand	EM	6.8	4.7	-31%
Brazil	EM	1.3	3.9	200%
Spain	DM	3.4	3.5	5%
Germany	DM	4.1	3.0	-27%

Sustainability-linked bonds

- By the end of Q3 2023, Climate Bonds had recorded aligned SLB volume of USD42.5bn. This includes deals falling into the fully aligned, strongly aligned, and aligning categories.
- In the first three quarters of 2023, USD16.8bn of SLB volumes were recorded as aligned, an increase of 59% compared to the USD10.6bn recorded in the same period in 2022. This suggests that more issuers are coming to the market with relevant deals that closely match the inclusion criteria of the Climate Bonds SLB database.
- In Q3 Climate Bonds recorded SLB volume of USD18bn, but just 14 deals amounting to USD8.6bn qualified as aligned.
- Chile made the largest contribution to aligned SLB issuance with USD5.2bn spread over four sovereign deals.
- EUR was the preferred currency in Q3 2023 with 43% of the SLB volume, followed by USD at 28%, and CLP (Chilean Peso) 25%.
- In Q3 2023, aligned SLBs originated from only three regions. LAC topped the table with USD5.1bn followed by Europe with USD3bn and Asia-Pacific with a small contribution of USD305m.

CLP made the third largest contribution to aligned SLBs



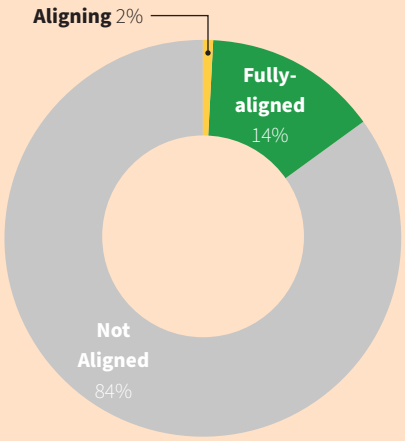
Source: Climate Bonds Initiative

The Climate Bonds SLB Database

Climate Bonds had recorded cumulative SLB volume of USD252bn at the end of H1 2023.

This underscores the rapid growth in this label since the first deal was priced in 2017. Historically, Climate Bonds recorded, but did not screen, SLB deals; however, since publishing its SLB Database Methodology (SLBD Methodology) in June 2023, which has been applied retroactively, the total aligned volume has decreased to USD42.5bn at the end of Q3 2023.

Most of the cumulative SLB volume is not aligned with Climate Bonds Methodology



Source: Climate Bonds Initiative

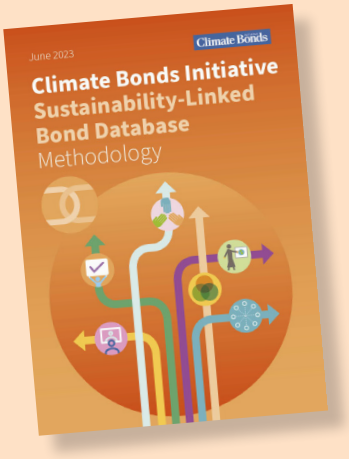
The Methodology organises SLBs into four categories:

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.[2]



Transition

- **By the end of Q3 2023**, Climate Bonds had recorded cumulative volume of USD12.7bn in bonds bearing the transition label.
- **YTD issuance** accounted for USD1.7bn compared to USD2.7bn in the same period of 2023.
- **Three deals captured in Q3** amounted to USD738.7m and came from Snam SPA (USD528m), Nippon Yusen KK (USD141m) and Mitsubishi Heavy Industries Ltd (USD68m).

Climate Bonds has historically recorded but not screened bonds bearing the transition label. Climate Bonds records such bonds as an independent category but regards them as a sub-set of the green label. As of January 2023, Climate Bonds will not delineate bonds issued with a transition label. They will be added to the Climate Bonds Green Bond Database and screened according to its Green Bond Database Methodology.

GSS+ Sovereigns

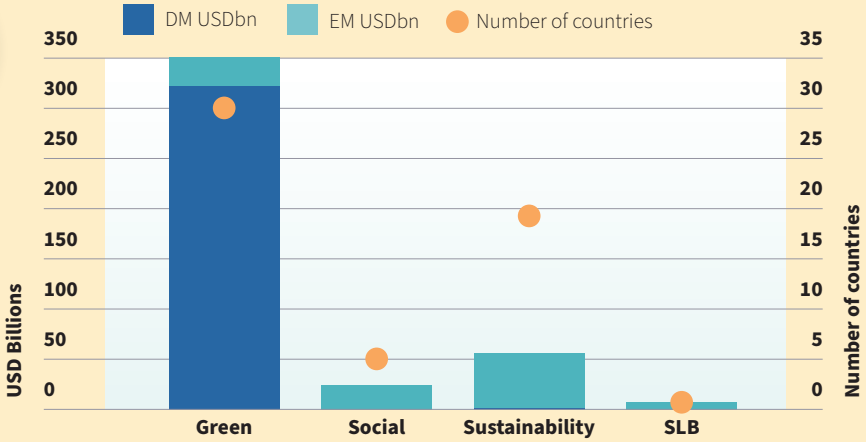
At the end of Q3 2023 Climate Bonds had recorded aligned GSS+ bonds from 49 sovereigns with a combined volume of USD435.5bn, a 36% increase YTD. Green is the largest segment with USD348.3bn (80%), and France retaining its crown as the largest source of aligned GSS+ sovereign debt with USD66.3bn in cumulative volume.

In Q3, USD21bn of aligned sovereign volume was recorded by Climate Bonds. This was split between taps of USD12.7bn from six issuers, and new deals worth USD8.2bn from three issuers.

In August, **Austria** priced another green three-month treasury bill. The EUR1.5bn (USD1.7bn) deal will be rolled over in November. Austria is the only sovereign to have issued short term paper bearing a thematic label.

Chile priced its first SLB in March 2022 and published its updated SLB framework in June 2023. A KPI on female board representation was added to the existing pair of environmental KPIs related to GHG emission reduction targets and renewable energy share.[3] Later that month, Chile priced three SLBs: a USD1.2bn maturing in 2036, a USD1.1bn maturing in 2054, and a EUR750m (USD814m) nine-year deal. The following month, the USD SLBs were both reopened adding USD500m and USD380m respectively, and Chile added its first local currency SLB, a CLP1.75bn (USD2.1bn) instrument with a 2037 maturity.

Cumulitive aligned sovereign GSS+ volumes



Source: Climate Bonds Initiative

New aligned sovereign GSS+ deals priced in Q3 2023

Theme	Country	Maturity	Currency	Amount local	USD amount added to relevant database
Green	Austria	Nov-23	EUR	1.5bn	1.7bn
Sustainability	Mexico	2035	MXP	1.8tn	1.4bn
SLB	Chile	2037	CLP	1.8tn	2.1bn
	Chile	2036	USD	1.2bn	1.2bn
	Chile	2054	USD	1.1bn	1.1bn
	Chile	2034	EUR	750m	814m

Chile has now priced USD43.1bn of aligned thematic debt and is the only sovereign to have issued under all four thematic labels.

In July, **Mexico** returned to the sustainability bond market with a MXP23bn (USD1.4bn) deal with UoP linked to the UN SDGs. By the end of Q3, Climate Bonds had recorded aligned sustainability volume of USD13bn from Mexico, which published its sustainable finance taxonomy in March 2023. The taxonomy is interoperable with the EU taxonomy and is expected to encourage local market creation.

Largest non-sovereign issuers in Q3 2023

Green

The two largest aligned green deals priced in Q3 were both green loans. Indian clean energy provider, **Renew Power**, accepted an INR640bn (USD7.8bn) green loan from Power Finance Corporation (PFC) and Rural Electrification Corporation (REC) each of which provided half of the capital.[4] The UoP were earmarked for Low-Carbon Energy including solar, wind, hybrids, energy storage, solar module/cell manufacturing, and green hydrogen. Canadian gas and low-carbon energy provider Northland Power signed a USD5.2bn credit agreement to finance **Baltic Power's** offshore wind project. Once operational, the project is expected to power over 1.5 million Polish households and will make a substantial contribution to Poland's energy transition targets.[5]

Volkswagen is a frequent green bond issuer, with cumulative aligned volume of USD12.6bn including USD4.2bn added in Q3. In late August, a pair of perpetual bonds with a cumulative volume of EUR1.75bn (USD1.8bn) extended the company's green liability profile, and in mid-September, three bullet bonds maturing in three, six, and nine years added combined volume of EUR2bn (USD2.1bn). The UoP of VW's green bond programme is exclusively channelled to support electric vehicles.

Social

South Korea priced the largest volume of aligned social bonds with USD7.8 bn across 95 deals. Two social bond issuers from the region appeared among the top five. **Korea Housing Finance Corp** made the largest contribution to the social bond market in Korea with a total aligned volume of USD2.5bn split over 17 deals in a mixture of KRW, USD, and EUR. **Korea SME's and Startups Agency** is a non-profit, government-funded organisation supporting the sustainable grown and development of Korean SMEs. The agency priced nine social deals with cumulative volume of KRW1.2tn (USD908m) with proceeds earmarked for Education and Microfinance.

Sustainability

USD5.6bn of aligned sustainability bonds originated from Japan in Q3 accounting for a 29% share, followed by South Korea and Mexico with USD2.5bn each. The **Development Bank of Japan** was the largest issuer pricing four deals in a mixture of EUR, JPY, and USD with combined volume of USD3bn. The UoP were earmarked for Low-Carbon Energy, Buildings, Transport, Healthcare, Equality, Employment, and Affordable Housing. **Toyota** added a trio of USD bonds in mid-July with combined volume of USD1.5bn. Cumulatively, Climate Bonds has recorded UD15.3bn in aligned deals from Toyota, split between USD8.7bn in the green theme, and USD6.6bn under the sustainability label.

Sustainability-Linked Bonds

In Q3 2023, Climate Bonds recorded SLBs from ten non-sovereign issuers amounting to USD3.4bn. The largest deal was a EUR900m (USD966m) 7-year SLB from German retail and tourism group **REWE** with sustainability performance targets (SPTs) linked to reductions in all three scopes of emissions.

In Q3, 52% (USD8.6bn) of all SLBs priced did not qualify for inclusion in Climate Bonds dataset. The main reasons for this were a lack of GHG emission targets (USD3.8bn), and partial emission coverage in targets (USD3.5bn) but other deals were excluded for lack of scope 3 disclosure, lack of target disclosure, only partial alignment with the sector pathway, and use of economic intensity targets. Climate Bonds hopes that the introduction of its Methodology (referenced above) will encourage issuers to be more ambitious when designing their SLB frameworks.

Largest non-sovereign issuers in Q3 2023

	Country	USD added to relevant database Q3
Largest green bond issuers		
Renew Power	India	7.8bn
Baltic Power	Poland	5.2bn
Volkswagen	Germany	4.0bn
NTT Finance Corp	Japan	2.7bn
ACWA Power	Saudi Arabia	2.2bn
Largest social bond issuers		
Caisse d'Amortissement de la Dette Sociale	France	4.0bn
Hong Kong Mortgage Corp Ltd.	China_HK	2.5bn
Korea Housing Finance Corp	South Korea	2.5bn
BNG Bank NV	Netherland	1.8bn
Korea SME's and Startups Agency	South Korea	908m
Largest sustainability bond issuers		
Development Bank of Japan Inc	Japan	3.0bn
Korea Electric Power Corp	South Korea	2.0bn
Ministeries Van de Vlaamse Gemeenschap	Belgium	1.6bn
Toyota Motor Corp	Japan	1.5bn
AEGEA (Aguas do Rio)	Brazil	1.2bn
Largest sustainability-linked bond issuers		
RWE International Finance BV	Germany	966m
ELO SACA	France	799m
DHL Group	USA	545m
Orange SA	France	536m
Georgia Capital JSC	Georgia	150m

Best Practice on hydrogen production: Engie

French utility **Engie** updated its Green Financing Framework in mid-June 2023, obtaining a second-party opinion (SPO) from Moody's. The issuer has since priced four green bonds with a total amount exceeding USD1.5bn, including a EUR900m benchmark in September. The new Framework is a big step-up from its early 2020 iteration, with UoP in the new version in broad alignment with the EU Taxonomy's technical screening criteria and adhering to some of the most stringent market practices.

Among all the eligible green project categories, hydrogen production separates Engie from other green bond issuers financing such projects by the extent of disclosure. Under the Framework, the issuer allows for the financing of hydrogen produced from both electrolysis powered by renewable energy (green hydrogen) and natural gas steam reforming with carbon capture and storage (blue hydrogen). The life cycle GHG emissions resulting from both production methods fall below the threshold of $3tCO_2eq/tH_2$, in compliance with the EU Taxonomy and Climate Bonds Hydrogen Criteria.

Notably, in the SPO, Engie worked with Moody's and confirmed that the electrolysis is powered by electricity generated from solar and wind energy exclusively, with an electrolyser efficiency around 53.5 kWh/kg. Engie also disclosed that the natural gas is expected to be sourced from Norway with the best practice estimates used to calculate upstream leakages. This coupled with a 95% carbon capture rate means the production process results in life cycle GHG emissions of only $1.5tCO_2eq/tH_2$, which is the carbon intensity threshold required by the Climate Bonds Hydrogen Criteria for 2030.

This example on hydrogen production demonstrates Engie's commitment to follow the best market practices to help the world accelerate the transition to net zero, as well as transparency to communicate with investors and other stakeholders in the sustainable investing space.

Case Study: Nishimatsu Construction 0.6% 27 July 2028

Nishimatsu Construction (Nishimatsu) is a Japanese company primarily engaged in civil engineering, construction contracting, and real estate. Among Japan's largest construction businesses, they recorded net sales of JPY339.76bn in FY2023. In 2022, Nishimatsu reported total GHG emissions of 3.3mt CO_2, of which 2% are scope 1 and 2 emissions, and 98% are scope 3. Scope 3 category 11 emissions associated with energy use during the operational phase of completed and delivered buildings comprise over 75% of Nishimatsu's total emissions.

In July 2023, Nishimatsu priced a JPY20bn (USD142m) SLB with a five-year maturity. The coupon is linked to two SPTs which cumulatively cover about 77% of the company's carbon footprint.

Target 1
KPI: Scope 1+2 emissions reduction rate
SPT: Annual reduction 42% vs. 2020 baseline

Target 2.
KPI: Scope 3 (category 11) emissions reduction rate
SPT: Annual reduction 25% vs. 2020 baseline

Target year: FY2026

Financial mechanism: Redemption premium (green electricity certificate or carbon offset)

FM Amount: 0.070 (target 1) and 0.03 (target 2)

If the first target is not met, Nishimatsu will purchase emissions credits or green power certificates equivalent to 0.07% of the bond issue amount and 0.03% if the second target is not met. The company identified the bond and its associated KPIs as essential indicators of its commitment to carbon neutrality by 2030.

This bond is considered fully aligned when assessed against Climate Bonds' Sustainability-linked Bond Database Methodology.

Comparison of Nishimatsu's net-zero transition plan against Climate Bonds' Five Hallmarks of a Credible Transition

Hallmark 1: Paris-aligned targets

Targets should be aligned with a sector-specific, 1.5°C pathway, cover the short-, mid-, and long-term, and include scope 1, 2, and 3 emissions.

Nishimatsu has developed a 'ZERO30' decarbonisation pathway that outlines short and medium-term emission reduction goals leading up to 2030 (its carbon neutrality target year). It aims to reduce scope 1 and 2 emissions by 45.3% and 54.8% by 2025 and 2030, respectively, both against 2020 baselines. The remaining emissions (45.2%) in 2030 will be offset using renewable power generation.

The scope 3 targets of -26% by 2025 and -27% by 2030 (v. 2020) cover category 11 emissions. The company has also identified target emission levels for each interim year between the reporting period, 2022 and 2030. Together, these targets account for 77% of the company's total emissions.

The Science Based Targets initiative (SBTi) validated these targets as well below the 2°C level, and the company is seeking to obtain SBTi 1.5°C certification by 2024.

Nishimatsu's targets are detailed and critically front-load scope 1 and 2 emissions reduction. The ambition of the business ZERO30 pathway exceeds the SBTi 1.5°C emission levels. However, Climate Bonds cautions against the use of carbon offsets in these targets. While Climate Bonds commends targeting the scopes of emissions most material to Nishimatsu's business, it encourages the company to expand these to the remaining scope 3 categories in the coming years.

Hallmark 2: Vision

The company needs to have a coherent narrative for the future business model and asset base, identifying changes from the status quo, and actions to achieve this vision.

Nishimatsu has a comprehensive vision for decarbonising its business in line with its emission targets. This vision, a part of its ZERO30 roadmap, outlines the role of various levers in its yearly domestic scope 1 and 2 emissions reduction until 2030. The roadmap projects yearly emission levels until 2030, accounting for projected increases where relevant. Critically, Nishimatsu's plan quantifies short and medium-term levers, such as energy factor reduction, energy conservation, and introducing renewable energy. For scope 3 emissions, Nishimatsu has a short-, medium-, and long-term strategy that entails expanding zero-emission buildings (ZEBs) construction, ultimately converting all construction projects to ZEB by 2050. It plans to supplement by developing carbon-reducing technologies, construction materials and supplier engagement.

The granularity and timeframe of Nishimatsu's decarbonisation vision, particularly for scopes 1 and 2, give it credibility as do the description of current and future company positioning and quantitative goals for interim strategies. Such detail, and the adoption of ZEBs, evidence the company's coherent narrative for its future business model.

Considering that it comprises 98% of the company's emissions, quantitative interim targets for the scope 3 reduction strategies should be a priority. A financial strategy with capex and opex commitments towards net zero would strengthen Nishimatsu's plan.

Hallmark 3: Implementation Plan

A clear action plan must already be implemented to support the delivery of interim performance targets, with identified metrics and indicators to assess delivery.

Since establishing its decarbonisation map in 2021, Nishimatsu has reported progress against interim milestones for both carbon emissions and the associated levers. The company also provides a high-level overview of environmental partnerships and awards to date. It plans to continue reporting this on an annual basis. While it is too early to be certain that 2025 and 2030 goals will be achieved, the company was on track in 2022, with emission reductions of 43.6% (scope 1 and 2) and 21.3% (scope 3) against the 2020 baseline.

Hallmark 4: Governance

Transition needs to be driven, owned, and monitored by senior leadership, with ongoing re-evaluation and re-calibration.

Nishimatsu has strong governance mechanisms to drive forward its transition plan. The Nishimatsu Board of Directors oversees the groups climate change responses and targets, advised by a dedicated Sustainability Committee. The internal governance of the transition strategy appears strong, including an environmental committee that monitors and reports progress against goals to the management. The company recalibrates targets periodically: in 2023, Nishimatsu updated and developed a 2023 Zero30 roadmap to enhance the 2021 iteration, adding scope 3 emissions from all business activities to its targets and plans.

Hallmark 5: External Verification

Transition KPIs and underlying methodologies need to be disclosed, and receive independent verification.

Nishimatsu discloses combined scope 1 and 2 emissions, and scope 3 emissions by category. Their CO_2 emissions data are all subject to independent third-party assurance. The company does not report breakdowns by emission sources or business areas and fails to mention its GHG accounting methodology. Further disclosure in these areas would enhance transparency.

SPOTLIGHT – The Middle East and Africa Sustainable Debt Market Snapshot Q3 2023

Summary

This is the second Climate Bonds report exploring the shape and size of the GSS+ debt market in the Middle East and Africa (MEA) region. The market has grown substantially in 2023, led by countries based in the Middle East.

The upcoming 28th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP28) will be hosted in Dubai, the most populous of the seven United Arab Emirates (UAE), which is one of the top ten oil-producing nations. In a controversial move, the Chief Executive of UAE's state-owned oil company, Sultan Al Jaber, has been appointed as president of the COP28 talks.[6] Sultan Al Jaber is also the Chairman of renewable energy firm Masdar, responsible for the expansion of low carbon energy production. COP28 will focus on accelerating the move to low carbon energy by 2030, and there will once again be a focus on channelling capital to support the decarbonisation efforts of emerging market countries (EM).

This report describes the GSS+ debt market in MEA as of 30 September 2023. The prior iteration of this report was published in 2022.[7]

Market analysis

MEA GSS+ volumes grew 158% in 2023

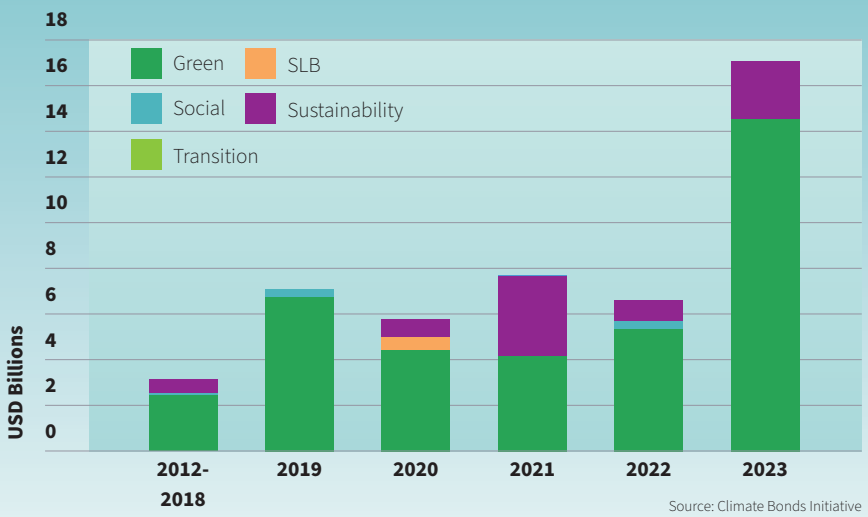
By the end of Q3 2023, Climate Bonds had recorded USD47.9bn of cumulative aligned GSS+ volume originating from the MEA region. This makes 2023 the most prolific year so far for the region's GSS+ market, with volumes of USD17.3bn recorded by the end of Q3 2023 compared to USD6.7bn for the full year 2022, a 158% increase with three months of the year remaining. So far, 2023 has seen aligned deals recorded in the green (USD14.7bn), sustainability (USD2.6), and social (USD13m) themes. The Middle East is beginning to flex its huge potential for renewable energy capacity with Saudi Arabia and the UAE the source of two-thirds of the 2023 volume (USD11.7bn).

Green is the preferred theme

Green dominates cumulative MEA GSS+ volume (80%) to a greater extent than it does the global market (61%). Sustainability bonds currently represent 17% of the MEA GSS+ market but due to their flexibility to support environmental and social projects in the same transaction, could be applied much more widely in the region.

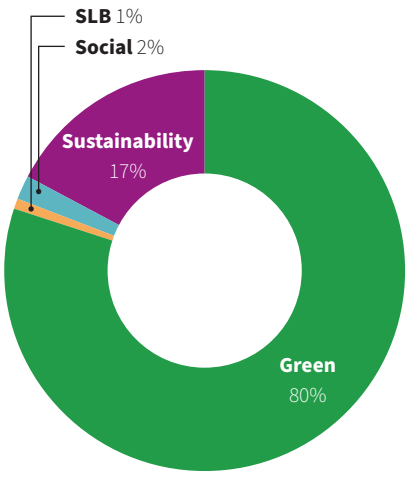
Following the application of Climate Bonds SLB Database SLBD Methodology, the Unity 1 Sukuk (Etihad Airways) SLB is the only qualifying deal.

2023 aligned GSS+ volumes have shot up in MEA



Source: Climate Bonds Initiative

3/4 of aligned GSS+ volume from MEA is green



Source: Climate Bonds Initiative

Aligned SLB: Etihad Airways

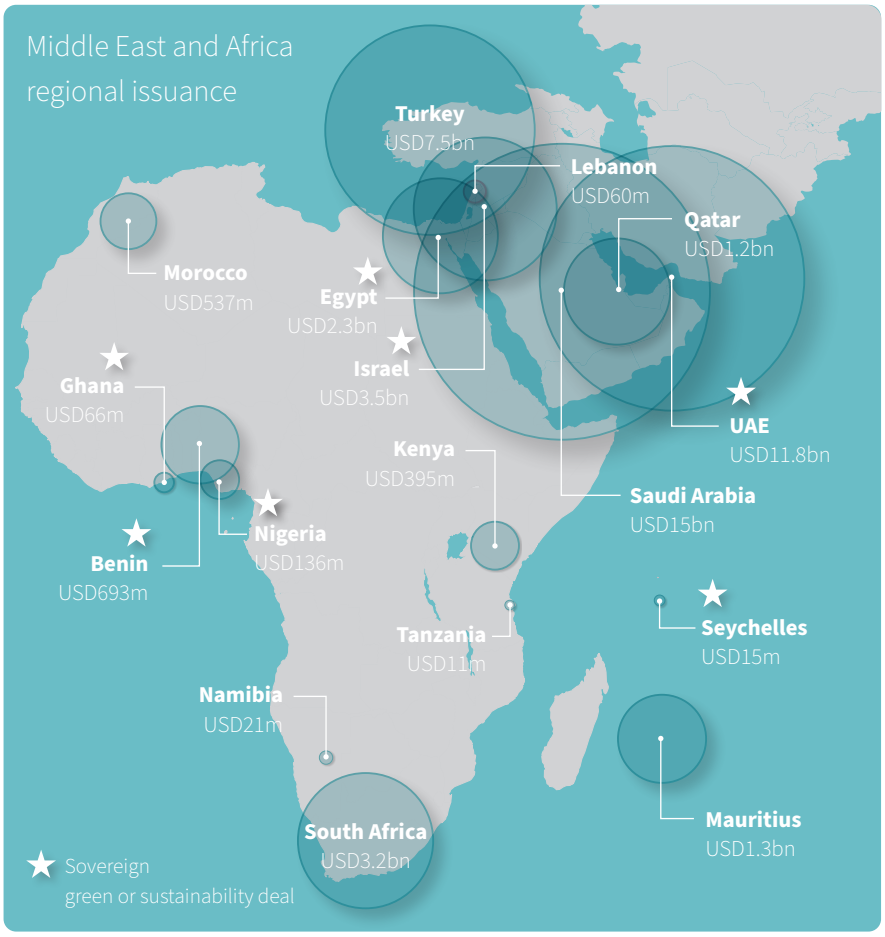
In October 2020, **Etihad Airways** priced a USD600m five-year sukuk combining UoP with a KPI-linked structure. The SPT was to reduce GHG scope 1 emission intensity by 20% between 2017 and 2024, which is in line with the Transition Pathway Intiative's (TPI) Airlines 1.5°C Pathway.

The SLB carried a maximum financial penalty of USD1.5m, which decreases according to the extent to which the target is not met. This was considered fully aligned with the Climate Bonds SLBD Methodology.

Climate Bonds encourages SLB issuers to use decarbonisation targets that cover all material scopes of emissions for their sector, and to benchmark their targets against a sector-specific, 1.5°C pathway.

Climate Bonds Certified: Masdar

In July 2023, **Masdar** priced a USD750m 10-year green bond. The Abu Dhabi government-backed entity obtained Climate Bonds Certification for the deal, demonstrating alignment with the Solar and Wind Sector Criteria. The UoP was earmarked for four solar projects in Azerbaijan and Uzbekistan, and one wind farm in Uzbekistan. The deal attracted an order book of 5.6 times the deal size, which is above the average of four times recorded by Climate Bonds.[8] Masdar is a subsidiary of the state-owned Mubadala Investment Company and has supported renewable energy projects in 40 countries.



The Middle East brings scale

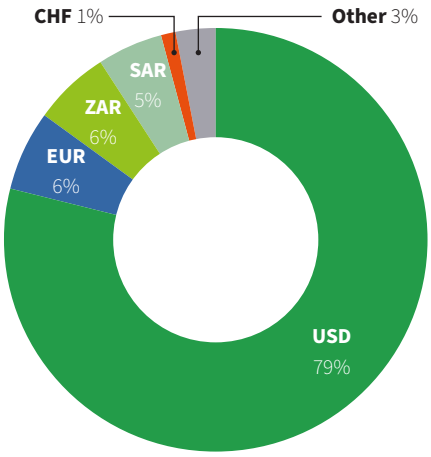
Aligned GSS+ debt has originated from 17 countries, with no new MEA countries being recorded in 2023. Saudi Arabia dominates the market with 13 deals from seven issuers amounting to 15.1bn, resulting in 84% of MEA aligned volumes originating from the Middle East. The Public Investment Fund is the largest single issuer in the region with cumulative deals of USD8.5bn. United Arab Emirates (UAE) is the second largest country source, with USD11.8bn spread over 26 deals from 12 issuers including a Climate Bonds Certified deal from Abu Dhabi Future Energy Company (Masdar). Sixteen Turkish issuers have come to the market with 25 deals with cumulative volume of USD7.6bn. The three largest country sources are also those which have been the most prolific in 2023.

The USD dominates

Aligned GSS+ deals from the MEA region have been priced in 15 currencies, but the three largest are responsible for 91% of the volume. USD takes 79% of the aligned volumes spread over 75 deals from 47 issuers, while EUR, the second largest currency, was chosen for eight deals from eight issuers, comprising 7% of the total. ZAR is the largest soft currency, and the third overall, with 24 deals amounting to USD2.7bn.

In 2023, GSS+ bonds have been priced in USD, EUR, SAR, AUD, with the latter pair being deployed by MEA issuers for the first time. ACWA Power priced a SAR8.3bn (USD2.2bn) loan to finance the Al-Shuaibah 1 and 2 solar plants with the capacity to power 350,000 homes.[9] In June 2023, Saudi National Bank (SNB) priced an AUD20m (USD13m) social bond. The UoP of the 10-year FRN was earmarked for Employment and Microfinance, selected from the eligible project categories in the SNB 2021 Sustainable Financing Framework.[10]

USD takes 80% of aligned GSS+ volume



Source: Climate Bonds Initiative

Green loans prevail in Africa.

In the first nine months of 2023 aligned GSS+ deals originated from four of the 54 African countries, all of which were green loans. Egypt was the largest source with a total of USD775m from two issuers. Green taxonomies and standards should be deployed to prioritise green lending in loan markets, and to identify green lending to enable aggregation.Issuers should be guided to ensure the UoP meets investor expectations.

Green loans originated from four African countries in the first nine months of 2023

Country	Issuer	Currency of issue	USD equivalent	Number of deals	Use of Proceeds
Egypt	ACWA Power	USD	576m	4	Renewable Energy
	Red Sea Wind Energy	USD	200m	2	Renewable Energy
Kenya	Kenya Power and Lighting Company	USD	300m	1	Renewable Energy
	Anergi Turkana	USD	54m	1	Renewable Energy
Morocco	OCP Group	EUR	111m	1	Renewable Energy
	Equatorial Coca-Cola Bottling Company	USD	71m	1	Renewable Energy, Waste
Ghana	Bui Power Authority	USD	24m	1	Renewable Energy
Total			**1.34bn**	**11**	

Ten largest aligned GSS+ deals from MEA 01 January to 30 September 2023

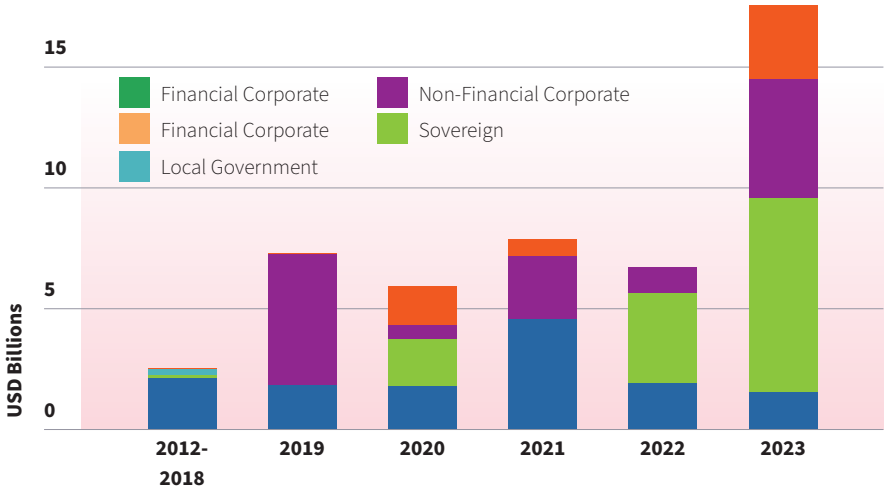
Issuer name	Country	Theme	Instrument type	UoP	Tenor	Currency	USD deal size
GREEN							
ACWA Power.	Saudi Arabia	Green	Loan	Low Carbon Energy		SAR	2.2bn
Public Investment Fund	Saudi Arabia	Green	Bond	Low Carbon Energy, Low Carbon Buildings, Low Carbon Transport, Water, Waste, Land Use	12 years	USD	2.0bn
Israel	Israel	Green	Bond	Low Carbon Energy, Low Carbon Buildings, Low Carbon Transport, Water, Waste, Land Use, Adaptation and Resilience	10 years	USD	2.0bn
Public Investment Fund	Saudi Arabia	Green	Bond	Low Carbon Energy, Low Carbon Buildings, Low Carbon Transport, Water, Waste, Land Use	30 years	USD	1.75bn
Public Investment Fund	Saudi Arabia	Green	Bond	Low Carbon Energy, Low Carbon Buildings, Low Carbon Transport, Water, Waste, Land Use	8 years	USD	1.75bn
Saudi Electricity Company	Saudi Arabia	Green	Bond	Low Carbon Energy, ICT	10 years	USD	1.2bn
Masdar	UAE	Green	Bond	Low Carbon Energy	10 years	USD	750m
Energix Renewables	Israel	Green	Loan	Low Carbon Energy		USD	500m
SUSTAINABILITY							
Sharjah	UAE	Sustainability	Bond	Green: Low Carbon Energy, Low Carbon Buildings, Low Carbon Transport, Water, Waste, Land Use, Industry, Adaptation and Resilience. Social: Healthcare, Employment, Education, Micro Finance, Afforable infrastructure, Equality	9 years	USD	1bn
Turkiye Vakiflar Bankasi TAO	Turkey	Sustainability	Bond	Green: Low Carbon Energy, Low Carbon Buildings, Waste. Social: Employment, Micro Finance, Non-green Infrastructure	5 years	USD	520m

Many international investors are unable to combine EM risk with currency risk. While some issuers can sell a bond denominated in USD and hedge the currency risk, the cost and expertise required to do so can be prohibitive to others. Meanwhile, local currency deals need local capital, which is not available in many countries in the region. International investors also seek liquidity, preferring benchmark-sized deals in hard currencies. Among the 28 deals priced in the first three quarters of 2023, ten were at least USD500m in size, nine priced in USD, and one in SAR.

Public sector supports 2023 GSS+ volume

The private sector dominates the MEA aligned GSS+ market with 58% of the cumulative volume originating from financial corporates (29%), and non-financial corporates (28%). In the first three quarters of 2023, the public sector took the lead with 63% of the volume. Government-backed entities collectively priced USD7.9bn, which is 58% of the cumulative total from that issuer type. While no MEA aligned sovereign deals were priced in 2022, by September 2023, Sharjah (UAE) and Israel had come to the market with combined volumes of USD3bn.

The public sector has driven 2023 aligned GSS+ volumes in MEA

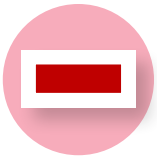


Source: Climate Bonds Initiative

Pair of sovereigns bring total to six

Two MEA nations priced debut sovereign deals in 2023, taking the total number of GSS+ issuing nations to seven. All but one have issued in hard currency, with Nigeria pricing in its local currency to capitalise on its domestic investor base. Israel came to the market with its first green bond in January, and Sharjah (UAE) issued a sustainability bond in February. For countries that can bring sovereign deals, a sovereign GSS+ bond is a strong signal of the sustainability commitments of the issuing country.

In early January, **Israel** joined the Sovereign GSS+ Bond Club with its debut green deal worth USD2bn. The 10-year bond attracted USD12bn in bids, covering the book six times, and was eventually allocated to 200 investors in 35 countries. Israel's November 2022 Green Bond Framework highlighted eight eligible green project categories, including Environmentally Sustainable Management of Living Natural Resources and Land Use, and Adaptation.[11]



In mid-February, **Sharjah**, the third largest emirate in the UAE, priced a USD1bn sustainability bond to mature in 2032. The February 2023 Sustainable Financing Framework named 14 eligible project categories of which eight were green, and six were social.[12]

Israel and Sharjah grasp adaptation opportunity

As extreme weather events intensify in severity and frequency, the need to adapt to the ramifications of climate change will force governments to rethink their priorities. In November 2023, the United Nations Environment Programme (UNEP) reported that the adaptation finance requirement of developing countries is now 10–18 times the size of international finance flows, which is more than 50% above the previous range estimate.[13]

Delaying adaptation will most likely have serious consequence for loss and damage so the opportunity to pre-empt this been grasped by both Israel and Sharjah through their GSS+ deals. Israel lists several examples in its financing framework including projects to improve the preparedness of local authorities for the prevention of flooding and fires, as well as projects promoting technological innovations in the fields of energy, water, environment, and sustainability to respond to climate change. Sharjah mentions expenditures supporting resiliency and managing risks associated with the effects of climate change, including flooding, wildfires, drought, and extreme weather; the monitoring and prediction of weather and environmental conditions; and community monitoring of climate change, outreach and capacity building, risk assessments, risk mitigation, and increasing preparedness. Benin also referenced resilience projects in its 2020 SDG Framework, citing measures to combat costal erosion among its eligible project categories.

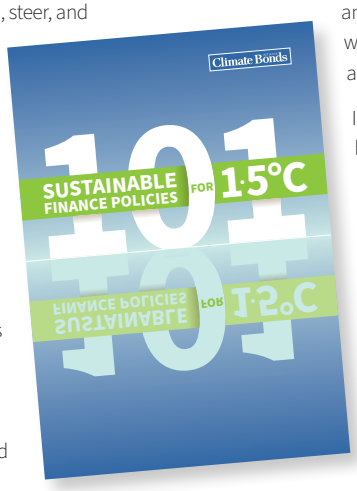
Scaling financial flows into adaptation and resilience projects will be a key challenge of the next few years. Climate Bonds has committed to developing a resilience taxonomy to support the prioritisation of the required infrastructure and support systems.[14]

Seven MEA countries have issued aligned sovereign GSS+ deals

Nation	Debut year	Theme	Currency of issue	Total amount issued USD	Number of deals
Sharjah (UAE)	2023	Sustainability	USD	1.0bn	1
Israel	2023	Green	USD	2.0bn	1
Benin	2021	Sustainability	EUR	693m	1
Egypt	2020	Green	USD	1.5bn	1
Ghana	2020	Green (loan)	EUR	41.5m	1
Seychelles	2018	Green	USD	15m	1
Nigeria	2017	Green	NGN	71.3m	2

MEA policy review

Robust sustainable finance policies have the potential to unlock substantial investment flows to MEA. Such policies can de-risk investments and attract international capital to support crucial mitigation and resilience efforts. Climate Bonds *101 sustainable finance policies for 1.5℃* presents the range of policies that are available to speed, steer, and simplify green investment to meet climate and development goals.[15]



The MEA region has already seen significant innovation in sustainable finance policy. The examples highlighted below provide a model for other countries seeking to attract and increase sustainable investment flows.

Policy 3: Sustainable finance roadmap

Sustainable finance roadmaps ensure coordination between government, the central bank, and regulators that can provide investors with certainty on policy introduction.

In 2016, the year it hosted COP22, Morocco launched the *Roadmap for Aligning the Moroccan Financial Sector with Sustainable Development*, developed by the central bank and financial regulators, which provided a roadmap for the alignment of the financial sector with climate change commitments.[16]

Policy 11: Green guarantees

Guarantees can unlock international investment in private issuance by providing investors with greater certainty of returns. The Kingdom of Morocco provided a guarantee for Morocco's first green bond, issued by the Moroccan Agency for Sustainable Energy (MASEN) to finance solar energy projects in 2017.[17] Guarantees can also be provided by development banks if the sovereign doesn't have balance sheet capacity, for example, the Seychelles blue bond was supported by a guarantee from the World Bank.

Policy 14: Sovereign GSS+ issuance

Sovereign issuance is growing in the African continent. Green bonds have been issued by Nigeria, Egypt, and Seychelles (blue bond), with green loans by Ghana and Angola.

In 2021, Benin issued a EUR500m SDG bond, 12.5-year transaction, marking the first sustainability sovereign bond to come from sub-Saharan Africa. The bond finances expenditures aligned with many of the SDGs and, although not explicitly signposted, is aligned with a just transition approach as it finances resilience measures, electricity grid access, and training and financial inclusion.[18]

Policy 17: Grant finance

Grant finance is critical to high-risk projects or those without clear revenue flows that may be unable to attract lending, such as climate adaptation and resilience. The YouthAdapt programme, funded by the African Development Bank (ADB), provides grant financing and capacity building to youth-led innovative adaptation enterprises across Africa.[19]

Policy 19: Blended finance

Effective blended finance structures can lower the cost of capital for project developers and maximise development finance capabilities. Concessional or grant financing can be used to finance the risker junior debt portion of a deal, while private finance funds only the lower risk senior debt portion. This reduces the cost of capital for the project developer because investors will accept lower returns than if required to fund the high-risk portion.

Kenya has used blended finance to in its efforts to reach 100% renewable energy generation by 2030. For example, the 310MW Lake Turkana wind farm was financed with a combination of public financing from the Kenyan government, concessional loans from development institutions, and private sector investments. This demonstrates how public financing can be used to de-risk a project and leverage private investment, stretching limited public budgets to maximum effect. As a result of Kenya's efforts to attract private green investment, the country receives almost 10% of all foreign climate investment in Africa.[20]

Policy 20: Green finance facilities

The broad range of green finance facilities in Africa allow the scaling up of guarantees or grant provision, streamlining decision-making compared to project-by-project allocation. In addition, facilities can be targeted to specific issues such as climate resilience or access to electricity.

The **ADB**'s Adaptation Benefits Mechanism allows adaptation project developers to sign off-take agreements for payment upon delivery of certified adaptation benefits and use those agreements as collateral for raising finance. This provides an additional revenue stream to finance adaptation.[21]

The Beyond the Grid Fund is a results-based financing mechanism with long repayment plans that funds provision of minigrids, home solar systems, and efficient cooking stoves to rural and semi-rural communities in **Zambia**, where 70% of the population is off-grid. Funded by development finance from the Swedish International Development Cooperation Agency, the fund also operates in DRC, Uganda, Mozambique, Liberia, and Burkina Faso.[22]

African taxonomy development

The African continent is home to many dynamic nations that are actively developing their economies and seeking to address social and environmental challenges. The first country on the African continent to establish a national taxonomy was South Africa in April 2022, following the example of the European Union taxonomy. In mid-2023, Rwanda, with support from GIZ and Climate Bonds, will begin developing a taxonomy.

On the African continent, the importance of the taxonomy is even greater than in the Global North. Many sectors are nascent, and states are actively attracting investment which can create a carbon-free economy from the outset. In contrast, EU countries face serious political and economic challenges posed by outdated and carbon-based stranded assets in energy and industry, which are socioeconomically entrenched. As a result, modernisation is more expensive than building modern low-carbon capacity.

Taxonomies allow African countries to prioritise the development of industries based on advanced low-carbon technologies, attract international green capital, and build a financial ecosystem for businesses involved in climate projects.

Policy 97: Standards and taxonomy

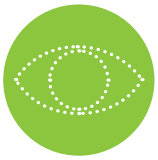
These provide clarity on what a sustainable investment is and help identify green investment opportunities. South Africa's Green Taxonomy, published in 2022, is 85% aligned with the EU Taxonomy, recognising the importance of interoperability to secure international finance flows.[23,24]

The inclusion of adaptation and resilience in African taxonomies can guide and provide credibility to resilience elements of green bonds or loans and help African countries secure private finance to support resilience.

Policy 98: GSS+ bond guidelines

Guidelines and frameworks can help standardise the local market, providing investor confidence in issuance. Green bond guidelines were introduced in Egypt and Nigeria in 2018, in Kenya in 2019, and the Moroccan Capital Markets Authority expanded its guidelines in 2018 to cover green, social and sustainability bonds with support from IFC.[25,26,27,28] This also illustrates how supervisors can leverage development bank or other expertise to assist with guideline development, overcoming potential capacity or expertise gaps.

Outlook



The GSS+ market is the ideal vehicle for financing the energy transition, and the growing demands for mitigation and adaptation solutions in MEA.

Aligned GSS+ volumes from the region have increased rapidly in 2023, driven by countries in the Middle East. Action taken by Arab nations including Saudi Arabia and UAE has contributed scale to the market but there is a significant shortfall in deals from other countries in the region to address the growing climate vulnerabilities.

Closing this gap requires strong policy commitments combined with mechanisms such as relevant taxonomies and green tagging to enable aggregation, as well as deploying blended finance at scale. COP28 provides an opportunity to harness the collective power of all stakeholders including governments, policy makers, banks, and development finance institutions to achieve rapid decarbonisation and adaptation.

Endnotes

1. Total market based on data from Bloomberg. Pricing date in the range 01/01/2023 to 09/30/2023, and maturity from settle date is greater or equal to one year.
2. Sustainability Linked Bonds Database Methodology, Climate Bonds, June 2023, Sustainability-Linked Bonds Database | Climate Bonds Initiative
3. Chile's Sustainability Linked Bond Framework, June 2023, Sustainability-linked Bonds (hacienda.cl)
4. Renew Signs MoUs for INR 640 Billion, ReNew Signs MoUs for INR 640 Billion (~US $7.8 bn) for Green Energy Projects | ReNew (renewpower.in)
5. Northland Power Announces Signing of Credit Agreement for $5.2 Billion project, Northland Power Announces Signing of Credit Agreement for $5.2 Billion Project Financing at Baltic Power Offshore Wind Project - Northland Power
6. Oil production (ourworldindata.org)
7. Sustainable Debt Market Summary Q3 2022, Climate Bonds Initiative, cbi_susdebtsum_highlq32022_final.pdf (climatebonds.net)
8. Based on USD denominated deals with of at least USD500m original issue size, with a rating in the A bucket, priced between June 2016 and June 2023.
9. ACWA Power consortium commits $2.2bn for Al-Shuaibah solar projects (arabnews.com)
10. SNB Sustainable Finance Framework, November 2021, Microsoft Word - SNB Sustainable Finance Framework 15-11-2021 v2 (002).docx (alahli.com)
11. Israel's Green Bond Framework, November 2022, Green Bond Framework (www.gov.il)
12. Emirate of Sharjah Sovereign Sustainable Financing Framework, February 2023, Emirate of Sharjah - Sovereign Sustainable Financing Framework.pdf (sfd.gov.ae)
13. UNEP Adaptation Gap Report, 2023, November 2023, Adaptation Gap Report 2023 | UNEP - UN Environment Programme
14. Resilience Taxonomy White Paper, Climate Bonds Initiative 2023, Resilience Taxonomy White Paper | Climate Bonds Initiative
15. Burge, L., 2023. 101 sustainable finance policies for 1.5°C, Climate Bonds Initiative, https://www.climatebonds.net/resources/reports/101-sustainable-finance-policies-15%C2%B0c-0
16. http://marrakechpledge.com/aligning-africa/country-specific-initiatives-morocco/
17. https://www.masen.ma/en/masen-news/masen-issues-moroccos-first-green-bond
18. https://odd.finances.bj/wp-content/uploads/2022/07/SDG-Bond-Framework_Republic-of-Benin_EN_final.pdf
19. https://gca.org/youthadaptchallenge/
20. https://www.climatepolicyinitiative.org/publication/the-landscape-of-climate-finance-in-kenya/
21. African Development Bank, n.d. Adaptation Benefit Mechanism, https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/adaptation-benefit-mechanism-abm
22 https://beyondthegrid.africa/countries/zambia/
23. https://www.treasury.gov.za/comm_media/press/2022/SA%20Green%20Finance%20Taxonomy%20-%201st%20Edition.pdf
24. https://www.treasury.gov.za/comm_media/press/2022/20221111101%20Media%20statement%20-%20Green%20Finance%20Taxonomy%20Treasury.pdf
25. https://www.dailynewsegypt.com/2018/06/27/ifc-financial-regulatory-authority-begin-consultations-on-green-bond-guidelines-in-egypt/
26. https://www.climatebonds.net/resources/press-releases/2018/12/securities-and-exchange-commission-sec-nigeria-launches-green-bond
27. https://www.greenbondskenya.co.ke/single-post/2019/04/09/Green-Bond-Market-Launched-in-Kenya
28. https://www.climatebonds.net/files/reports/sbn-ifc-cbi_creating-green-bond-markets_report-2018-.pdf

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