Sustainable Debt Market Summary Q1 2023

Climate Bonds INITIATIVE

May 2023

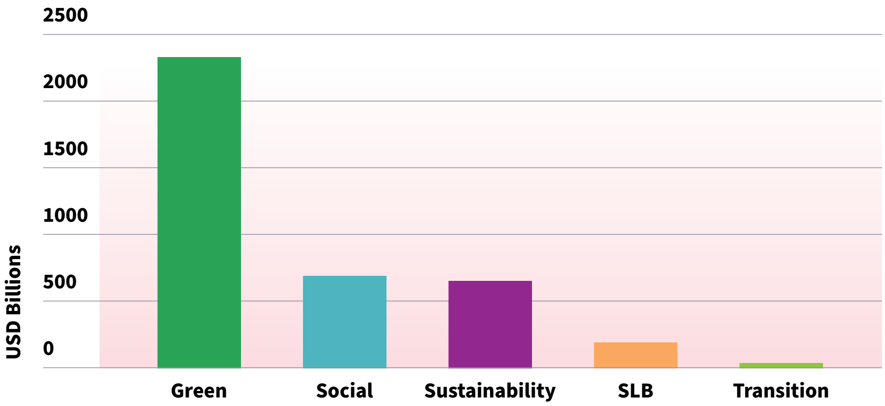
Key figures

- **In Q1 2023,** Climate Bonds screened **green, social, sustainability linked (SLB) and transition debt (collectively GSS+) of USD267.5bn** and recorded **USD204.8bn in its databases.**
- This brought the lifetime screened volume of **GSS+ debt to USD3.9tn.**
- The Q1 figure was a **17% increase compared to Q4 2022**, but a decline of 21% compared to Q1 2022. Volumes increased in the green, sustainability, and SLB themes on the prior quarter but universally declined YOY.
- **Green bonds made the largest contribution with USD122.9bn**, almost matching the volumes recorded in 2022.
- **USD57.7bn** of green deals were either excluded from the Climate Bonds Green Bond Database (GBDB) or classified as pending, awaiting further clarification from the issuer.
- Climate Bonds expects **cumulative GSS+ screened issuance to breach the USD4tn** milestone in Q2.

Scorecard: GSS+ debt recorded by Climate Bonds

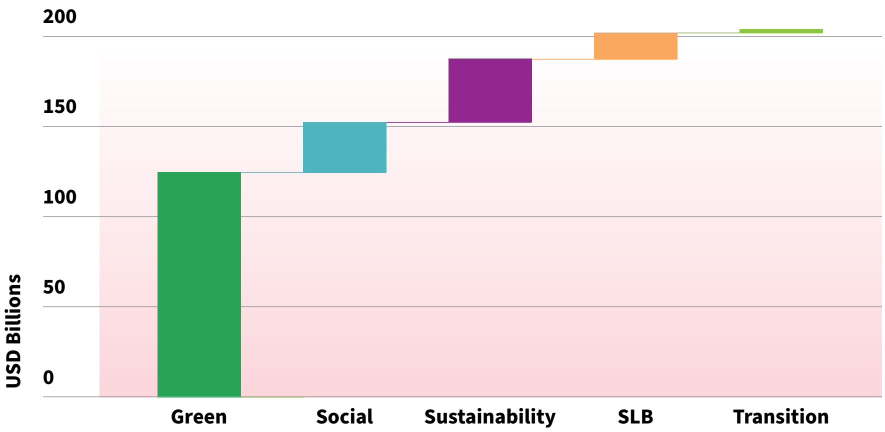
	Q1 2023		Cumulative since 2006	
	USDbn	% total	USDbn	% total
Green	122.9	60%	2309.5	58%
Social	30.6	15%	702.7	18%
Sustainability	29.6	14%	699.3	18%
SLB	21.4	10%	226.8	6%
Transition	0.2	0.1%	11.3	0%
Total	**204.8**	**100%**	**3949.6**	**100%**

Cumulative GSS+ debt volumes reached USD3.9tn at the end of Q1



Source: Climate Bonds Initiative

USD204.8bn was added in Q1 2023



Source: Climate Bonds Initiative

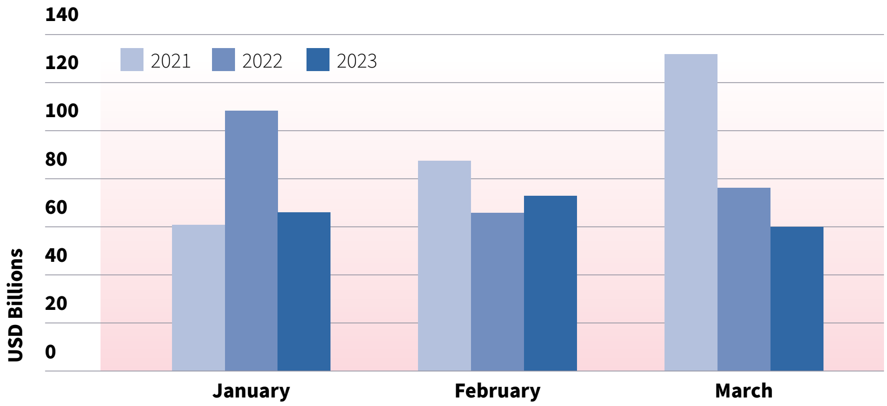
Q1 2023 market highlights

The debt markets had a strong start to the year, with tens of billions of bonds being priced daily in the EUR and USD markets. By the end of February, Bloomberg had recorded the strongest start to the year for investment grade debt since 2014. Towards the middle of March, the debt market came to a standstill as the fallout from the collapse of the Silicon Valley Bank (SVB) and subsequently Credit Suisse paralysed issuers. As the market picked up towards the end of the month, thematic labels helped to get deals over the line, as investors remained cautiously selective.

Climate Bonds recorded GSS+ debt of USD204.8bn for Q1 2023, a 17% increase compared to the prior quarter, but a 21% YOY drop against Q1 2022. The annual decline has two obvious culprits. Firstly, while green bond volumes logged by Climate Bonds almost matched the levels seen in the first quarter of 2022, issuance in other themes was comparatively subdued YOY. Secondly, a large volume of green issuance (USD57.7bn) passed through Climate Bonds screening, and was either excluded from or requires further clarity from issuers before being added to, the Climate Bonds GBDB, explored below.

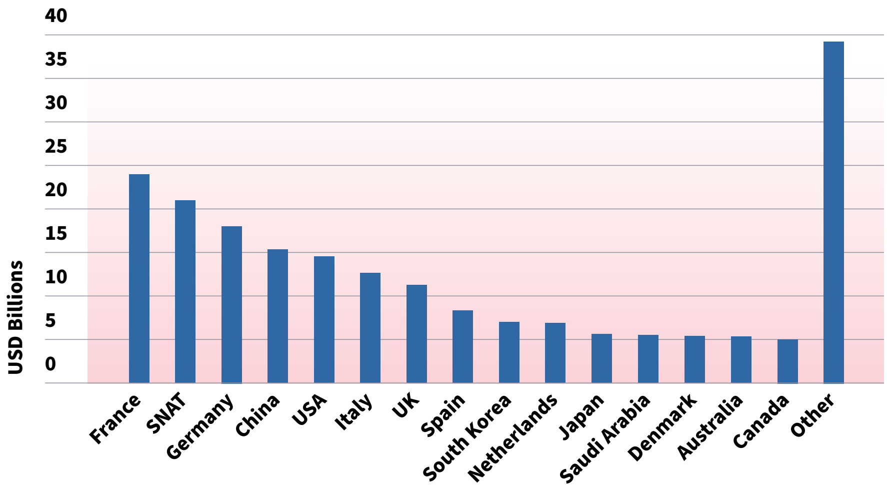
Climate Bonds recorded GSS+ bonds from 44 countries as diverse and Mongolia and the Czech Republic, plus supranational (SNAT). France, SNAT, and Germany were the largest sources, accounting for USD23.9bn, USD20.9bn and USD18bn respectively. Issuance from France was supported by several large social deals, including two EUR and one USD deal from French social security agency, Caisse d'Amortissement de la Dette Sociale (CADES), with combined volumes of UD9.4bn. CADES was the single largest contributor to GSS+ volumes in Q1. More than half (54%) of the SNAT volumes came from the European Investment Bank (EIB) which priced green bonds in AUD, CZK, MXN, SEK and USD in the first quarter. Most of thematic deals from Germany (82%) bore the green label and came from a mixture of issuer types, but total volumes also included three SLB deals from non-financial corporates.

The collapse of SVB hit March GSS+ volumes



Source: Climate Bonds Initiative

GSS+ deals came from 44 countries + SNAT in Q1



Source: Climate Bonds Initiative

Pending bonds and exclusions: an overview

Climate Bonds maintains a pending bond list of labelled bonds and similar instruments for which there is insufficient information to determine eligibility for database inclusion. Upon further investigation, bonds may be classified as aligned and added to the appropriate database, or non-aligned, i.e., excluded.

While certain bonds may meet local green bond rules, they are excluded if they fail to meet the criteria for inclusion in Climate Bonds databases.

Green bonds: Exclusions (USD)

Total 2022	Q1 2023
142bn	25.2bn

Green bonds: Pending (USD)

Total	Q1 2023*
50.7bn	32.5bn

*Includes loans

A peek into pending green bonds

At the end of Q1 2023, USD32.5bn of green bonds that had been priced in that quarter remained on the pending list, awaiting further assessment to determine inclusion in the Climate Bonds GBDB.[2]

Sovereigns constituted the largest issuer category, with USD12.9bn worth of debt across four deals making up 42% of the total pending amount. Climate Bonds is engaging with the issuers to obtain further clarity on the UoP of their green bonds.

By number of deals, private sector issuers represent the largest challenge. Financial and non-financial corporates are each responsible for 12 pending deals (24 in total), with about 25% of the total volumes attributable to each issuer category.

High-profile corporate deals that are currently sitting in the pending list include a USD1bn bond from Comcast and a USD1.3bn bond from Rivian Automotive, until receipt of additional information on whether their building retrofitting projects meet a 30% energy efficiency improvement threshold.

Multilateral and state development banks make up 25% of the Q1 pending bonds list by number of deals. These are primarily small-sized bonds, hence the cumulative pending volume from this category is 2% (or USD541m). Some critical challenges include inadequate disclosure on the use of proceeds (UoP) categories, and the possibility of funding fossil fuel-related infrastructure under certain circumstances.

Other common issues include:

- Issuers increasingly slipping in possible fossil fuel adjacent UoP;
- Road and airport infrastructure;
- Structural issues, such as proceeds being used for general corporate purposes and inadequate public disclosure.

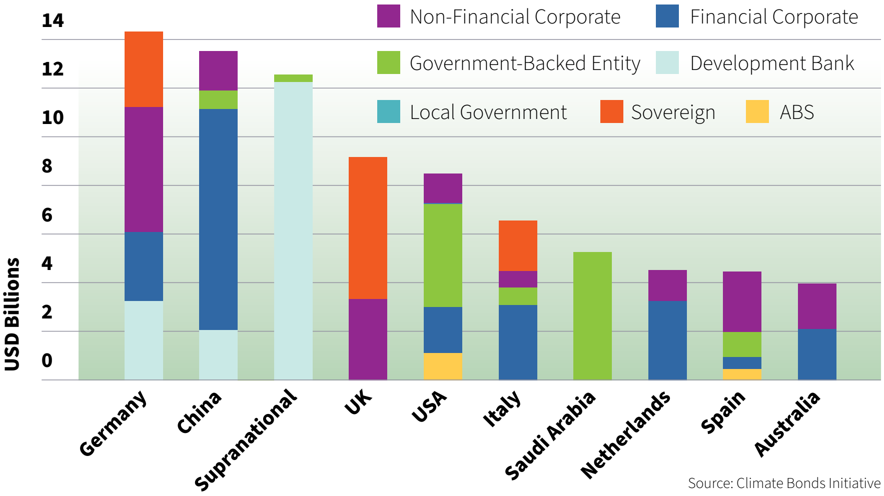
Green

- By the end of Q1 2023, Climate Bonds had recognised USD2.3tn of green bonds.
- In the first three months of 2023, USD122.9bn was added, comfortably above the Q4 2022 number of USD97.5bn, and almost matching the Q1 2022 volume of USD129.7bn.
- Green bonds were recorded from 36 countries in Q1, of which Germany was the largest source, responsible for 12% of the total (USD15bn). German non-financial corporates contributed USD5.4bn, which included deals from energy companies RWE (EUR1bn/USD1.1bn), E.ON SE (EUR1bn/USD1.1bn), and car manufacturer Volkswagen (EUR1.8bn/USD1.9bn)
- China and SNAT ranked second and third, with 11% and 10% market shares respectively.
- More than half (56%) of the green volumes originated from the private sector, with financial corporates topping the issuer types at 29% (USD35bn), closely followed by non-financial corporate issuers, responsible for a further 26% (USD32.1bn) and ABS contributing 1% (USD1.6bn).
- Top of the individual issuers was EIB, which had a busy start to the year, with USD11.8bn spread across eight deals in multiple currencies (referenced above).
- The United Kingdom reopened two green gilts, extending its green liabilities by GBP5bn (USD6.1bn) to a total of GBP31.3bn (USD39.8bn).
- Saudi Arabia's sovereign wealth fund, the Public Investment Fund (PIF), priced a three-tranche deal in its green debut in September 2022 under the GACI First Investment Company name. This was followed by another three-tranche deal worth USD5.5bn, priced in February. To date, the issuer has USD8.5bn in green bonds outstanding. The PIF will be responsible for developing 70% of Saudi Arabia's renewable energy and has stated it will make up to USD10bn of investment in green projects by 2026.[1]

Social

- By the end of Q1 2023, Climate Bonds had recorded cumulative social bond volumes of USD702.7bn.
- USD30.6bn of that was priced in Q1 2023, which represented a 38% decline YOY. The social theme also delivered a 23% lower volume compared to its Q4 figure of USD39.8bn.
- Social bonds hailed from 14 countries with France, the USA and South Korea logging the largest volumes of 49%, 10% and 8% respectively.
- CADES was responsible for almost half of the social market with a 44.5% share, issuing USD14bn. CADES is a frequent repeat issuer of social bonds and, by the end of Q1, Climate Bonds had logged a total of 15 deals worth EUR62.5bn (USD62.4bn).

Germany was the largest source of green bonds in Q1

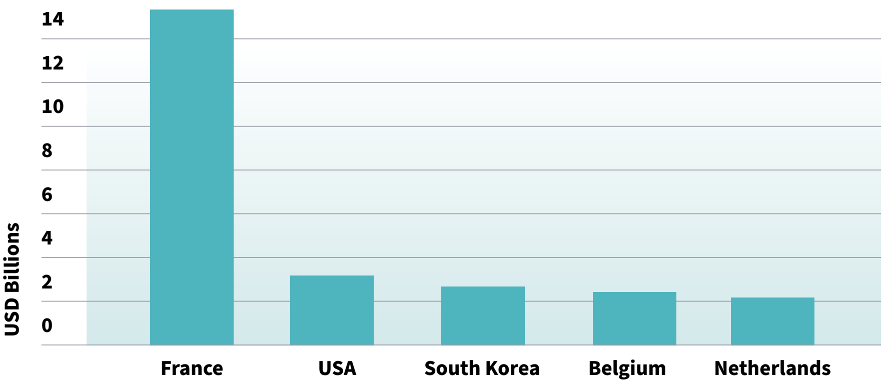


Source: Climate Bonds Initiative

Top 10 largest issuers under green theme Q1 2023

Issuer name	Country	Volume
EIB	SNAT	11.8bn
United Kingdom	United Kingdom	6.1bn
Gaci First Investment Co	Saudi Arabia	5.5bn
Shanghai Pudong Development Bank	China	4.4bn
KfW	Germany	3.4bn
Federal Republic of Germany	Germany	3.2bn
Intesa Sanpaolo SpA	Italy	3.1bn
California Community Choice Financing Authority	USA	2.3bn
ICBC	China	2.2bn
China Development Bank	China	2.2bn

Half of the Q1 social volume came from France



Source: Climate Bonds Initiative

Top 5 largest issuers under social theme Q1 2023

Issuer name	Country	Volume
CADES	France	14bn
Korea Housing Finance Corp	South Korea	3bn
BNG Bank NV	Netherlands	2bn
Region Wallonne Belgium	Belgium	2bn
Central American Bank for Economic Integration	SNAT	1bn

Sustainability

- At the end of Q1 2023, sustainability deals with lifetime volume of USD699.3bn had been captured by Climate Bonds.
- USD29.6bn was added in Q1 2023, a 43% drop compared to USD52.3bn recorded a year earlier, and the largest YOY decline among the themes. Nevertheless, deal volumes had picked up by 40% since the USD21.2bn added in Q4 2022.
- EUR was the preferred currency among the 15 deployed for the sustainability theme, with total volumes of USD14.1bn, making up 47%.
- Europe was the most prolific region, with USD11.1bn, followed by Asia-Pacific and SNAT, with issuance of USD9.1bn and USD6bn respectively.
- The largest single issuer logged in the sustainability space was from the International Bank for Reconstruction & Development (IBRD), with volumes of USD5bn split between a USD1.8bn four-year and an EUR3bn (USD3.2bn) 10-year, both priced in January.

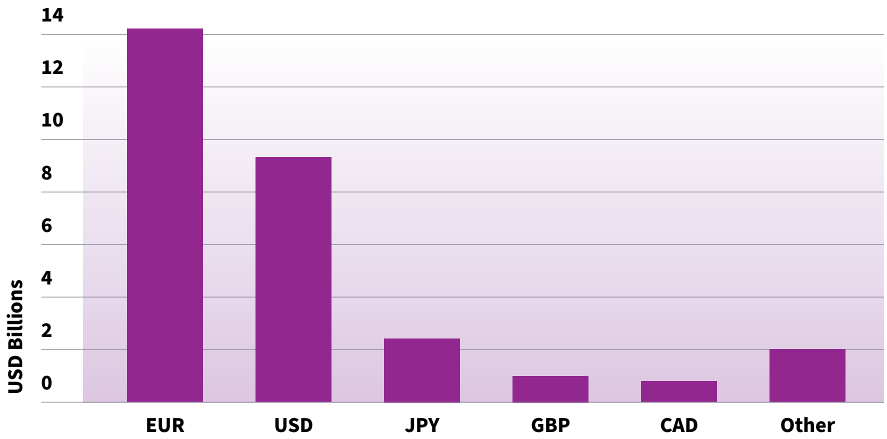
Transition

- Climate Bonds had captured bonds under the transition theme with cumulative volumes of USD11.3bn at the end of Q1 2023.
- Transition bonds constitute the smallest theme and in Q1 contributed just USD236m, spread over three deals.
- This was a decline of 9% compared to Q1 2022 and 61% lower than issuance recorded in Q4 2022.
- Japanese electric utility, Tohoku Electric Power Co Inc, was the largest single issuer with a USD110.1m deal taking 46% of the recorded volume for the period.

Sustainability-linked bonds

- Climate Bonds had registered total SLB volumes of USD226.6bn at the close of Q1 2023.
- In the first quarter, USD21.4bn was added, which was a huge rebound of 46% compared to Q4 2022 but a 17% decline on Q1 2022.
- 31 non-financial corporates priced 95% of the Q1 volumes with USD20.4bn in total. Among these, 22 issuers had deals logged by Climate Bonds for the first time. While the SLB label has received criticism from the investment community, it is enabling a broader range of issuers to enter the labelled debt market and put their transition plans into the public arena for scrutiny.

EUR dominated sustainability issuance in Q1

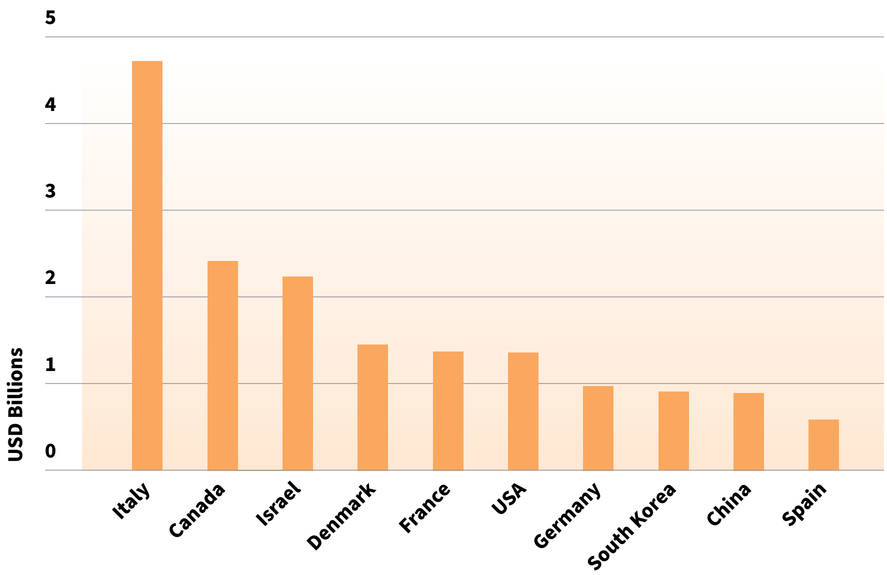


Source: Climate Bonds Initiative

Top 5 largest issuers under sustainability theme Q1 2023		
Issuer name	**Country**	**Volume**
IBRD	SNAT	5.0bn
Agence Francaise de Developpement	France	1.6bn
Nissan Motor Co Ltd	Japan	1.5bn
Slovenia Government Bond	Slovenia	1.3bn
Action Logement Services	France	1.3bn

Three transition deals were captured in Q1 2023		
Issuer name	**Country**	**Volume**
Tohoku Electric Power Co Inc	Japan	110.1 m
EBRD	SNAT	97.0 m
Wuxi Huaguang Environment & Energy Group Co.,Ltd.	China	29.2 m
Total		**236.3 m**

Italy led the top ten sources of SLB in Q1



Source: Climate Bonds Initiative

- Europe was the main regional source of SLBs with 54% of the volume, amounting to USD11.7bn. Issuers from 18 countries from Finland (Nokia EUR500m/USD537m) to Costa Rica (Liberty Costa Rica USD400m) stepped into the market. USD5.2bn of SLB volumes originated from Italy, making it the most prolific country source. Two deals from Teva Pharmaceutical positioned Israel in third place.
- The largest contributor to the SLB segment in Q1 was Canada based multinational energy and pipeline company Enbridge Inc, with a USD2.3bn deal. Italian utilities Eni SPA and Enel priced USD2.1bn and USD1.6 bn respectively (see Eni case study below). All three names are repeat SLB issuers.

What is a transition bond?

Since their inception in 2017, transition bonds have maintained a small share of the overall sustainable finance market and were pronounced as a label for intermediary transition investments, mainly for hard-to-abate sectors. This lacklustre growth is often attributed to the lack of clear and recognised standards for the label. The two exceptions to this are in Japan and China, where government-led transition bond programmes have propelled deals from entities operating in hard-to-abate sectors.

While Climate Bonds tracks self-labelled transition bonds and publishes research and analysis on transition bonds, it is label-agnostic. Climate Bonds prioritises the analysis and assessment of the stated UoP rather than the label.

With the advent of Climate Bonds sectoral criteria for hard-to-abate sectors like Cement, Steel, and Basic Chemicals, bonds with qualifying UoP will be screened against these criteria for inclusion in the Climate Bonds GBDB. Should an issuer wish to raise financing for an electric arc furnace (Steel criteria), or pre-calciners (Cement criteria), Climate Bonds encourages them to use the green or transition bond labels and will assess their eligibility for inclusion independent of the label used.

The Sovereign GSS+ Bond Club

Sovereign GSS+ liabilities received a huge boost in Q1, as countries began addressing their annual sustainable financing needs straight off the block. Climate Bonds recorded sovereign GSS+ debt from 11 countries amounting to USD21.8bn, split between new deals from six countries worth a combined USD8bn, and taps from another six (including India which brought its first deal, and reopened it in the same quarter) to the tune of USD13.8bn. There was an increase of 44% on the prior quarter, but a decline of 15% YOY. By the end of March, Climate Bonds databases reflected cumulative sovereign GSS+ volumes of USD345.8bn.

The largest single issuer was the **UK**, which extended its green liabilities by GBP5bn (USD6.1bn), tapping its 2033 for GBP3bn (USD3.7bn) and its 2053 for USD2bn (USD2.4bn). The UK is the third largest issuer of sovereign GSS+ debt with GBP31.3bn (USD39.8bn), behind Germany (USD46bn), and France (USD58.8bn), which retained its crown.

Climate Bonds logged three debut sovereign issuers in Q1 bringing the total to 46. In early January, the **State of Israel** joined the Sovereign GSS+ Bond Club with its debut green deal worth US2bn. The 10-year bond attracted USD12bn in bids, covering the book six times, and was eventually allocated to 200 investors in 35 countries. The green financing framework highlighted eight eligible green project categories, including Environmentally Sustainable Management of Living Natural Resources and Land Use, and Adaptation.

The **Government of India** was the second debut GSS+ bond issuer of 2023, when the Ministry of Finance priced an INR80bn (USD1bn) two tranche deal split equally between five- and 10-year tenors on 25 January. The deal attracted oversubscription of more than four times, enabling primary market spread compression of two basis points on the 10-year, and three basis points on the five-year tranche. Both tranches priced inside the yield curve, obtaining a greenium, i.e., cheaper financing costs. The five-year bond was allocated to 32 investors and the 10-year to 57 investors.

On 9 February each tranche was reopened for INR40bn (USD500m) increasing India's total green liabilities to INR160bn (USD2bn). As the bonds had remained inside the yield curve, the Ministry of Finance (MoF) achieved cheaper financing for this round of funding too.

The UoP have been earmarked for expenditures in grid scale solar and wind, decentralised solar such as solar water pumps for agriculture, green hydrogen, metro lines and afforestation.

In mid-February, the **Government of Sharjah**, the third largest emirate in the United Arab Emirates, priced a USD1bn sustainability bond to mature in 2032. The sustainable financing framework named 14 eligible social and environmental project categories.

Q1 Sovereign GSS+ deals recorded by Climate Bonds

	Theme	USD
New deals		**8.0bn**
Israel	Green	2.0bn
Austria	Green	1.4bn
Slovenia	Sustainability	1.3bn
Philippines	Sustainability	1.3bn
Sharjah (UAE)	Sustainability	1.0bn
India	Green	1.0bn
Reopenings		**13.8bn**
UK	Green	6.1bn
Germany	Green	3.2bn
Italy	Green	2.1bn
India	Green	1.0bn
Belgium	Green	0.9bn
Switzerland	Green	0.4bn
Grand Total		**21.8bn**

SLB Case Study - Eni

Eni is one of the largest oil and gas/energy companies in the world and is regarded as one of the supermajor oil companies. In 2022, it recorded some EUR132.5bn of revenues, more than double (+73%) the revenues recorded in 2021. In 2022, Eni recorded 456m of CO_2e, of which 2.2% was Scope 1, 6.7% was Scope 2, and 91.1% was Scope 3. If Eni was a country, its emissions would place it 13th in the world, between Brazil and Turkey.[3] These emission figures include offsets it states are worth 3m tCO_2, meaning their emissions total 459m tCO_2e.

In February 2023, Eni priced an SLB of EUR2bn (USD2.1bn) due 2028, with a 4.3% interest rate, targeted at retail investors, tied to two targets.

Target 1.
KPI: GHG Emissions (Scope 1, 2)
Target: -65% vs. 2018 (5.2m tCO2e)

Target 2.
KPI: Renewables Installed Capacity
Target: 5GW

Deadline: 31 December 2025
Financial Mechanism: Step-up
FM Amount: 50bps

If either of these targets is not met, the interest rate will step-up to 4.8% on the final coupon of the bond, meaning Eni will pay a penalty of EUR10m if it misses either of these targets. These targets only cover 8.9% of Eni's total 2022 emission footprint.

Eni's press release celebrated the deal as a demonstration of the "the strong appreciation among Italian investors for the soundness of Eni and its commitment to the energy transition". Below, we analyse Eni's transition plans against *Climate Bonds Five Hallmarks of a Credible Transition* and encourage both retail and institutional investors to consider the strength of Eni's transition plans.

Sources: Eni 2022 Annual Report; 2022 Sustainability Performance; Strategic Plan 2023-2026; Strategic Plan to 2050

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

Eni has multiple short-, mid-, and long-term emission targets: it aims to reduce its Scope 1 and 2 emissions 50% by 2024, and 65% by 2025 against a 2018 baseline (this is tied to its most recent SLB, and the 2024 target to its first SLB in 2021). It aims to reduce all its absolute emissions (Scope 1+2+3) 15% by 2030, 55% by 2035, 80% by 2040, and reach 'net zero' in 2050 (all against a 2018 baseline). It also targets to utilise offsets worth some 25m tCO_2e by 2050, up from 3m tCO_2e in 2022.

According to the Transition Pathway Initiative, all of Eni's targets, except its 2050 target, are not in line with a 1.5°C pathway: it's current targets would give it an emissions intensity of 55.51 gCO_2e/Mj by 2030, and 32.65 by 2040, while TPI's pathway calls for intensities of 40.95 by 2030, and 16.87 by 2040.

Climate Bonds calls on Eni to set more ambitious emission targets, in line with a sectoral 1.5°C pathway, that does not include offsets as part of its baseline or targets.

Hallmark 2: Foundation

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.

Eni has a detailed and comprehensive transition narrative for its future asset base and how it plans to achieve net-zero. It has identified the main levers of change and potential investments in low-carbon technologies, including renewables, electric vehicles, and biofuels. It also considers the value chain, even within its Oil & Gas business, committing to reducing methane emissions in line with the Global Methane Pledge.

However, there are fundamental flaws in its narrative: it is reliant on offsets, CCS, and an expansion of its fossil gas business. It envisions a transition that is incremental and does not tackle the radical business shift needed. Accela Research predicts that oil and gas will still make up 98% of Eni's energy production portfolio by 2030.

Hallmark 3: Implementation Action

Plans need to be 1.5°C-aligned, cover all material sources of emissions, and include respective financing plans.

Transition Plans: Eni has two pillars in its transition plan: new energy solutions and upstream decarbonisation. New energy solutions include rapidly increasing its renewables capacity, targeting 60GW of renewables by 2050, up from 2.2GW in 2022. This pillar also includes biofuels, hydrogen production, electric vehicle charging stations, bio-gas, and biomethane. These activities and their underlying assets are available for Certification under Climate Bond's Standard.

However, Eni's second pillar of upstream decarbonisation relies on a promotion of fossil gas, a growth in the use of offsets, and CCUS. CCUS can play a powerful role in the planet's decarbonisation, but fossil gas and offsets should not play a significant role in Eni's transition plans. Eni targets for fossil gas to total 60% of its hydrocarbon portfolio by 2030, and >90% by 2050. While Climate Bonds celebrates that this implies a decommissioning of Eni's Oil assets, we have stated before that fossil gas will never be a transition fuel: instead low-carbon hydrogen should be prioritised as a fuel.

Financing Plans: Eni's 2023-26 strategic plan outlines a total of EUR37bn of capex to be invested, of which it will dedicate 20% to its low-carbon businesses. This pales in comparison to its European O&G peers: BP ~50%, Shell 50% (including Opex), TotalEnergies 33%, and Equinor 30-50%. Promisingly however, of the EUR164m Eni spent on R&D in 2022, EUR114m went towards decarbonisation.

Hallmark 4: Governance

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

Eni does have strong governance mechanisms to support the recognition and implementation of its climate plans: its sustainability and scenarios committee is responsible for its climate strategy, development scenarios, and long-term sustainability, and reports directly to the board; the company has tied executive renumeration to the achievement of its transition targets; utilises an internal carbon price; and ensures consistency between its transition plan and the positions taken by its trade associations.

Hallmark 5: Disclosure

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

Eni discloses relevant Scope 1, 2, and 3 emissions data together with breakdowns by emission sources, as well as a variety of energy, waste, water, recycling, raw material, and other metrics. Eni has also contracted limited assurance for all its sustainability data and metrics, as well as reasonable assurance for its Scope 1 and 2 targets.

Endnotes

1. Arab News, 10 May 2023, *PIF announces completion of second green bond issuance totalling $5.5bn*, PIF announces completion of second green bond issuances totaling $5.5bn (arabnews.com)
2. Not including USD1.4bn from green loans.
3. "CO2 emissions of all world countries", European Commission Emissions Database for Global Atmospheric Research https://edgar.jrc.ec.europa.eu/report_2022?vis=tot#data_download

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