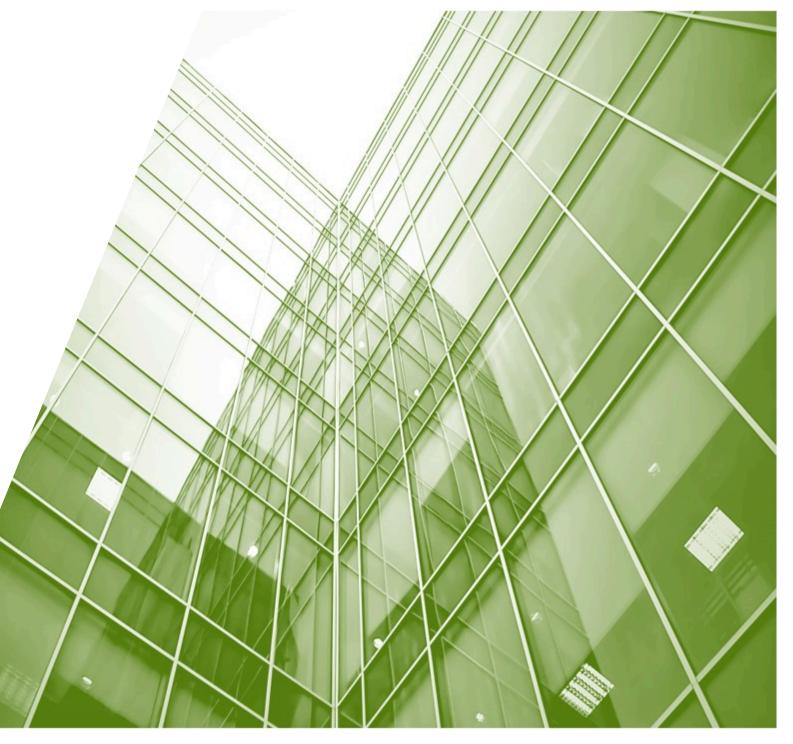


Q<u>1</u> <u>2024</u>

ESG Finance Report

European Sustainable Finance



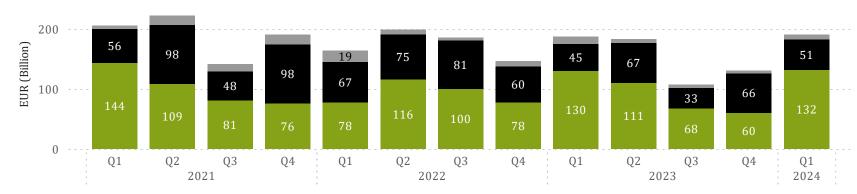
afme/ Contents Finance for Europe

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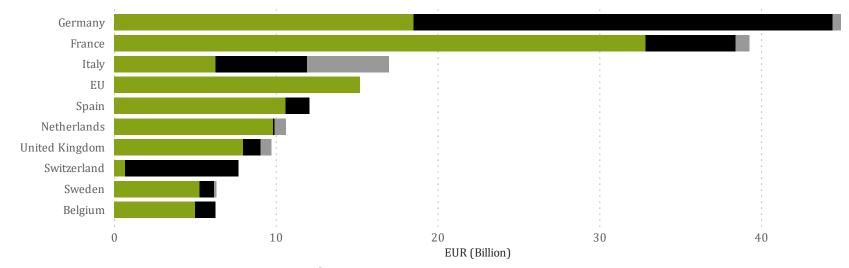
1.1 European ESG Bond and Loan Issuance 2021 - 2024 YtD (Q1)

● ESG Bonds ● Sustainable & Green linked Loans ● Sustainable linked and Transition Bonds



1.2 European ESG Bond and Loan Issuance by Country: EURbn (top 10 - 2024 YtD (Q1))

● ESG Bonds ● Sustainable & Green linked Loans ● Sustainable linked and Transition Bonds



Source: Dealogic

ESG bond and loan issuance faces modest yearly growth at the start of 2024

In Q1 2024, ESG bond and loan issuance totaled €191bn, a 2% increase from Q1 2023 (YoY) and a 47% increase from Q4 2023 (QoQ). The YoY increase was primarily driven by a rise in sustainability-linked loan origination.

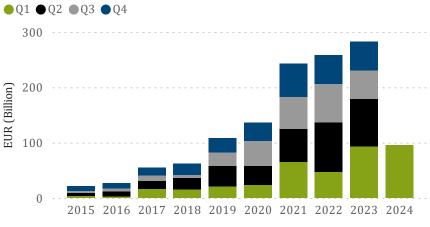
ESG bonds and loans include ESG-labelled bonds (proceeds-based), sustainability-linked bonds, transition bonds, green loans and sustainability-linked loans.

During the first quarter of the year, ESG-labelled bonds represented the largest portion of ESG issuance with €132bn in proceeds. Green and sustainability-linked loans followed at €51bn, while sustainability-linked bonds represented the remaining €8bn.

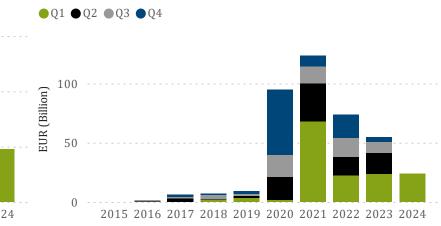
German issuers led in total loan and bond origination, contributing €45bn in proceeds. French issuers followed, generating €39bn in total proceeds. Notably, c. 50% of sustainability-linked loans was originated in Germany and a quarter of ESG bonds was issued in France.



1.3 European Green Bond Issuance

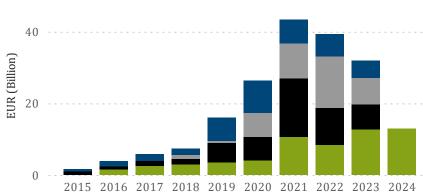


1.4 European Social Bond Issuance



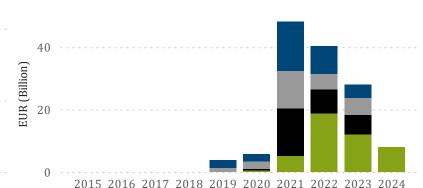
1.5 European Sustainable Bond Issuance

●Q1 **●**Q2 **●**Q3 **●**Q4



1.6 European Sustainability-linked and transition Bond Issuance

●Q1 ●Q2 ●Q3 ●Q4



Source: Dealogic

Further decline in Sustainability-linked bond issuance

ESG-labelled bond issuance experienced minimal growth during Q1 2024. Year-on-year, green, social, and sustainable bond issuance increased by 1.7%, 0.7%, and 0.6% respectively.

Sustainability-linked bonds exhibited a large decrease of 34% YoY. Most recently, in April, Italian energy firm Enel announced that it has missed its 2023 sustainability targets on 10bn USD worth of sustainability-linked bonds. The missed objectives will trigger a 27m USD increase in interest cost for the company.

When considered collectively, issuance of European ESG-labelled (green, social, and sustainable) and Sustainability-linked bonds, experienced a YoY decline of 1.4% (€140bn in Q1 2024 v. €142bn in Q1 2023).

By nationality of the issuer:

- German issuers marginally lead in the green bond market with €17.2bn in proceeds, closely followed by France, which reported €17.1bn in proceeds.
- French issuers dominate the social bond market with a €13.1bn issuance in the first quarter of 2024.
- UK issuers stand as market leaders for sustainable bond issuance, generating €3.3bn in proceeds during Q1 2024.
- Italian issuers lead in Sustainability-linked bond with €5.1bn in total proceeds for the year.



Top single ESG bond issues by amount in 2024 YtD (Q1)

Green	Amount EUR (bn)	Maturity Date	ISIN
Republic of France	7.72	25/06/49	FR001400NEF3
European Union	6.89	02/04/50	EU000A3K4EU0
European Investment Bank - EIB	5.97	16/01/34	EU000A3LS460
EnBW	0.50	23/01/84	XS2751678272
Generali Group	0.50	15/01/29	XS2747590896
GREEN STORM 2024 BV	0.50	22/02/71	XS2775024610
OP Corporate Bank	0.50	28/03/27	XS2794477518
Volkswagen International Finance NV	0.50	27/03/26	XS2794650833

Social	Amount EUR (bn)	Maturity date	ISIN
CADES	4.00	25/02/29	FR001400N7G0
CADES	3.99	24/09/27	FR001400NWK5
CADES	3.67	24/01/27	US12802D2P09
BNG	1.75	04/05/29	XS2797440638
BNG	1.25	01/11/34	XS2744955373

Sustainability	Amount EUR (bn)	Maturity date	ISIN
Agence Francaise de Developpement - AFD	1.84	03/05/29	FR0014000FN2
Flemish Community	1.24	22/06/45	BE0390122852
European Investment Bank - EIB	1.15	01/12/32	EU000A3LSRN2
Autonomous Community of Madrid	1.00	30/04/34	ES00001010M4
European Investment Bank - EIB	0.90	19/03/29	AU3CB0307742

SSA entities rank as top ESG issuers

Sovereign and supranational entities continue to significantly contribute to the growth of green and sustainable primary markets.

The largest single green issue in 2024 YtD was originated by the Republic of France in mid-January with a a new green OAT maturing in 2049 with €7.7 bn in proceeds.

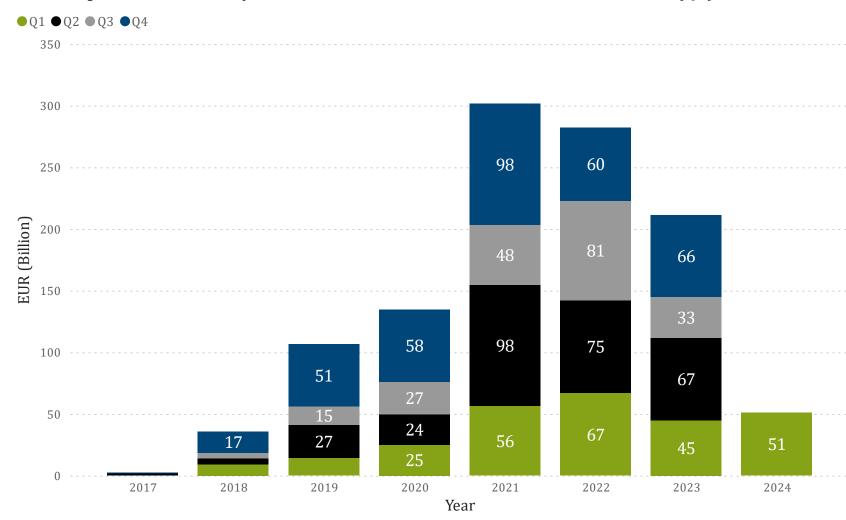
The Republic of France was followed by the European Union, which issued €6.9 billion in a single deal in late March, followed by the European Investment Bank with €5.97 billion. Four corporates and a green RMBS contend the fourth place in green bond issuance with €0.5bn each.

The French Caisse d'Amortissement de la Dette Sociale (CADES) maintains its position as a market leader for social bonds.

Sustainability bonds were issued in smaller tranches than other ESG instruments. The largest issue of the year so far was originated by the "Agence Francaise de Developpement" in late February and amounted to €1.84bn. The Flemish Community accounted for the second largest issuance with €1.24bn.



1.7 European Sustainability-linked and Green Loan Issuance 2017 - 2024 YtD (Q1)

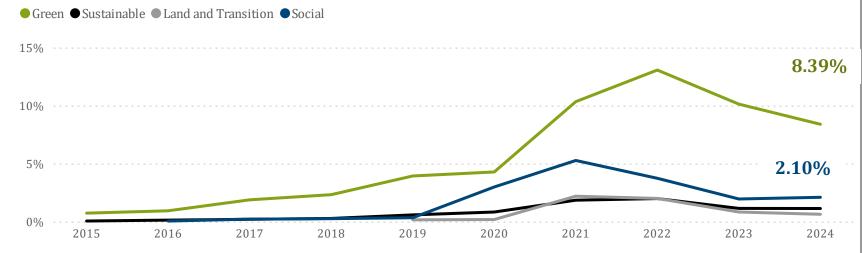


European Sustainability-linked and Green Loan issuance expands year-on-year in the first quarter of 2024.

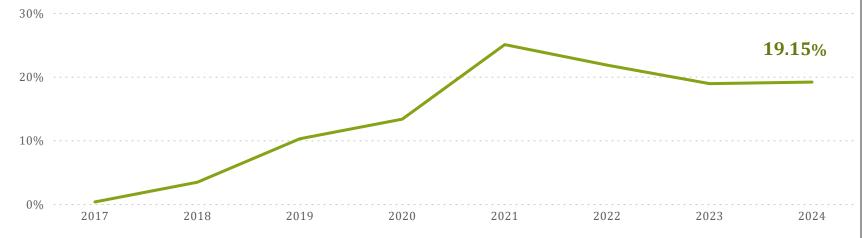
In Q1 2024, European Sustainability-linked and Green loans originated proceeds for €51bn, standing €6bn (or 13%) above Q1 2023 issuance and 15bn (or 23%) below the previous quarter.



1.8 European ESG Bond Issuance as % of Total Bond Issuance



1.9 European Sustainability Linked and Green Loan Issuance as of Syndicated Loan Origination



*ESG includes Environmental, Social and Sustainable

Source: Dealogic

ESG bond issuance, including ESG-labelled, sustainability-linked and transition bonds, represented 12.3% of total European bond issuance during 2024 YtD, a lower proportion from 14.1% in 2023 and 20.8% in 2022.

This was comprised of 8.4% green bonds, 2.1% social bonds, 1.1% sustainable bonds, 0.6% of sustainability-linked and transition bonds [SeeChart1.8]

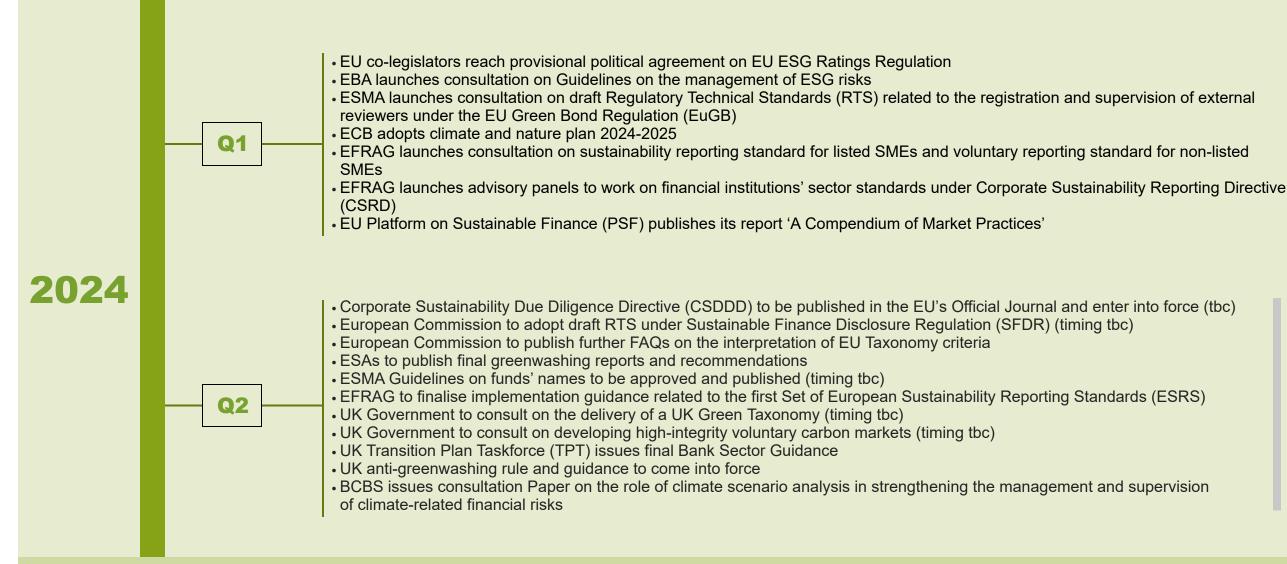
Sustainability-linked and Green loan issuance represented 19.2% of total European syndicated loan origination during 2024 YtD, up from 18.9% in 2023 [SeeChart1.9].



Regulatory Update

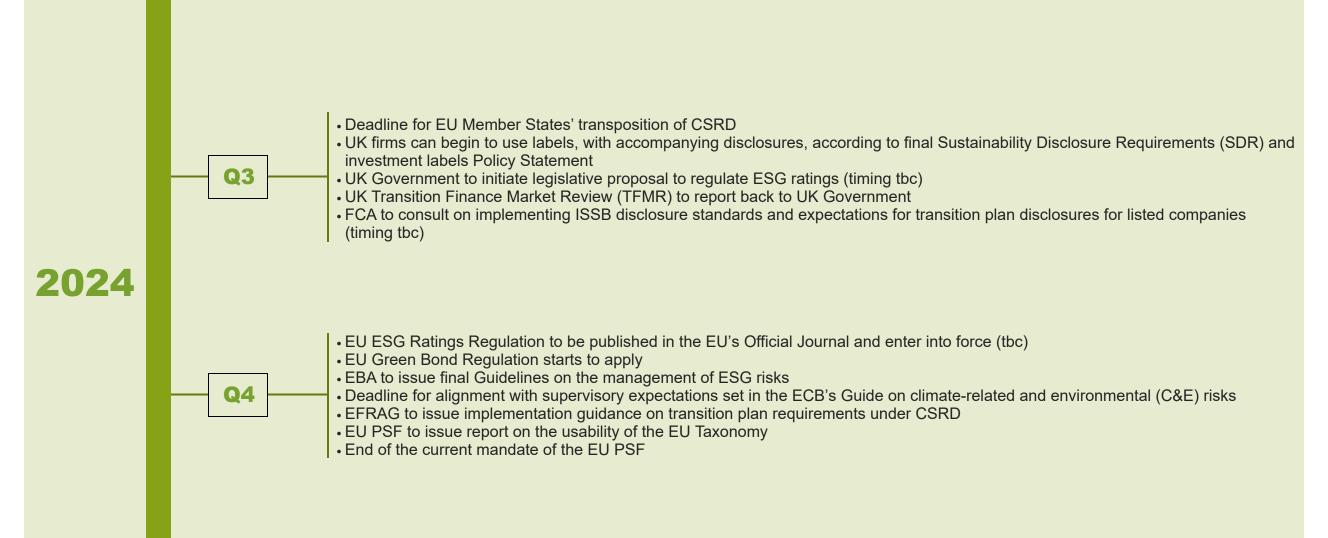


Regulatory/Supervisory Snapshot – Sustainable Finance*





Regulatory/Supervisory Snapshot – Sustainable Finance*

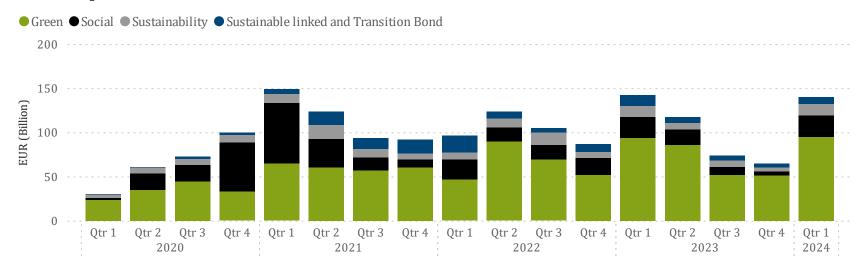




ESG Bond and Loan Issuance

afme/ ESG Bond and Loan Issuance Finance for Europe

2.1 European ESG, sustainable linked and transition bond issuance



2.2 European sustainability linked and Green linked Loan issuance



Source: Dealogic

Quarterly increase in ESG and Sustainabilitylinked bond issuance accompanied by lower Sustainability-linked and Green loan origination

Proceeds from ESG and sustainability-linked transition bonds reached €139.7bn during Q1 2024, up from €64.7bn in Q4 2023. The gain was primarily driven by a substantial quarterly increase in green bond issuance. Notably, social issuance increased more than fivefold, while sustainable issuance more than doubled.

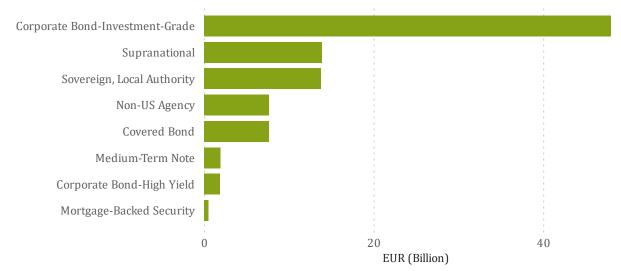
Conversely, sustainability-linked and green loan origination declined by 23% QoQ, concluding the quarter with €51.1bn in proceeds.

Over 50% of the proceeds from green bonds were collected by investment grade corporate issuers. Instead, non-US government agencies led in social issuance, while sovereign entities emerged as the largest issuers of sustainable bonds.

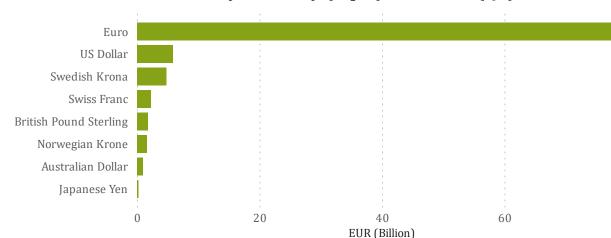
Globally, the European Union continues as the primary region for green and social bond issuance, and for sustainability- and greenlinked loan origination. However, in Q1 2024, the Americas has emerged as the lead region for sustainable bond issuance. [See pages 13-15]

afne/ Green Bond Issuance Finance for Europe

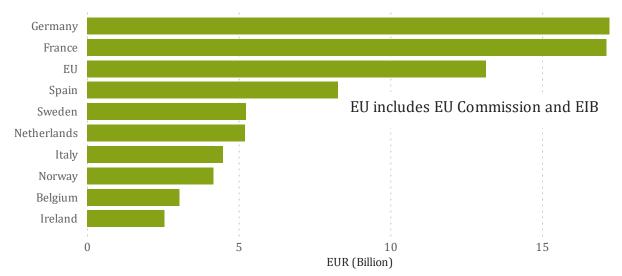
2.3 Green Bond Issuance by Deal Type: 2024 YtD (Q1)



2.5 Green Bond Issuance by Currency (top 8): 2024 YtD (Q1)

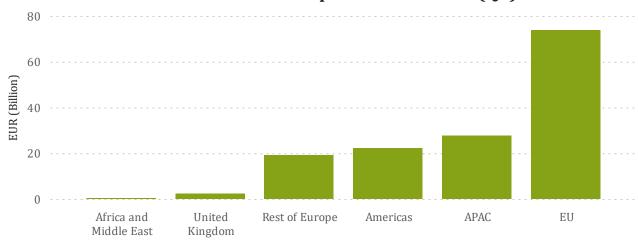


2.4 Green Bond Issuance by Country (top10): 2024 YtD (Q1)



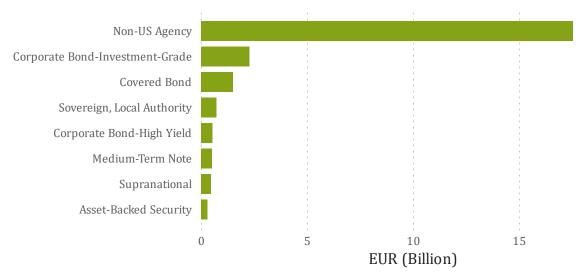
2.6 Green Bond Issuance Global Comparison: 2024 YtD (Q1)

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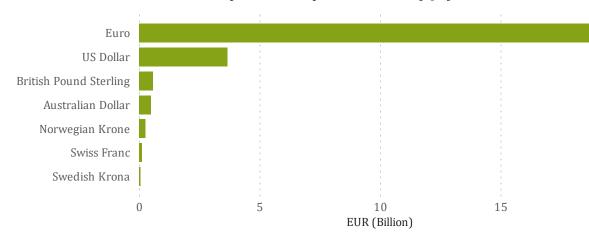


afne/ Social Bond Issuance Finance for Europe

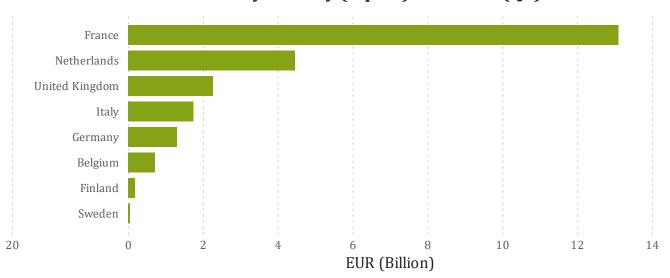
2.7 Social Bond Issuance by Deal Type: 2024 YtD (Q1)



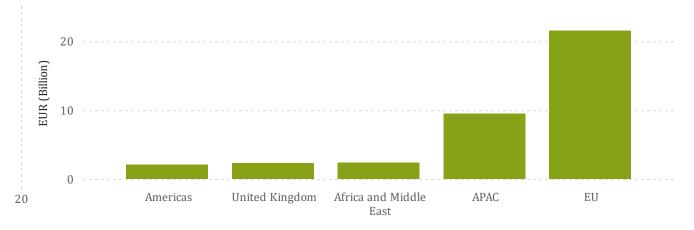
2.9 Social Bond Issuance by Currency: 2024 YtD (Q1)



2.8 Social Bond Issuance by Country (top 10): 2024 YtD (Q1)



2.10 Social Bond Issuance Global Comparison: 2024 YtD (Q1)

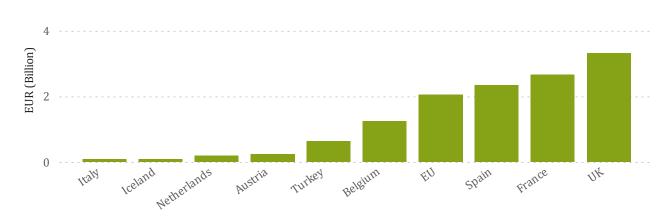




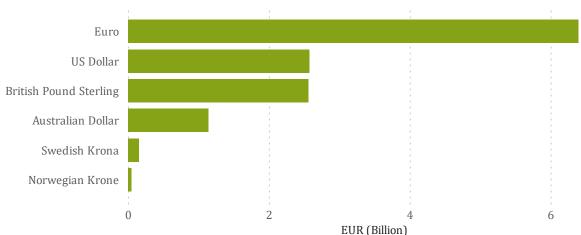
afme/ Sustainable Bond Issuance

Proceeds of Sustainable Bonds are allocated between green projects and social projects

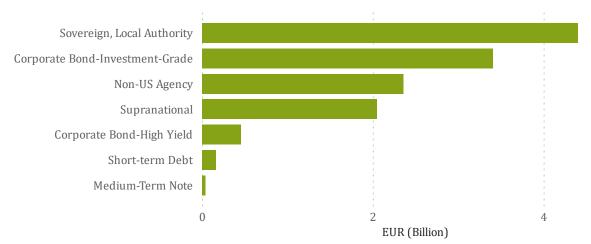
2.11 Sustainable Bond Issuance by Country (top 10): 2024 YtD (Q1)



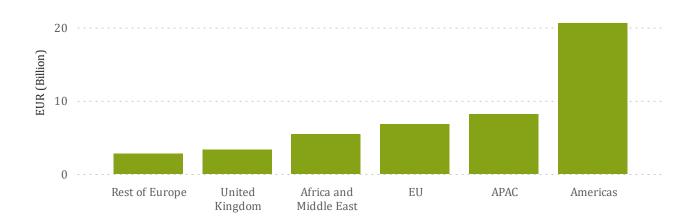
2.12 Sustainable Bond Issuance by Currency: 2024 YtD (Q1)



2.13 Sustainable Bond Issuance by Deal Type: 2024 YtD (Q1)



2.14 Sustainable Bond Issuance Global Comparison: 2024 YtD (Q1)



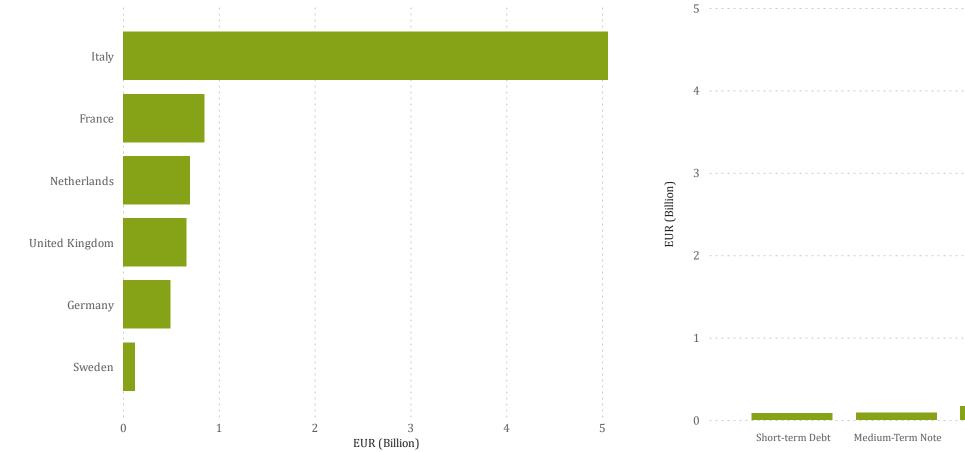


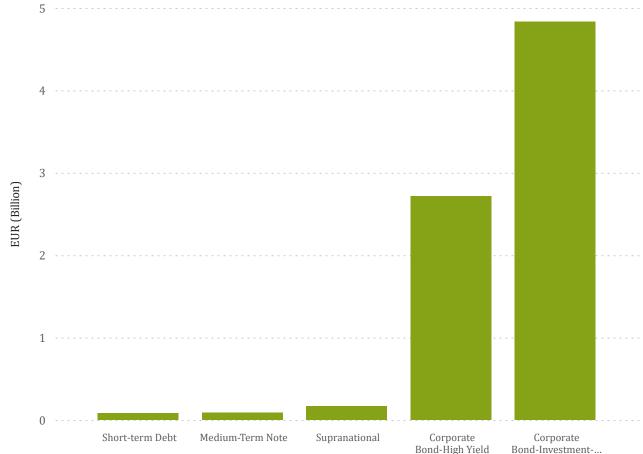
afme/ Sustainability-linked Bond Issuance

Sustainability-linked bonds are performance-based bonds where payment is contingent on pre-determined KPIs which are aligned with sustainability strategies. Transition bonds are bonds issued with a "transition" label indicating use of proceeds to improve environmental performance but not yet reaching "green"

2.15 European Sustainability-linked Bond Issuance by Country: 2024 YtD (Q1)

2.16 European Sustainability-linked Bond Issuance by Deal Type: 2024 YtD (Q1)





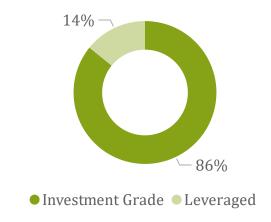
afne/ ESG Securitisation Issuance Finance for Europe



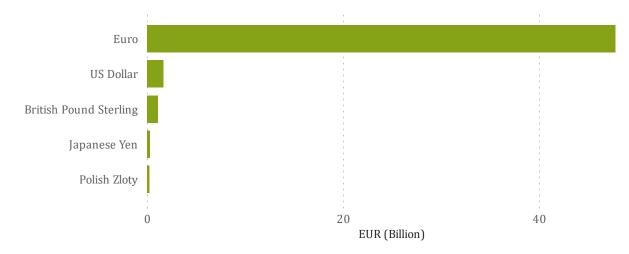


afme/ Sustainability-linked and Green Loan Issuance

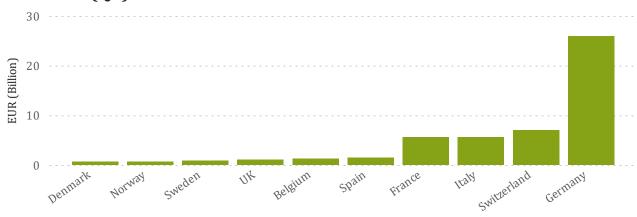
2.21 Sustainability-linked and Green Loan Issuance by Deal Type: 2024 YtD (Q1)



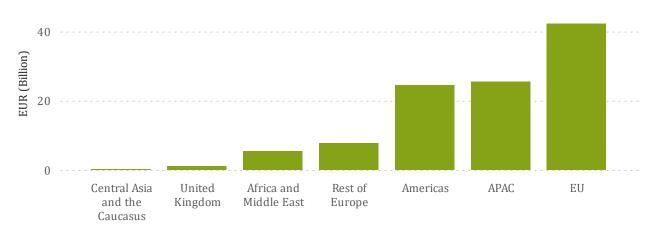
2.23 Sustainability-linked and Green Loan Issuance by Currency (top 5): 2024 YtD (Q1)



2.22 Sustainability-linked and Green Loan Issuance by Country (top 10): 2024 YtD (Q1)



2.24 Sustainability-linked and Green Loan Issuance Global Comparison: 2024 YtD (Q1)

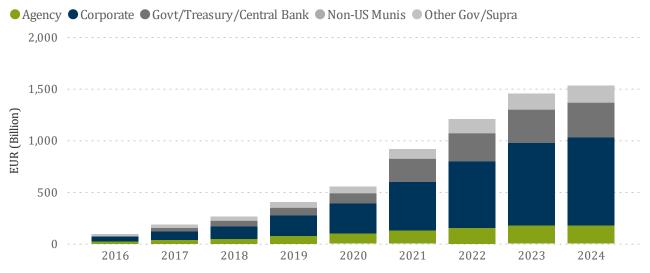




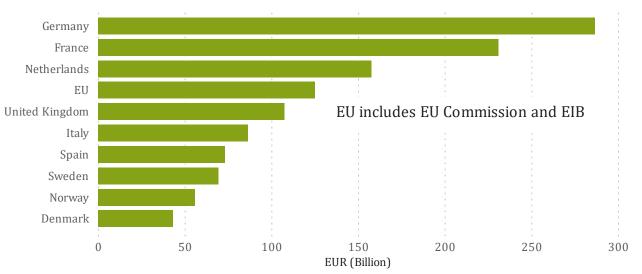
ESG Bonds Outstanding

afne/ Green Bonds Outstanding

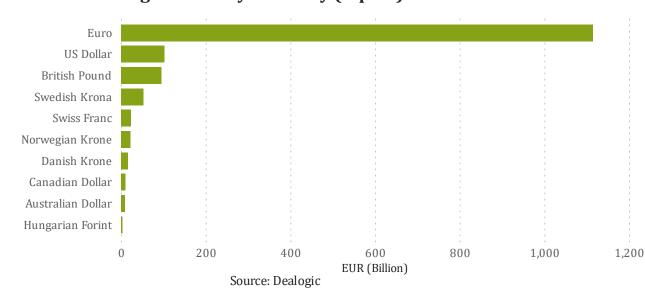
3.1 Evolution of European Green Bonds Outstanding



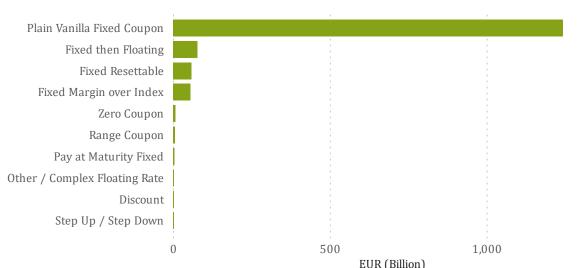
3.2 Outstanding Amount by Country (top 10)



3.3 Outstanding Amount by Currency (top 10)

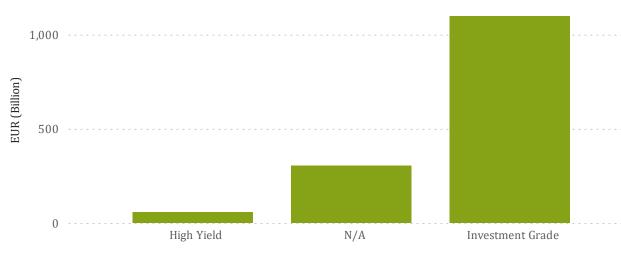


3.4 Outstanding Amount by Coupon Type (top 10)

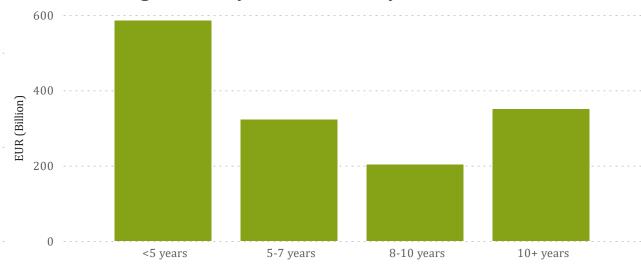


afne/ Green Bonds Outstanding Finance for Europe

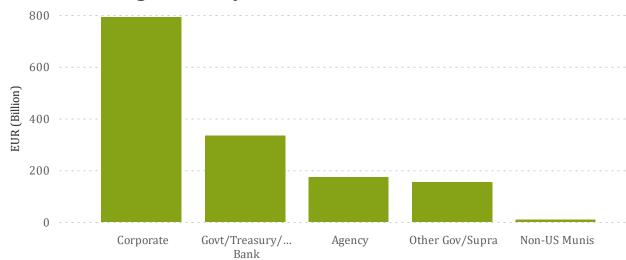
3.5 Outstanding Amount by Bond Grade



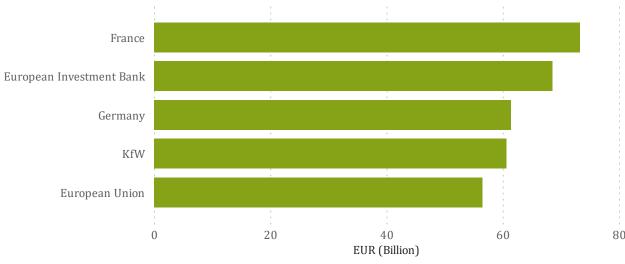
3.6 Outstanding Amount by Years to Maturity



3.7 Outstanding Amount by Asset Class



3.8 Outstanding by Top 5 Single Issuers

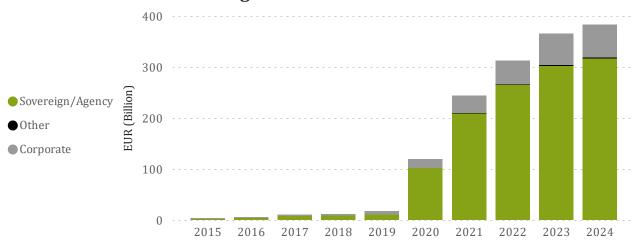


Source: Refinitiv Eikon

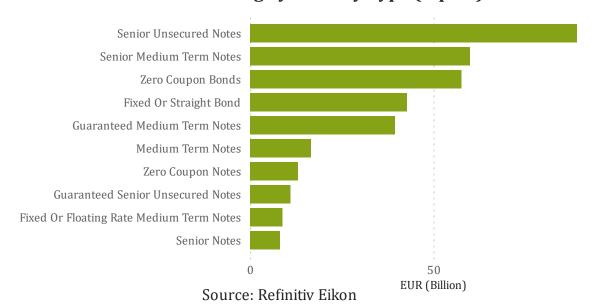
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afne/ Social Bonds Outstanding

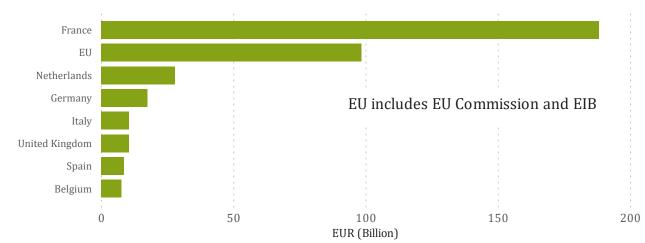
3.9 Evolution of Outstanding



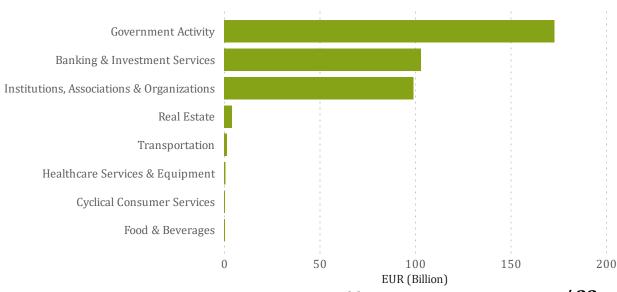
3.11 Social Bonds Outstanding by Security Type (top 10)



3.10 Social Bonds Outstanding by Country (top 8)



3.12 Social Bonds Outstanding by Economic Sector

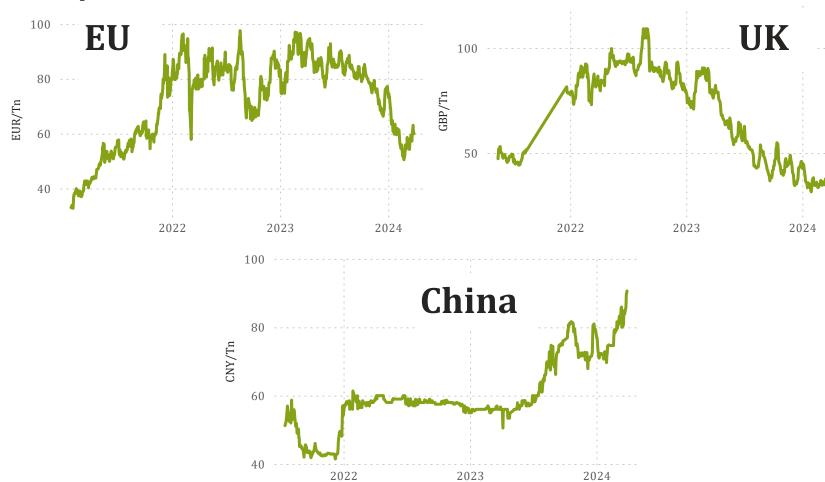




Carbon pricing, emissions and trading

afne/ Carbon Market Prices Finance for Europe

4.1 Comparison of Global ETS Allowance Prices



^{*} China's ETS includes exclusively the Shanghai ETS. Does not include other pilot programmes (Shenzen, Beijing, Guangong, Tianjin, Hubei, Chongqing or Fujian)

Source: Refinitiv Eikon

Lower UK and EU carbon market prices, while the cost of polluting rises in China

In Q1 2024, UK and EU carbon market prices fell by 32% and 52% year-on-year, while the Shanghai ETS rose 62%.

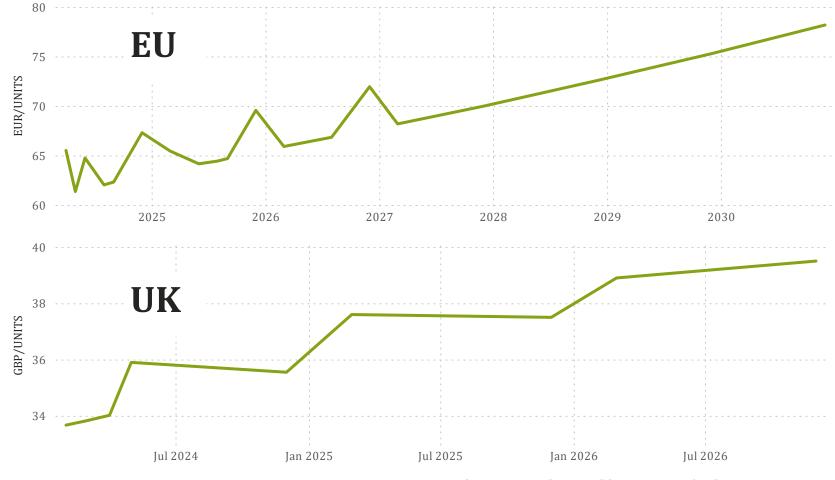
Over the quarter, EU carbon prices declined from 77.25 to 59.98 EUR/Tn, representing a 22% quarterly decrease. Carbon prices reached their lowest level in February, with 50.50 EUR/Tn. In the same period, UK carbon prices fell by 19%, from 46 to 37.4 GBP/Tn.

Despite a significant increase in the second half of 2023, the Shanghai ETS continues to trade at the lowest carbon prices among the main global ETS systems, with a price per metric tonne of CNY90.66 as of March 2024 (11.8 EUR/Tn). This represents a peak for Chinese carbon prices.

Carbon prices may not be directly comparable across systems and vary greatly, given different institutional settings and differences in ETS design.



4.2 Forward Curve: European Union Allowance (EUA) and UK Electronic Energy Future Chain Contract

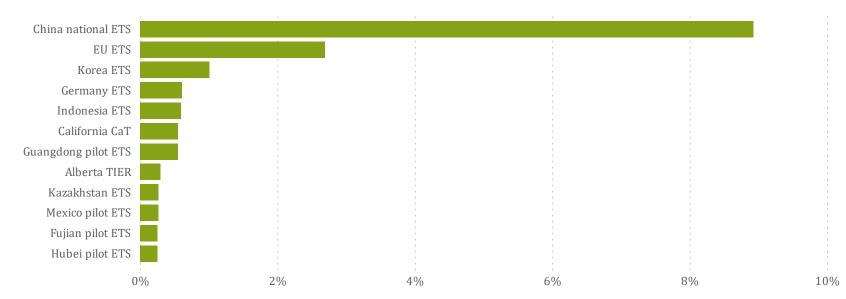


Market curves observed beginning of February 2024

Source: Refinitiv Eikon

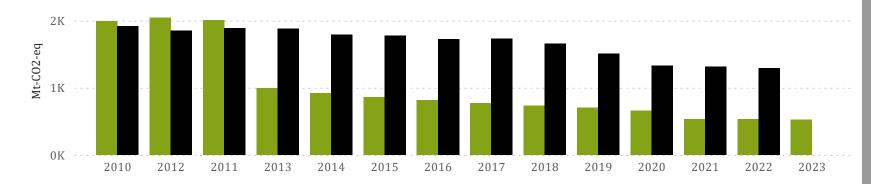
EU and UK forward curves anticipate higher carbon prices for the medium- long-term future.

4.3 Share of annual global GHG emissions (Q1 2024)



4.4 EU + UK Allowance Vs Verified Emissions

● Freely allocated allowances ● Verified emissions



Source: European Environment Agency, The World Bank (data last updated March 31 2023)

In Q1 2024, China stood out as the ETS (Emission Trading Scheme) with the largest contribution to global GHG emissions, representing a global share of 8.93%.

Following, the EU continued as the second largest market in emission trading, accounting for 2.7% of global GHG emissions.

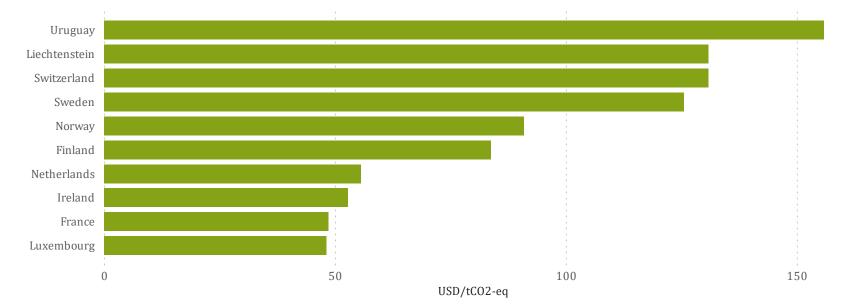
Korea ranks third, with an ETS constituting 1.01% of the global total.

In the EU + UK area, aggregate freely allocated allowances and verified emissions have seen a consistent decrease since 2013. Notably, in 2013, allocated allowances in these regions experienced a significant reduction, falling below the levels of verified emissions for the first time.

4.5 Allowances auctioned or sold (EUAs and EUAAs)



4.6 Carbon Tax by Country (2023)



Source: European Environment Agency, The World Bank (data last updated March 31 2023)

The EU ETS operates on a "cap-and-trade" principle, where a cap is set on the total amount of certain greenhouse gases that can be emitted by installations covered by the system. The cap is reduced over time so that total emissions fall.

Within this cap, companies receive or purchase emission allowances, which they can trade with one another as needed. Each allowance gives the holder the right to emit one tonne of CO2 or the equivalent amount of another greenhouse gas.

Companies must hold enough allowances to cover all of their emissions. If a company emits less than it is allowed to, it can keep the spare allowances to cover its future needs, or sell them to companies in need. Companies that are not compliant with this system face significant fines.

Total allocated allowances (EUA and EUAA) decreased from 1728 MtCO2-eq in 2017 to 1288 MtCO2-eq in 2022.

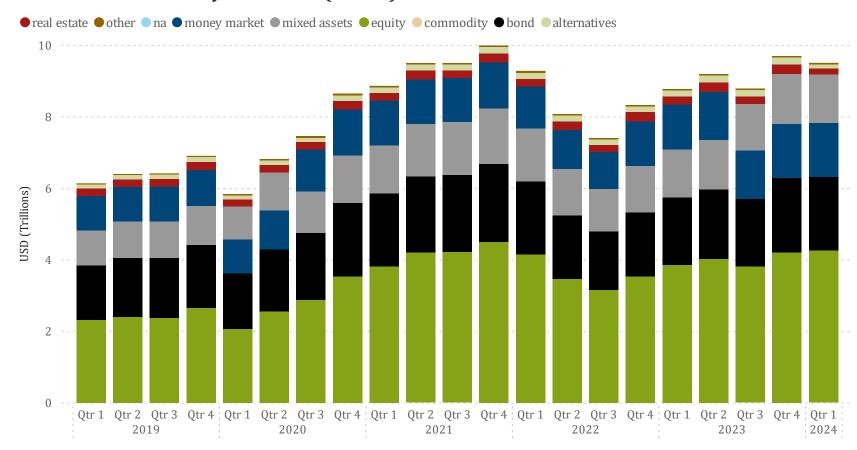
Carbon Taxes are another method of carbon pricing. Uruguay implements the highest carbon tax (155.9 USD/tCO2e), followed by Liechtenstein and Switzerland (130.81 USD/tCO2e each).



Fund Management



5.1 Global ESG Funds by Asset Class (USD tn)



Reduced pool of ESG assets under management despite fund inflows at a global and European level

Global funds with an ESG mandate (including Mutual Funds and ETFs) reached USD 9.5tn as of Q1 2024, representing a 1.9% decrease from Q4 2023 and a 8.4% increase from the same period last year.

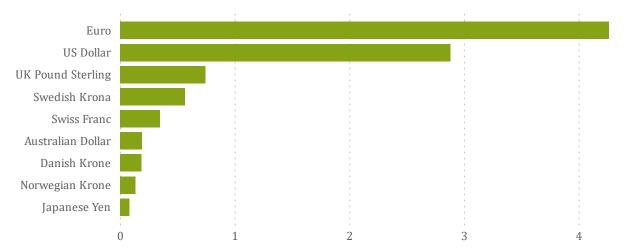
The quarterly decrease can be attributed to asset depreciation, given that ESG funds experienced a net inflow of USD 18.3 bn at a global level in the first quarter of the year.

Some asset classes experienced a significant decrease in AuM during the quarter. In particular, alternative and real estate assets dropped 36.6% and 37.4% respectively. Only equity and "other" assets appreciated, though the gains were modest.

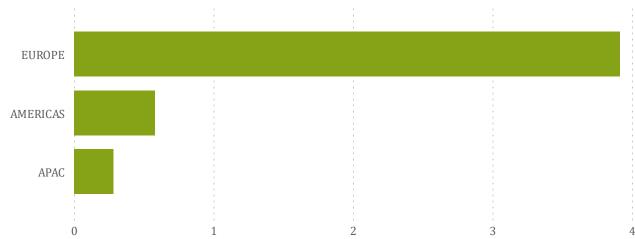
Source: Lipper

afme/ Size of Global ESG Funds Finance for Europe

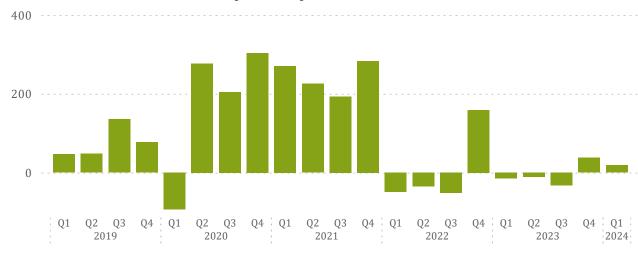
5.2 Global ESG Funds by currency base (top 10 - USD tn)



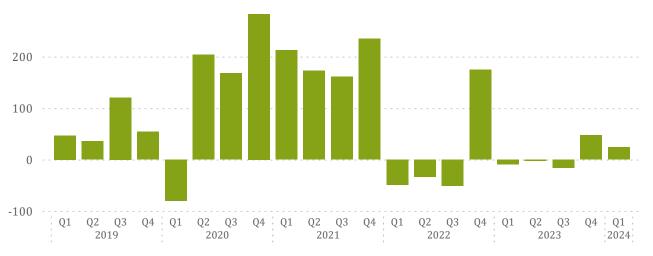
5.3 Global ESG Funds by geographical location (USD tn)



5.4 Global ESG fund flows (USD bn)



5.5 European ESG fund flows (USD bn)



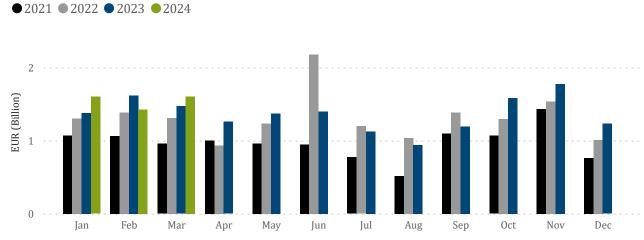
Source: Lipper, Refinitiv Eikon



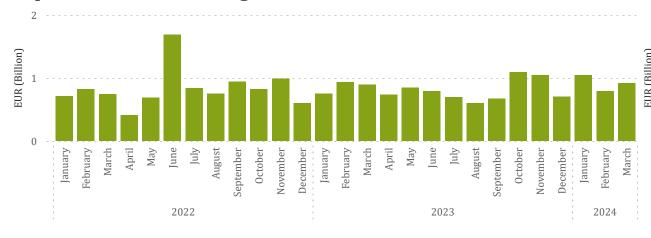
ESG Bond Trading

afne / ESG Bond Trading Volumes

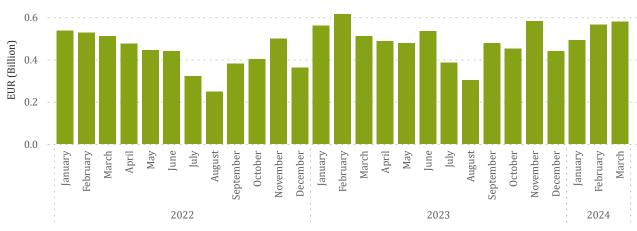
6.1 European ESG Bond Average Daily Trading Volumes (all issuers)



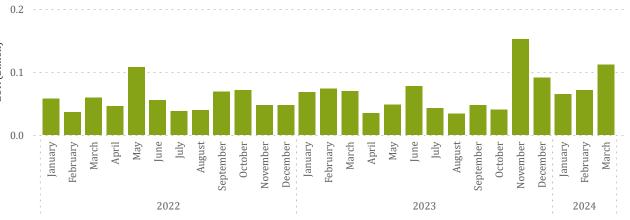
6.3 Average Daily Trading Volumes: European ESG Government, Agency, Supranational and Sovereign Bonds



6.2 Average Daily Trading Volumes: European ESG Corporate Bonds



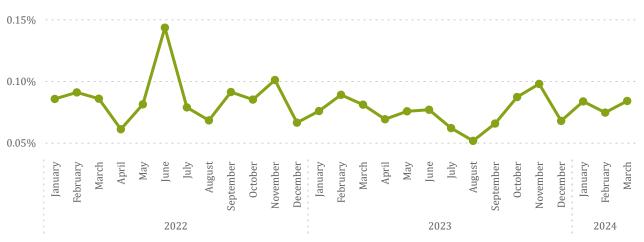
6.4 Average Daily Trading Volumes: European ESG ABS and Covered Bonds



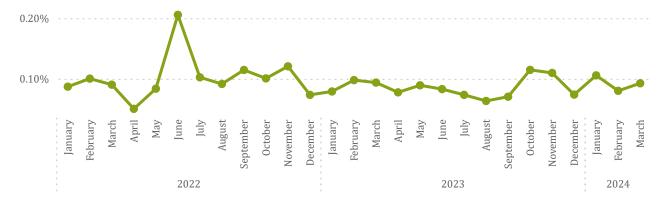
Source: MarketAxess TraX

afme/ ESG Bond Turnover Ratios Finance for Europe

6.5 European ESG Bond Turnover Ratio (all issuers)

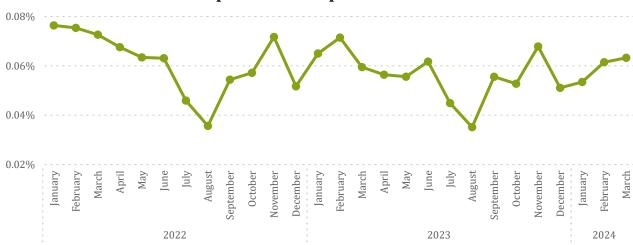


6.7 Turnover Ratio: European ESG Government, Agency, Supranational, and Sovereign bonds



Source: AFME from MarketAxess TraX and Refinitiv Eikon

6.6 Turnover Ratio: European ESG Corporate Bonds

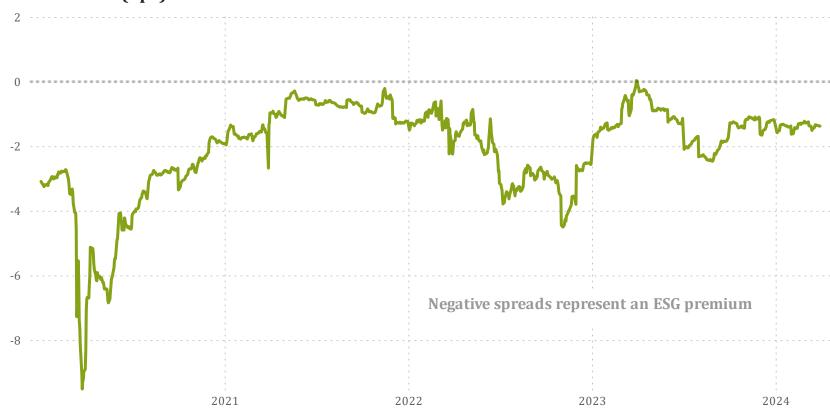




Valuations



7.1 Spreads (OAS) of EUR-denominated corporate ESG bonds against non-ESG corporate benchmarks (bps)



^{*} Spread between EUR-denominated ESG corporate bonds and EUR corporate bonds

Source: AFME with Barclays and Bloomberg data.

Stable ESG premiums in Q1 2024

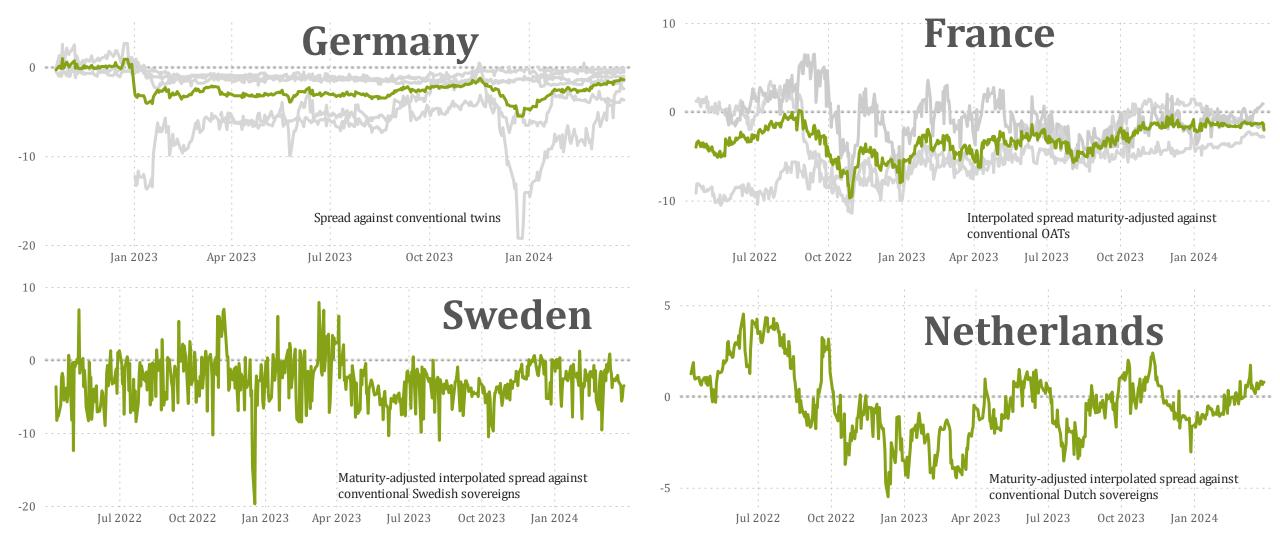
Spreads of corporate ESG bonds compared to non-sustainable benchmarks saw only minimal fluctuations during the first quarter of the year, on a range of 1.24 to 1.63bps.

Page 36 illustrates green premiums across various sovereign issuers. The difference in green premiums suggests that these premiums are influenced by more than just sustainability features. Factors such as liquidity also have a relevant influence on spreads.

afne/ Sovereign green premia

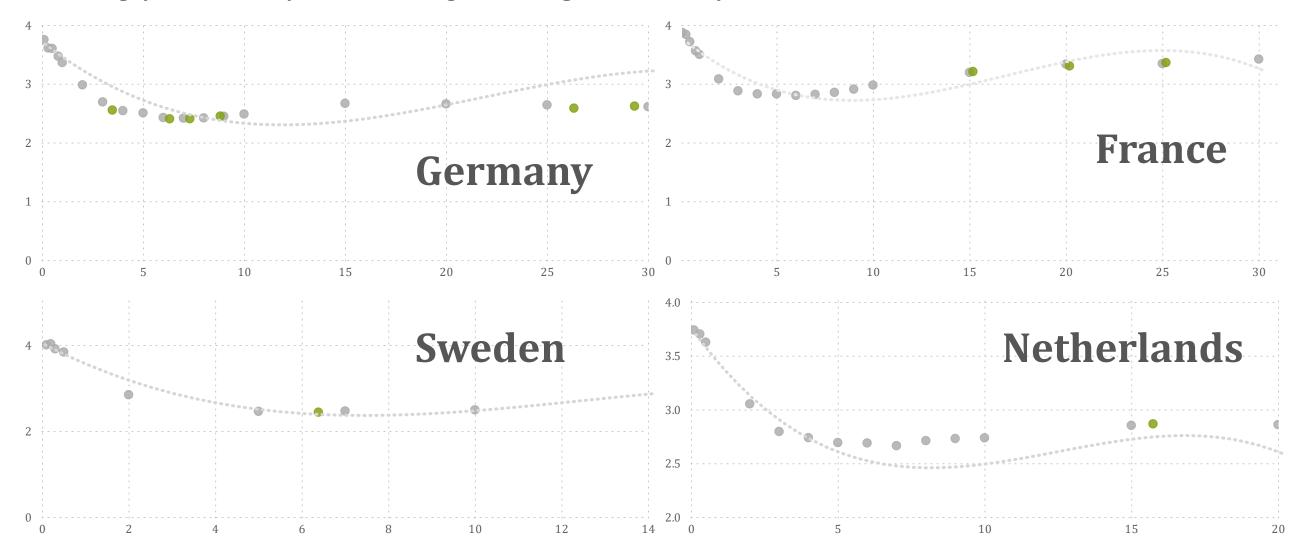
7.2 Spreads of sovereign green bonds against conventional reference (bps)

Negative spreads represent a green premium



afne/ Sovereign green premia

7.3 Sovereign yield curves and yields for selected green sovereign bonds. February 2024

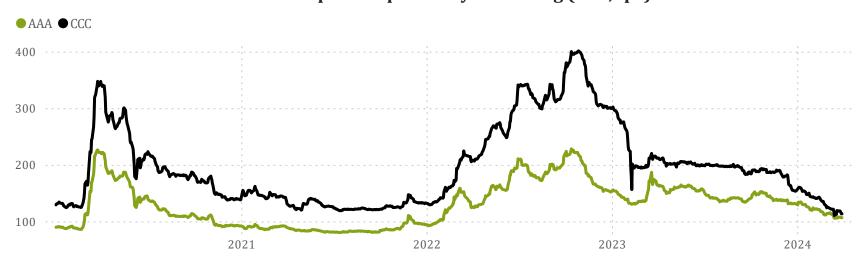


afme/ESG Bond Spreads Finance for Europe

7.4 ESG EUR Corporate spreads (OAS, bps)



7.5 EUR corporate spreads by ESG rating (OAS,bps)



afne/ ESG Bond Spreads Finance for Europe

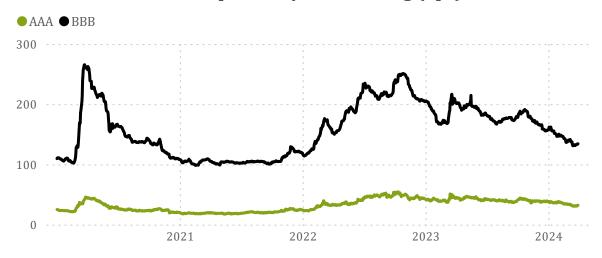
7.6 Green bond spreads by currency (OAS, bps)



7.7 EUR Corporate green bond spread (OAS, bps)



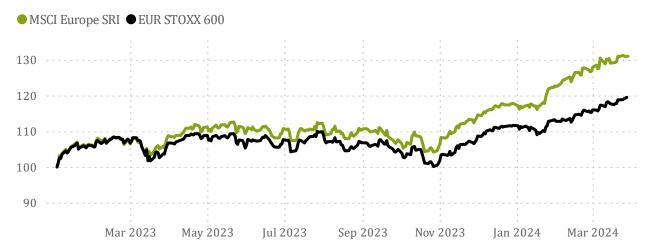
7.8 Global Green bond spreads by credit rating (bps)



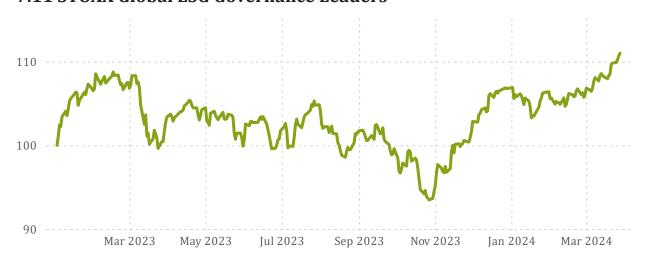
Source: Barclays and Bloomberg

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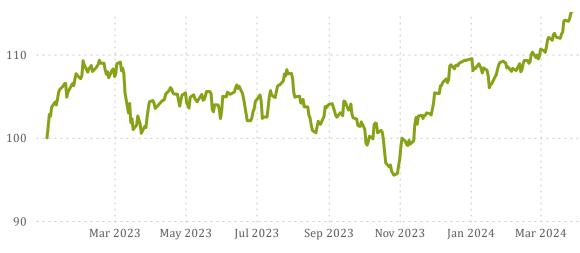
7.9 MSCI Europe SRI Net Index EUR and EUR STOXX 600 (1 Jan 2023 = 100)



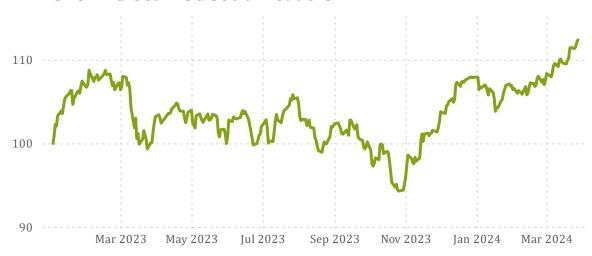
7.11 STOXX Global ESG Governance Leaders



7.10 STOXX Global ESG Environmental Leaders



7.12 STOXX Global ESG Social Leaders



Source: Refinitiv Eikon



Green Bonds: Green bonds fund projects that have positive environmental and/or climate benefits. Proceeds from these bonds are earmarked for green projects but are backed by the issuer's entire balance sheet. The Green Bond Principles (GBP) are voluntary process guidelines that recommend transparency and disclosure and promote integrity in the development of the Green Bond market

Green loans: The Green Loan Principles (GLP) apply to loans where the fundamental determinant is the utilisation of the loan proceeds for Green Projects

Carbon Pricing: Carbon pricing is an instrument that captures the external costs of greenhouse gas (GHG) emissions—the costs of emissions that the public pays for, such as damage to crops, health care costs from heat waves and droughts, and loss of property from flooding and sea level rise—and ties them to their sources through a price, usually in the form of a price on the carbon dioxide (CO2) emitted. Carbon pricing can take the form of a carbon tax or fee, or a cap-and-trade system that depends on government allotments or permits.

ESG: ESG stands for Environmental Social and Governance. It refers to the three key factors when measuring the sustainability and ethical impact of an investment in a business or company.

ETS: Emissions trading system is a market-based approach to controlling pollution by providing economic incentives for reducing the emissions of pollutants. The EU emissions trading system (EU ETS) is a cornerstone of the European Union's policy to combat climate change and its key tool for reducing industrial greenhouse gas emissions cost-effectively

EUA: A European Union allowance (EUA) is the official name for Europe's emission allowances, which in 2008 was defined as the official Kyoto allowance for countries in the EU. One EUA entitles the holder to emit one ton of carbon dioxide or carbon-equivalent greenhouse gas.

Europe: Countries included: EU27 Member States, Norway, Switzerland, Turkey, and United Kingdom.

Social Bonds: Bonds whose proceeds are used to raise funds for new and existing projects that tackle a specific social issue and/or seek to achieve positive social outcomes. The reference framework for issuance of Social Bonds is the Social Bond Principles (SBP). The SBP promote integrity in the Social Bond market through guidelines that recommend transparency, disclosure and reporting Social objectives may include, but are not limited to affordable housing, affordable basic infrastructure, employment generation and sustainable food systems.

SRI: Socially responsible investing or SRI, is a strategy that emphasizes not only the financial gains from an investment but also ethical or social change.

Sustainable Bonds: Proceeds of Sustainable Bonds are split between green projects and social projects.

Sustainability-linked bonds: bond instrument for which the financial and/or structural characteristics can vary depending on whether the issuer achieves predefined Sustainability objectives. Issuers are thereby committing explicitly (including in the bond documentation) to future improvements in sustainability outcome(s) within a predefined timeline. SLBs are a forward-looking performance-based instrument.

Sustainability-linked loans: Loans which incentivise the borrower's achievement of predetermined sustainability performance objectives. The borrower's sustainability performance is measured using sustainability performance targets (SPTs), which include KPIs, external ratings and or equivalent metrics and which measure improvements in the borrower's sustainability profile. The Sustainability Linked Loan Principles (SLLP) are voluntary recommended guidelines, to be applied by market participants on a deal-by-deal basis.

Transition bonds: Bonds issued with a "transition" label indicating use of proceeds to improve environmental performance but not yet reaching "green" categorisation.

Contacts

Research

Iulio Suarez

Director, Research Julio.Suarez@afme.eu +32 2 883 55 50

Matteo Ghibaudo

Graduate, Research Matteo.Ghibaudo@afme.eu +32 2 883 55 45

Sustainable Finance

Oliver Moullin

Managing Director, Sustainable Finance Oliver.Moullin@afme.eu +44 (0)20 3828 2717

Rachel Sumption

Manager, Sustainable Finance Rachel.Sumption@afme.eu +44 (0) 7501 366 127

Carolina Cazzarolli

Manager, Advocacy Carolina.Cazzarolli@afme.eu +32 2 883 55 43

London Office

Level 10 20 Churchill Place London E14 5HJ United Kingdom +44 (0)20 3828 2700

Brussels Office

Rue de la Loi, 82 1040 Brussels Belgium +32 (0)2 788 3971

Frankfurt Office

Neue Mainzer Straße 75, 60311 Frankfurt am Main, Germany +49 69 153 258 963

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