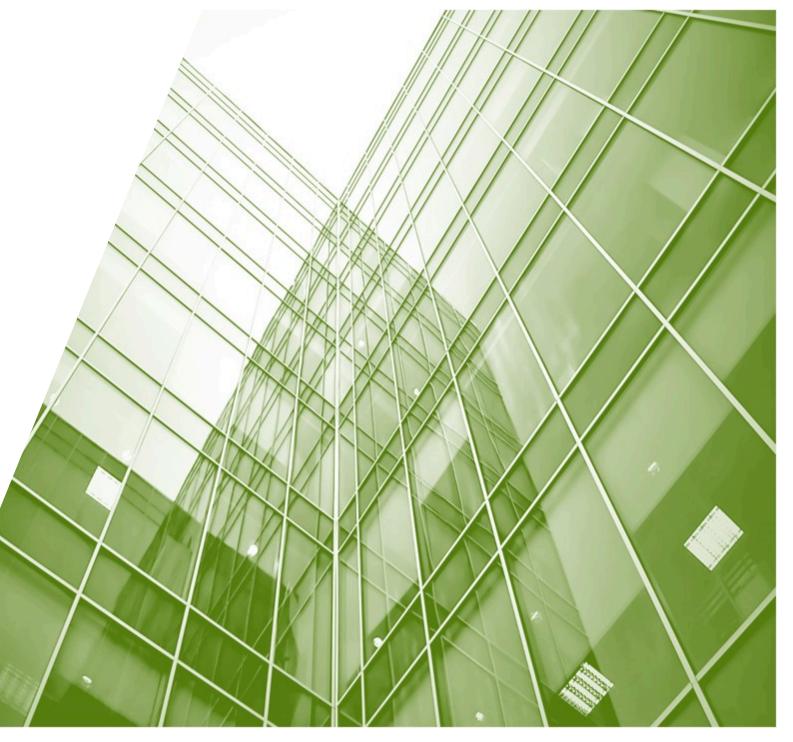


Q2 2024

ESG Finance Report

European Sustainable Finance



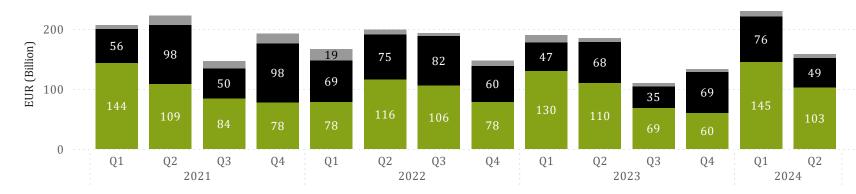
afme/ Contents Finance for Europe

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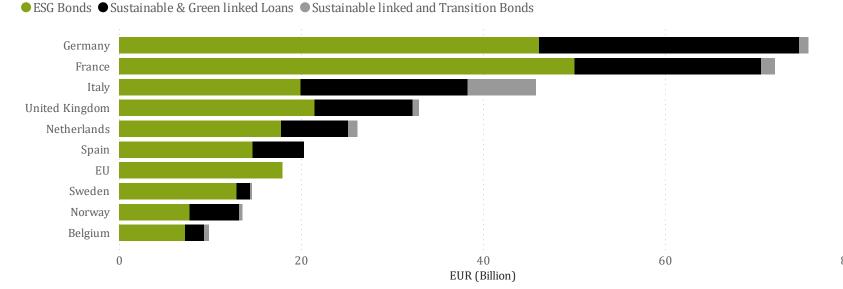
afne/ Key findings Finance for Europe

1.1 European ESG Bond and Loan Issuance 2021 - 2024 YtD (Q2)

● 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 (Q2))



Source: Dealogic

ESG bond and loan issuance decelerates during Q2'24 after record first quarter

In Q2'24, ESG bond and loan issuance totaled €158bn, a 14% decrease from Q2 2023 (YoY) and a 31% decrease from Q1 2024 (QoQ).

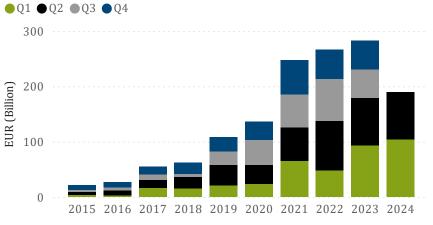
ESG bonds and loans include ESG-labelled bonds (proceeds-based), sustainability-linked bonds, transition bonds, green loans and sustainability-linked loans.

With the exception of ESG securitisation, all other sustainable instruments covered in this report exhibited a quarterly issuance decline. ESG securitisation accumulated €1.9bn in issued amount during Q2'24 on three deals, reaching a total of €3bn for the first half of the year.

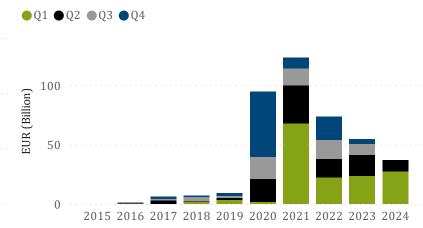
German issuers led in total loan and bond origination YtD, contributing €76bn in proceeds. French issuers followed, generating €72bn in total proceeds. Notably, c. 50% of sustainable-linked and transition bonds were originated in Italy and a half of ESG bonds were issued in Germany or France.

afne/ Key findings Finance for Europe

1.3 European Green Bond Issuance

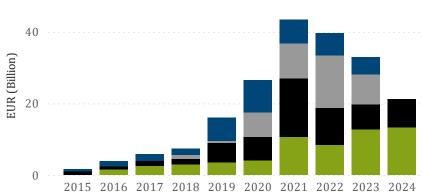


1.4 European Social Bond Issuance

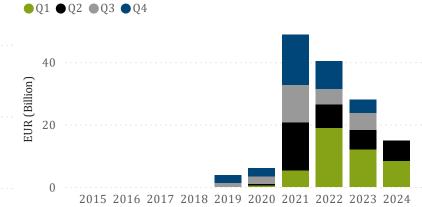


1.5 European Sustainable Bond Issuance

●Q1 **●**Q2 **●**Q3 **●**Q4



1.6 European Sustainability-linked and transition Bond Issuance



Further decline in Sustainability-linked bond issuance

Quarter-on-quarter, green, social, and sustainable bond issuance decreased by 18%, 65%, and 40% respectively.

However, on a year-to-date basis, the green and sustainable asset classes exhibited an annual increase, driven predominantly by a robust issued amount on the first quarter of the year. European green bonds reached the highest H1 issued amount on records.

Sustainability-linked bonds continued a further decline on a quarterly and year-to-date basis. The cumulative amount issued in the first half of the year is the lowest observed since 2020.



Top single ESG bond issues by amount in 2024 YtD (Q2)

Green	Amount EUR (bn)	Maturity Date	ISIN
Italy	8.99	30/10/37	IT0005596470
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

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
Nederlandse Waterschapsbank	1.38	28/02/29	US63983TEJ07

Sustainability	Amount EUR (bn)	Maturity date	ISIN
Agence Francaise de Developpement - AFD	1.84	03/05/29	FR0014000FN2
Serbia	1.35	06/12/34	US817477AJ18XS2838999691
Flemish Community	1.24	22/06/45	BE0390122852
European Investment Bank - EIB	1.15	01/12/32	EU000A3LSRN2
Caisse des Depots et Consignations - CDC	1.00	25/05/29	FR001400PU76

Source: Dealogic

Government-Related entities rank as top ESG issuers

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

By the end of the second quarter of 2024, the Government of Italy had issued the largest single green bond of the year. This new green government bond, issued at the end of May with a maturity in 2037, accumulated €9bn in proceeds.

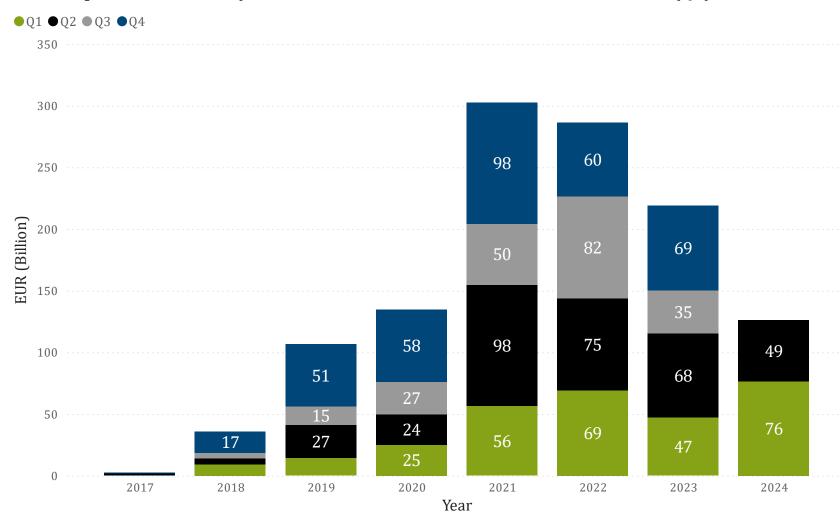
Italy was followed by the Republic of France, which issued €7.7 billion in a new green OAT in mid-January, followed by the European Union with €6.89 billion. The European Investment Bank is in fourth place with €6bn in a single green issue.

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. Serbia's issuance of €1.35bn was the second largest, and it marked Serbia's first US dollardenominated sustainable bond.



1.7 European Sustainability-linked and Green Loan Issuance 2017 - 2024 YtD (Q2)



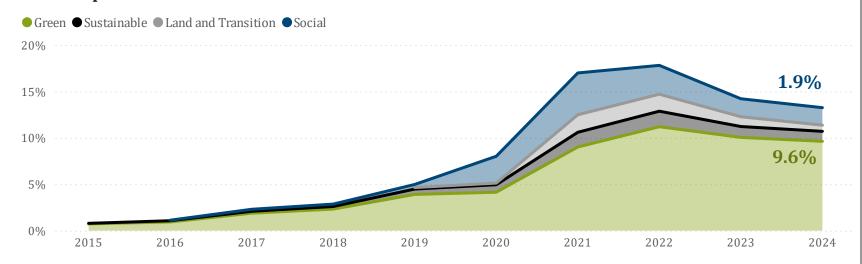
After record first quarter, European Sustainability-linked and Green Loan issuance decreases in the second quarter of 2024.

In Q2 2024, European Sustainability-linked and Green loans originated proceeds for €49bn, standing €19bn (or 28%) below Q2 2023 issuance and 27bn (or 36%) below the previous quarter.

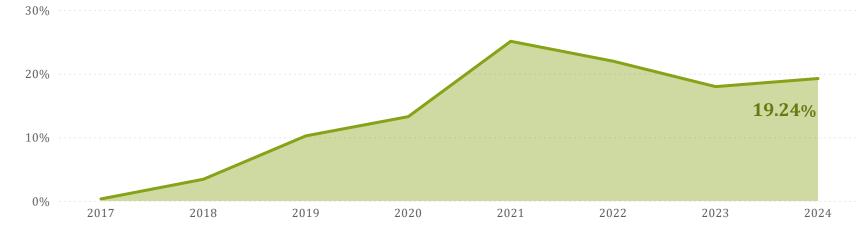
Sustainability-linked and green loan issuance combined for Q1 and Q2 2024 (€125 bn) stands higher than the issued amount for the same period in 2023 (€115 bn)



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

The share of ESG bonds in total bond issuance in Europe has plateaued, or even decreased since 2021

ESG bond issuance, including ESG-labelled, sustainability-linked and transition bonds, represented 13% of total European bond issuance during 2024 YtD, a lower proportion from 14% in 2023 and 18% in 2022.

This was comprised of 9.6% green bonds, 1.9% social bonds, 1.1% sustainable bonds, 0.7% of sustainability-linked and transition bonds.

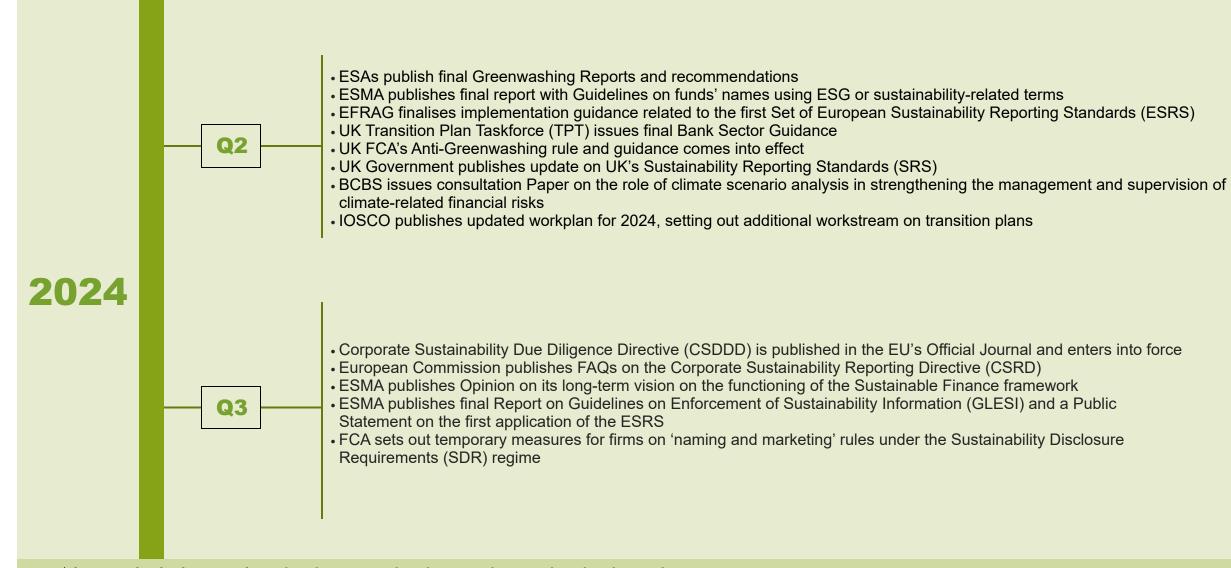
Sustainability-linked and Green loan issuance represented 19.2% of total European syndicated loan origination during 2024 YtD, up from 18% in 2023.



Regulatory Update

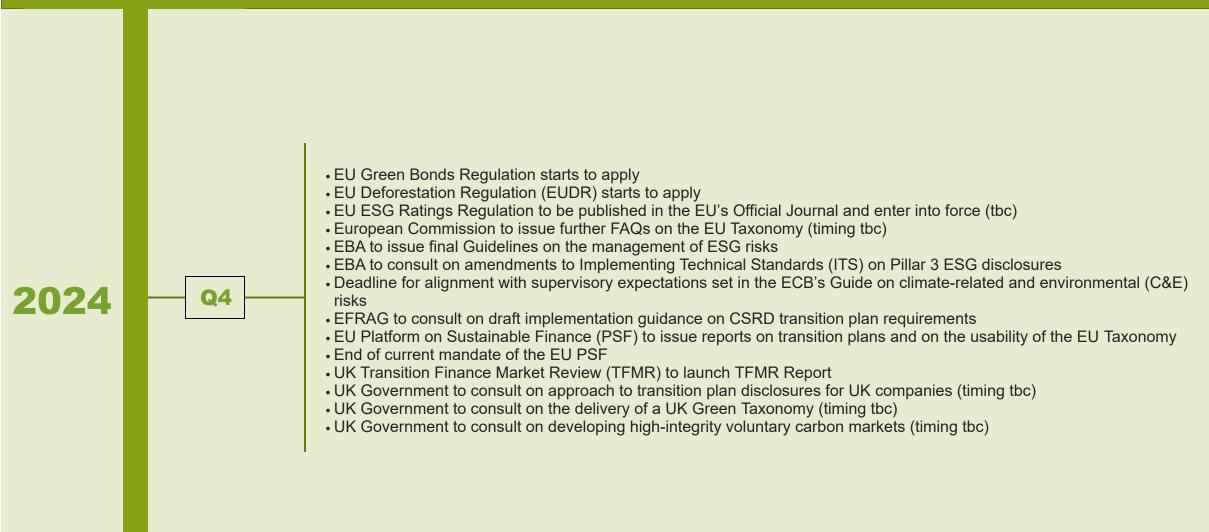


Regulatory/Supervisory Snapshot – Sustainable Finance*





Regulatory/Supervisory Snapshot – Sustainable Finance*



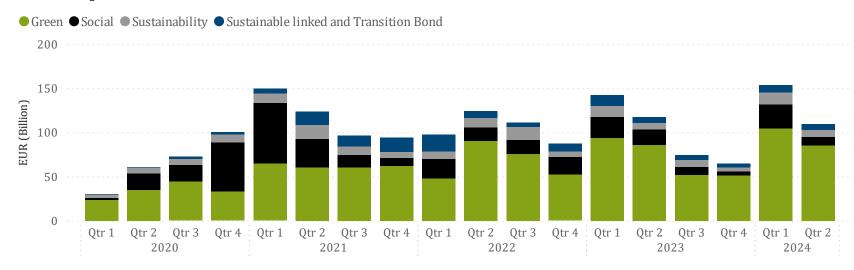
^{*}Please note that the above is a selective list of initiatives and timelines are indicative and may be subject to change.



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 decrease in European ESG and Sustainability-linked bond issuance accompanied by lower Sustainability-linked and Green loan origination

Proceeds from ESG and sustainability-linked transition bonds reached €109bn during Q2 2024, down from €153.4bn in Q1 2024.

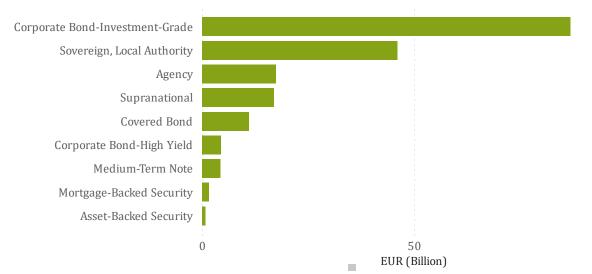
Conversely, sustainability-linked and green loan origination declined by 35% QoQ and 27% YoY, concluding the quarter with €49.5bn in proceeds.

Investment-grade corporate issuers accounted for 45.89% of the total proceeds from green bonds, while sovereign entities led the issuance of sustainable bonds.

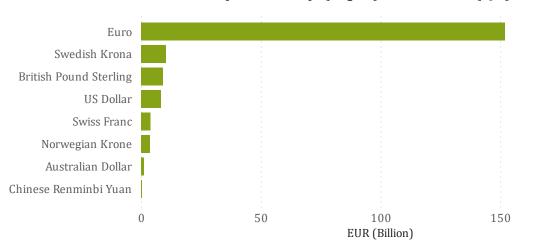
Globally, the European Union continues as the primary region for green and social bond issuance, and for sustainability- and greenlinked loan origination. US issuers continued as the lead region for sustainable bond issuance. [See pages 13-15]



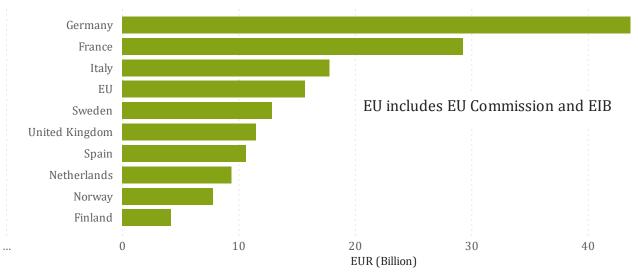
2.3 Green Bond Issuance by Deal Type: 2024 YtD (Q2)



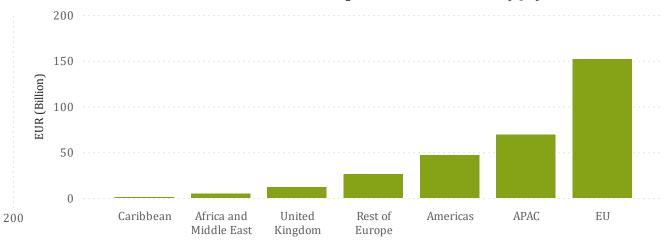
2.5 Green Bond Issuance by Currency (top 8): 2024 YtD (Q2)



2.4 Green Bond Issuance by Country (top10): 2024 YtD (Q2)

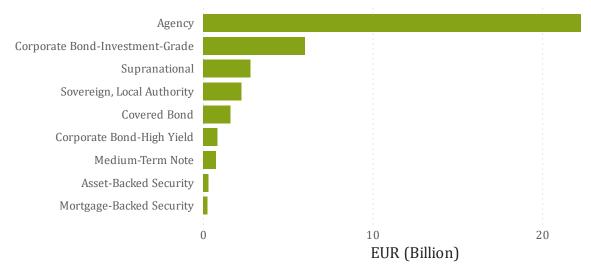


2.6 Green Bond Issuance Global Comparison: 2024 YtD (Q2)

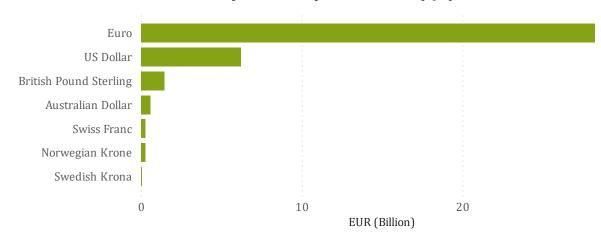


afne / Social Bond Issuance Finance for Europe

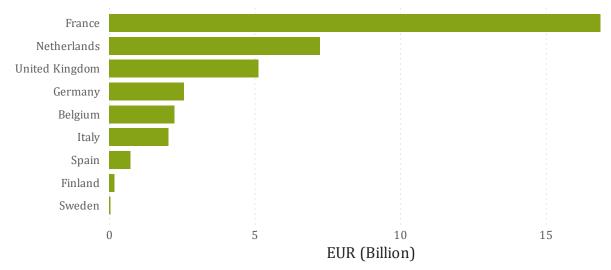
2.7 Social Bond Issuance by Deal Type: 2024 YtD (Q2)



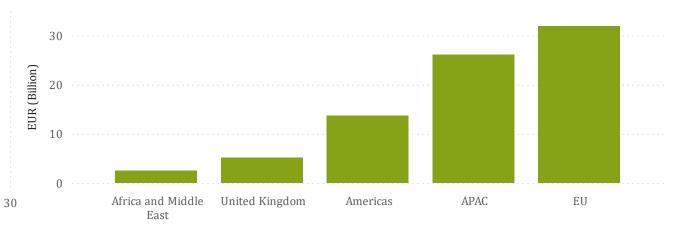
2.9 Social Bond Issuance by Currency: 2024 YtD (Q2)



2.8 Social Bond Issuance by Country (top 10): 2024 YtD (Q2)



2.10 Social Bond Issuance Global Comparison: 2024 YtD (Q2)

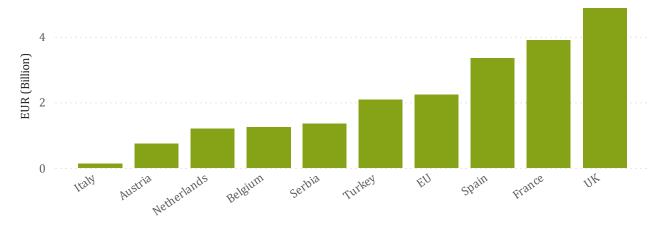




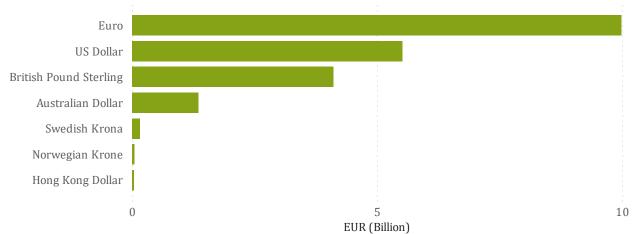
afme/ Sustainable Bond Issuance

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

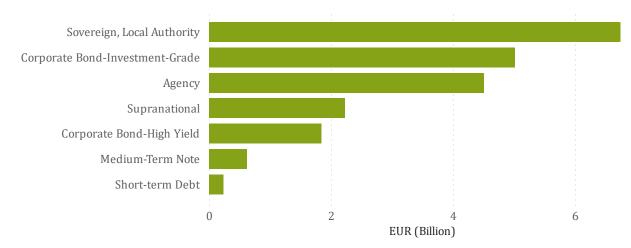
2.11 Sustainable Bond Issuance by Country (top 10): 2024 YtD (Q2)



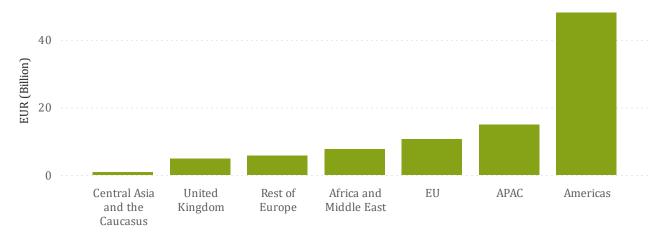
2.12 Sustainable Bond Issuance by Currency: 2024 YtD (Q2)



2.13 Sustainable Bond Issuance by Deal Type: 2024 YtD (Q2)



2.14 Sustainable Bond Issuance Global Comparison: 2024 YtD (Q2)





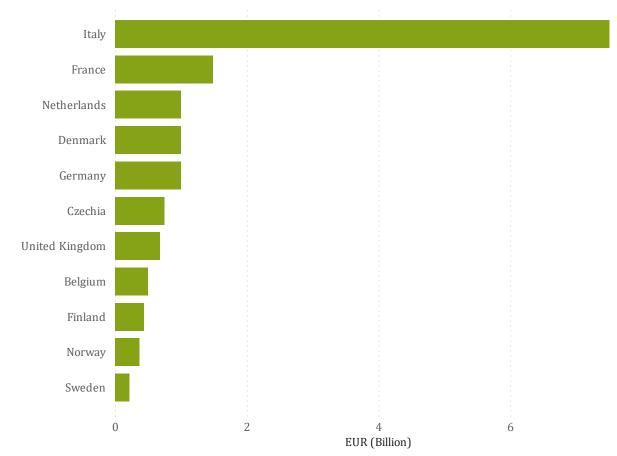
afme/ Sustainability-linked Bond Issuance

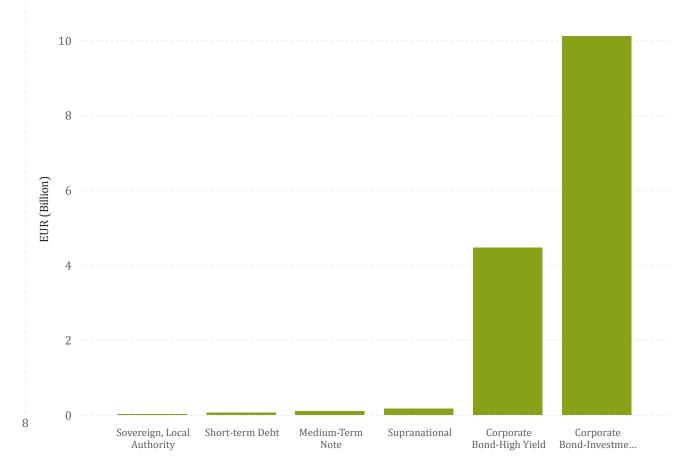
Sustainability-linked bonds are performance-based bonds where payment is contingent on pre-determined KPIs which are aligned with sustainability strategies. Transition bonds are bonds issued with a "transition" label indicating use of proceeds to improve environmental performance but not yet reaching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

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

(Q2)

2.16 European Sustainability-linked Bond Issuance by Deal Type: 2024 YtD (Q2)





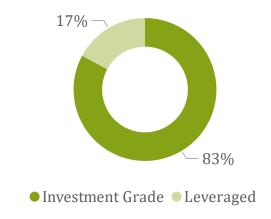
afme/ ESG Securitisation Issuance Finance for Europe



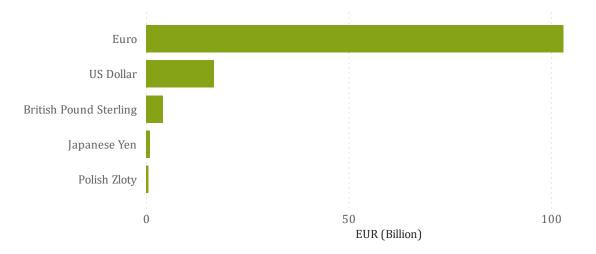


afme/ Sustainability-linked and Green Loan Issuance

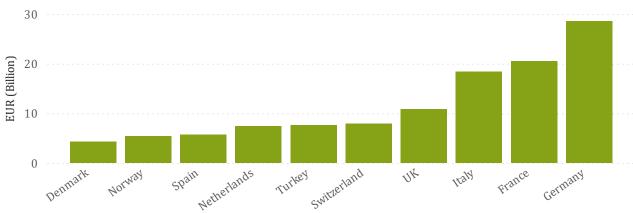
2.21 Sustainability-linked and Green Loan Issuance by Deal Type: 2024 YtD (Q2)



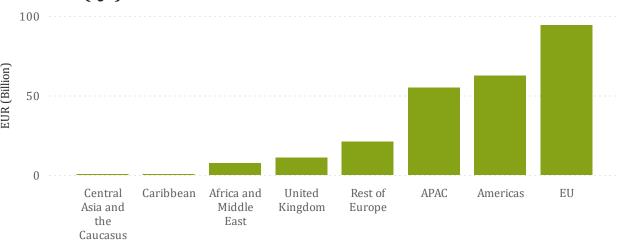
2.23 Sustainability-linked and Green Loan Issuance by Currency (top 5): 2024 YtD (Q2)



2.22 Sustainability-linked and Green Loan Issuance by Country (top 10): 2024 YtD (Q2)



2.24 Sustainability-linked and Green Loan Issuance Global Comparison: 2024 YtD (Q2)

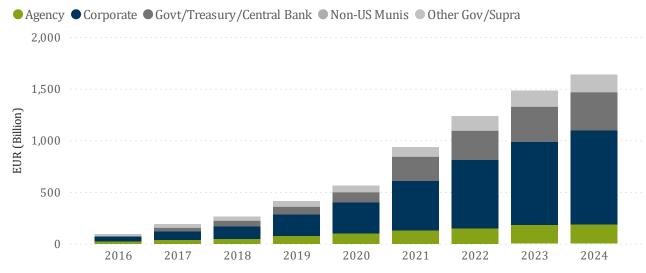




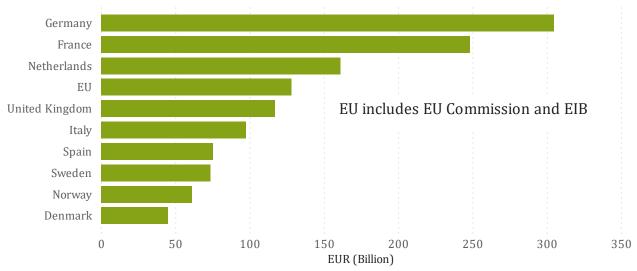
ESG Bonds Outstanding

afne/ Green Bonds Outstanding

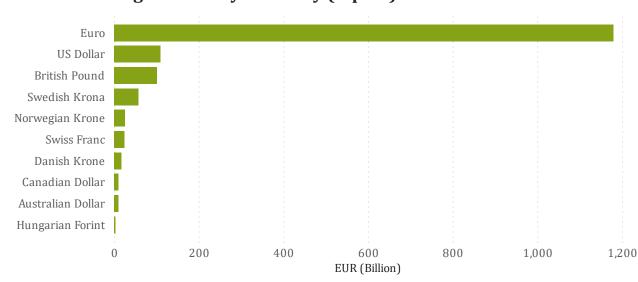
3.1 Evolution of European Green Bonds Outstanding



3.2 Outstanding Amount by Country (top 10)

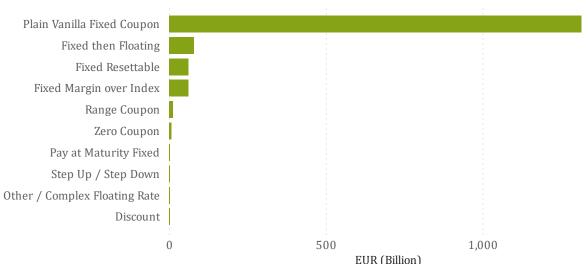


3.3 Outstanding Amount by Currency (top 10)



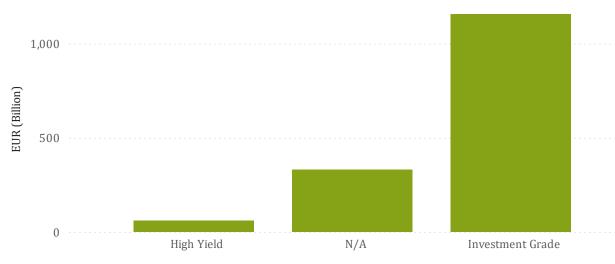
Source: Refinitiv Eikon

3.4 Outstanding Amount by Coupon Type (top 10)

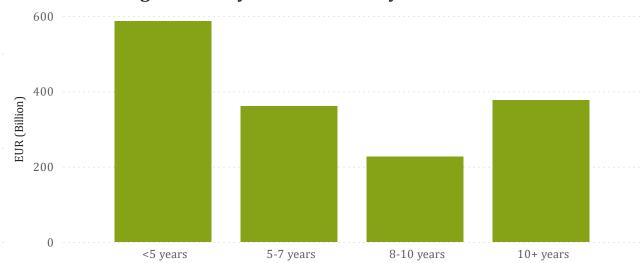


afne/ Green Bonds Outstanding

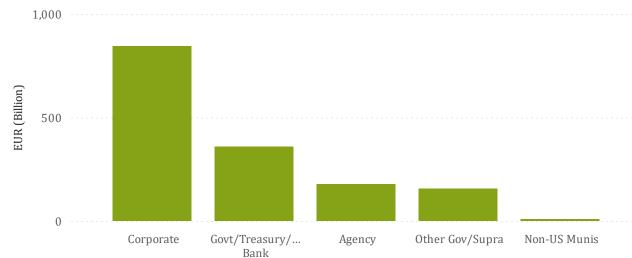
3.5 Outstanding Amount by Bond Grade



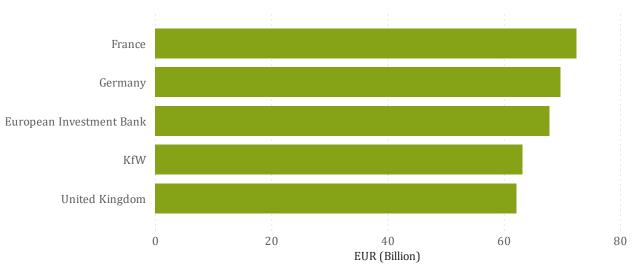
3.6 Outstanding Amount by Years to Maturity



3.7 Outstanding Amount by Asset Class



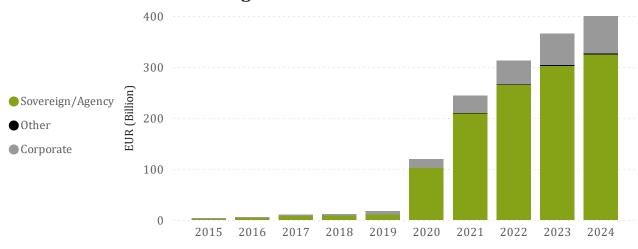
3.8 Outstanding by Top 5 Single Issuers



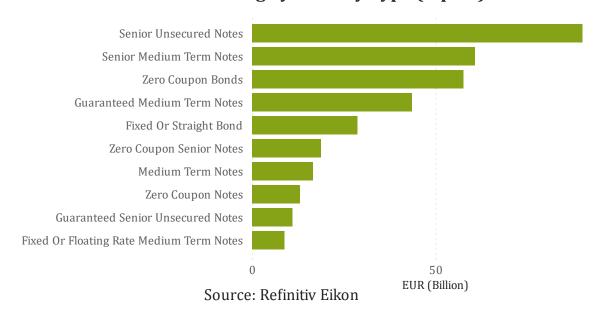
Source: Refinitiv Eikon

afme/ Social Bonds Outstanding

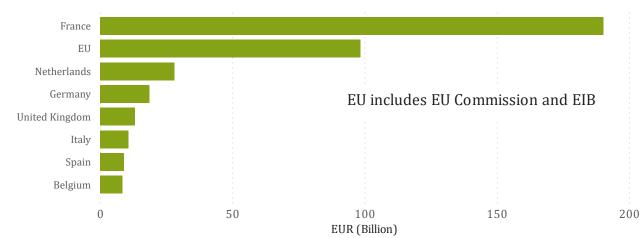
3.9 Evolution of Outstanding



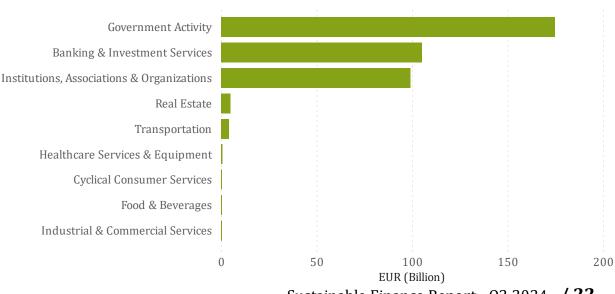
3.11 Social Bonds Outstanding by Security Type (top 10)



3.10 Social Bonds Outstanding by Country (top 8)



3.12 Social Bonds Outstanding by Economic Sector

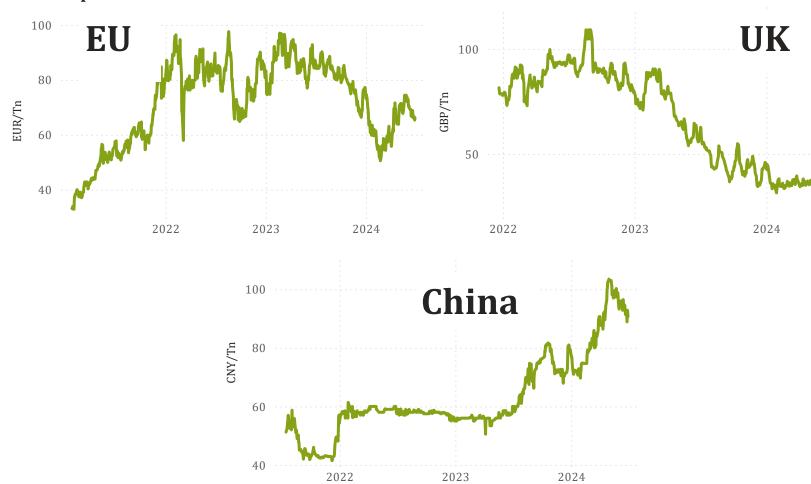




Carbon pricing, emissions and trading

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

Sharp increase in ETS allowance prices at beginning of second quarter leads to higher cost of polluting in China, the EU and the UK.

In Q2 2024, EU and UK carbon prices decreased by 24.1% and 20.6% year-on-year, while the Shanghai ETS rose by 51.1%. Quarter-on-quarter, EU and UK carbon prices increased by 16% and 32%, and the Shanghai ETS showed a smaller 3% rise.

However, the price trends within the quarter were inconsistent. In China, prices peaked at CNY 103 per tonne in late April, then fell from May to June.

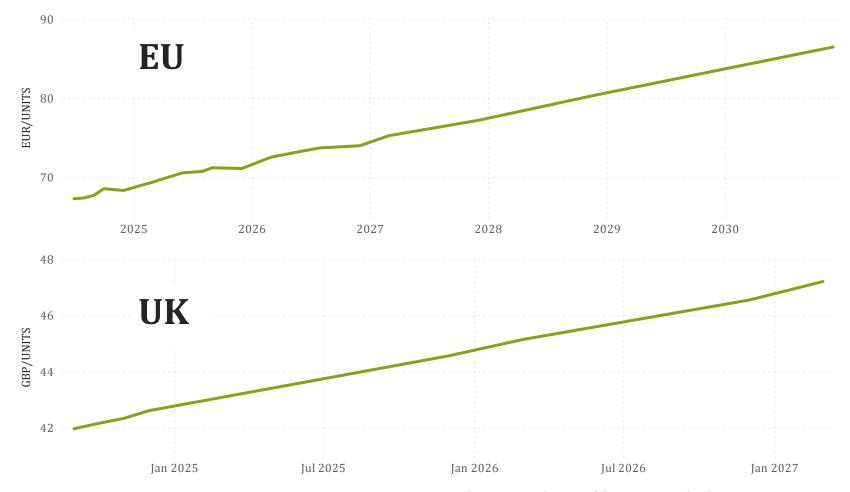
Similarly, after an initial rise, EU and UK prices began to decline by the end of May. While QoQ data shows gains, the late-quarter downward trend highlights the need for caution when interpreting the QoQ growth.

Despite a 20.9% year-to-date increase, the Shanghai ETS remains the cheapest among the major global ETS systems, with a price of CNY 90.66 per tonne (€11.51) as of June 2024..

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



Source: Refinitiv Eikon

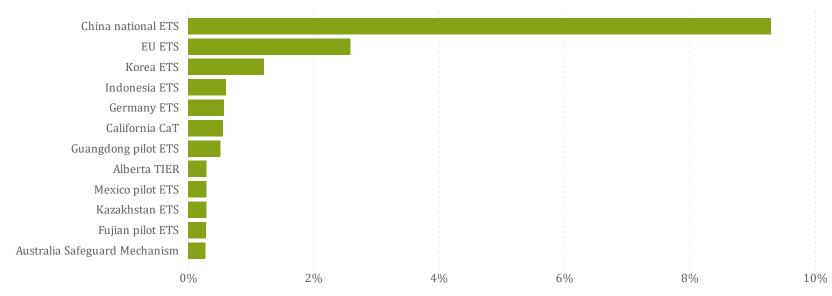
 $\ensuremath{\text{EU}}$: Market curve observed beginning of July 2024

UK: Market curve observed beginning of September 2024

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

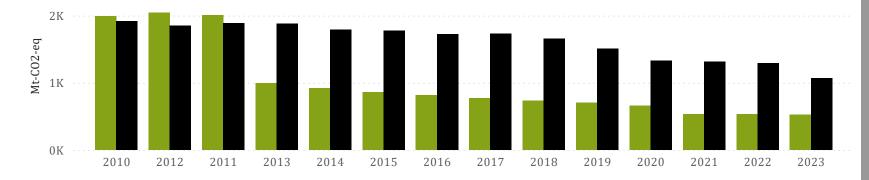
affine / Carbon Emissions coverage Finance for Europe

4.3 Share of annual covered global GHG emissions (updated April 1 2024)



4.4 EU + UK Allowance Vs Verified Emissions

● Freely allocated allowances ● Verified emissions



Source: European Environment Agency, The World Bank (data last updated April 1 2024)

As of April 2024, China stood out as the ETS (Emission Trading Scheme) with the largest contribution, covering 9.30% of global GHG emissions.

Following, the EU continued as the second largest market in emission trading, covering for 2.59% of global GHG emissions. Note that this does not account for national instruments.

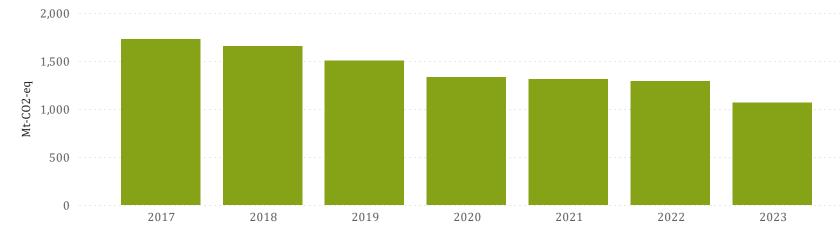
Korea ranks third, with an ETS constituting 1.21% of the global total.

Combining every instruments while accounting for overlap of coverage brings us to 24% of the global GHG emissions that are covered either by an ETS or a carbon tax.

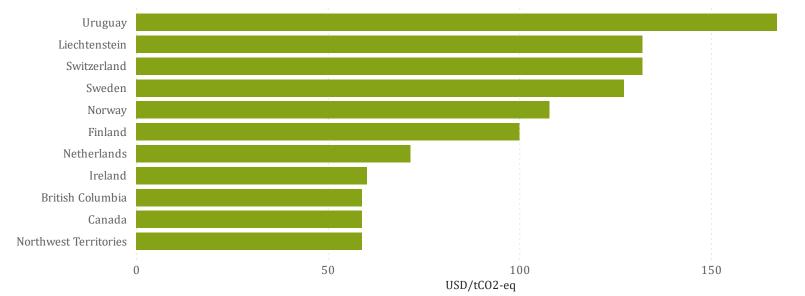
In the EU + UK area, aggregate freely allocated allowances and verified emissions have seen a consistent decrease since 2013. Notably, in 2013, allocated allowances in these regions experienced a significant reduction, falling below the levels of verified emissions for the first time.



4.5 Allowances auctioned or sold (EUAs and EUAAs)



4.6 Carbon Tax by Country (2024)*



Source: European Environment Agency, The World Bank (data last updated April 1 2024)

*Some countries have multiple instruments. Only the main rate is shown for these countries.

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 1066 MtCO2-eq in 2024.

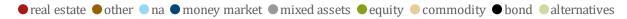
Carbon Taxes are another method of carbon pricing. Uruguay implements the highest carbon tax (167.2 USD/tCO2e), followed by Liechtenstein and Switzerland (132.12 USD/tCO2e each).

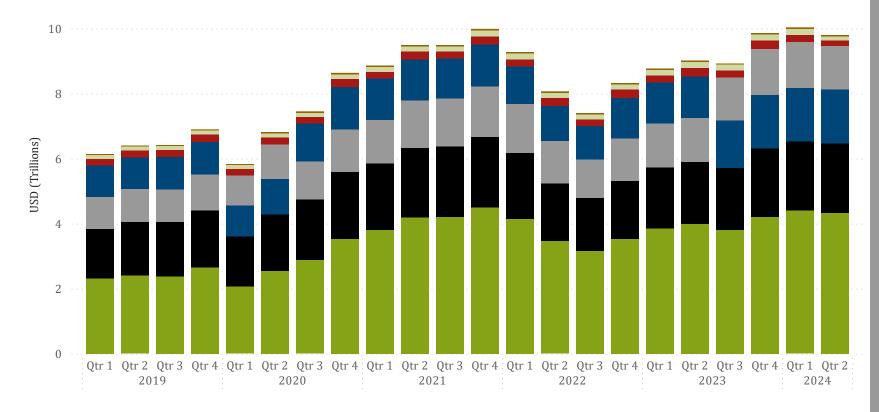


Fund Management



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

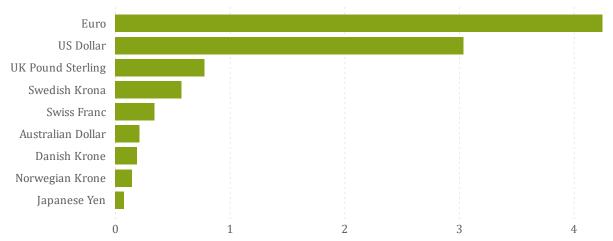
Global funds with an ESG mandate (including Mutual Funds and ETFs) reached USD 9.7tn as of Q2 2024, representing a 1.7% decrease from Q1 2024 and a 9.4% increase from the same quarter of last year.

The quarterly decrease can be attributed to asset depreciation, given that ESG funds experienced a net inflow of USD 37.5 bn at a global level in the second quarter of the year.

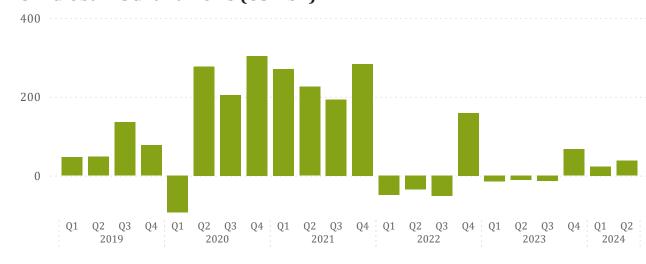
While most asset classes remained relatively stable compared to Q1, real estate and mixed assets have significantly impacted global ESG funds, with declines of 20% and 5.6%, respectively.

afne/ Size of Global ESG Funds Finance for Europe

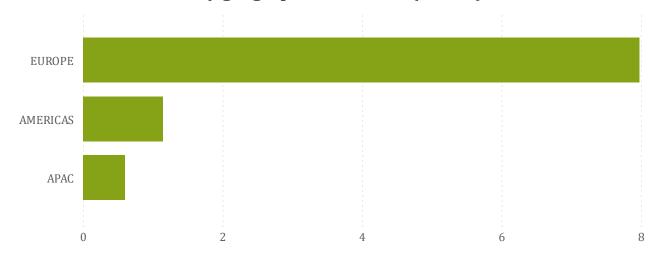
5.2 Global ESG Funds by currency base (top 10 - USD tn)



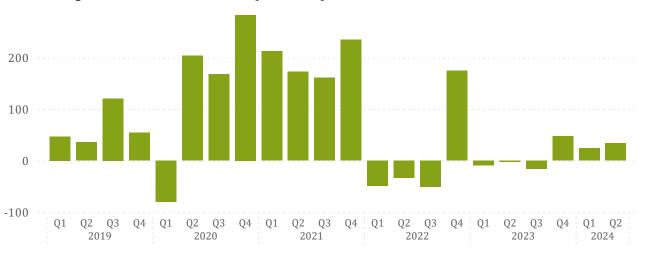
5.4 Global ESG fund flows (USD bn)



5.3 Global ESG Funds by geographical location (USD tn)



5.5 European ESG fund flows (USD bn)

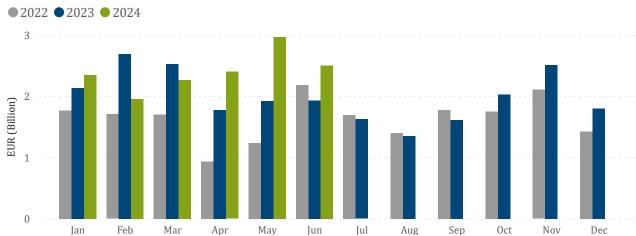




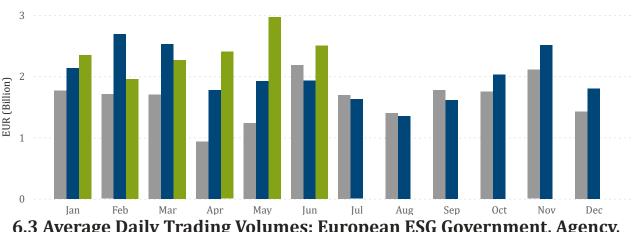
ESG Bond Trading

ESG Bond Trading Volumes Finance for Europe

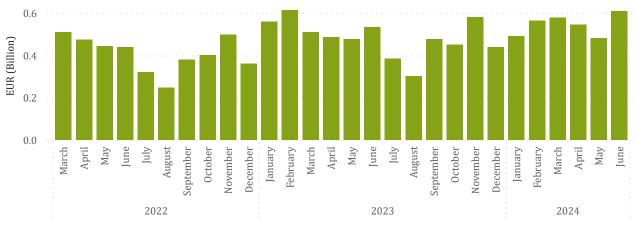
6.1 European ESG Bond Average Daily Trading Volumes (all issuers)



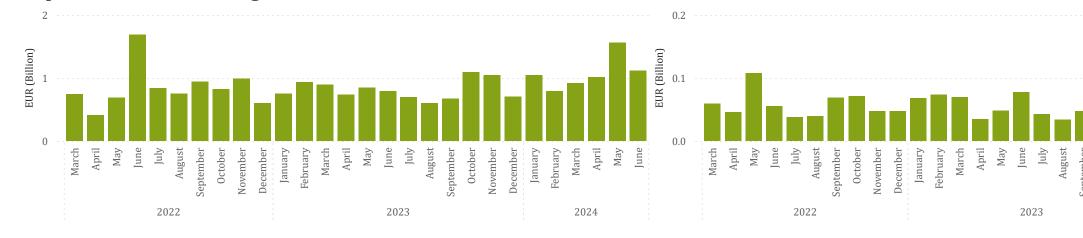
6.3 Average Daily Trading Volumes: European ESG Government, Agency, **Supranational and Sovereign Bonds**



6.2 Average Daily Trading Volumes: European ESG Corporate Bonds



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



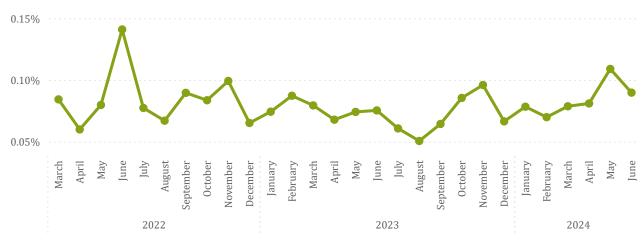
Source: MarketAxess TraX

October November December February

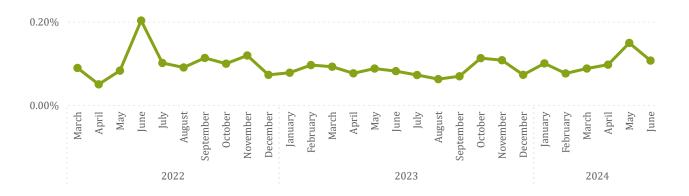
2024

afme/ ESG Bond Turnover Ratios Finance for Europe

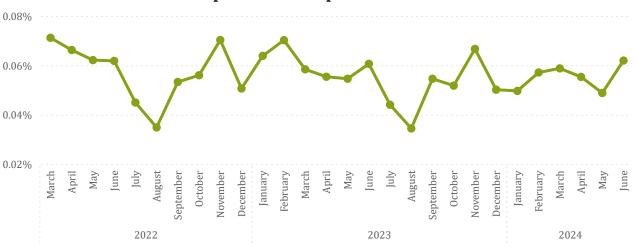
6.5 European ESG Bond Turnover Ratio (all issuers)



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



6.6 Turnover Ratio: European ESG Corporate Bonds



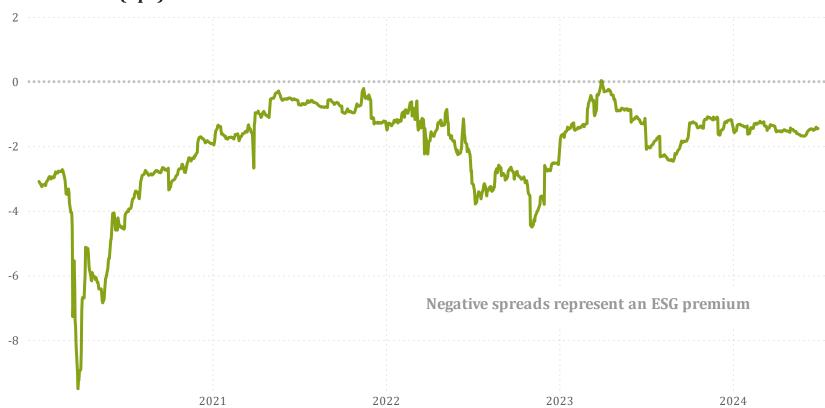
Source: AFME from MarketAxess TraX and Refinitiv Eikon



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 Q2 2024

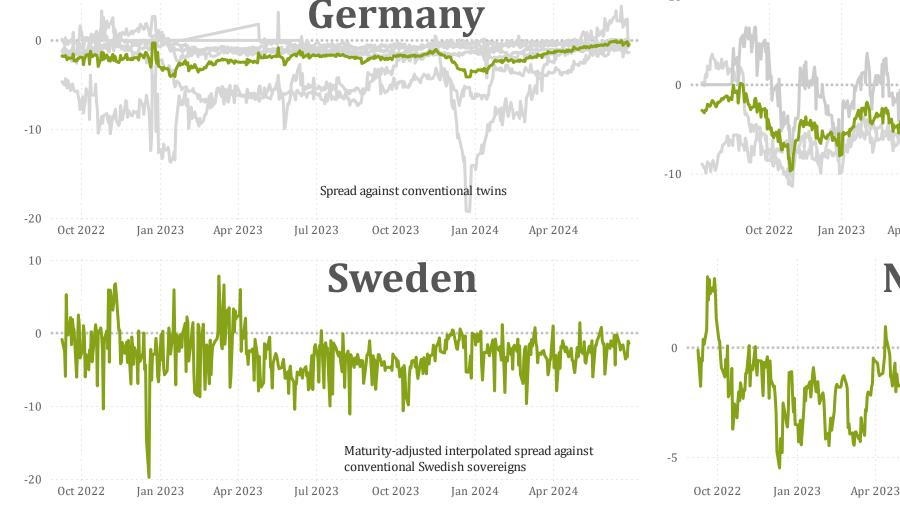
Spreads of corporate ESG bonds compared to non-sustainable benchmarks saw only minimal fluctuations during the first two quarter of the year, on a range of 1.24 to 1.68bps.

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





Jul 2023

Jan 2024

Apr 2024

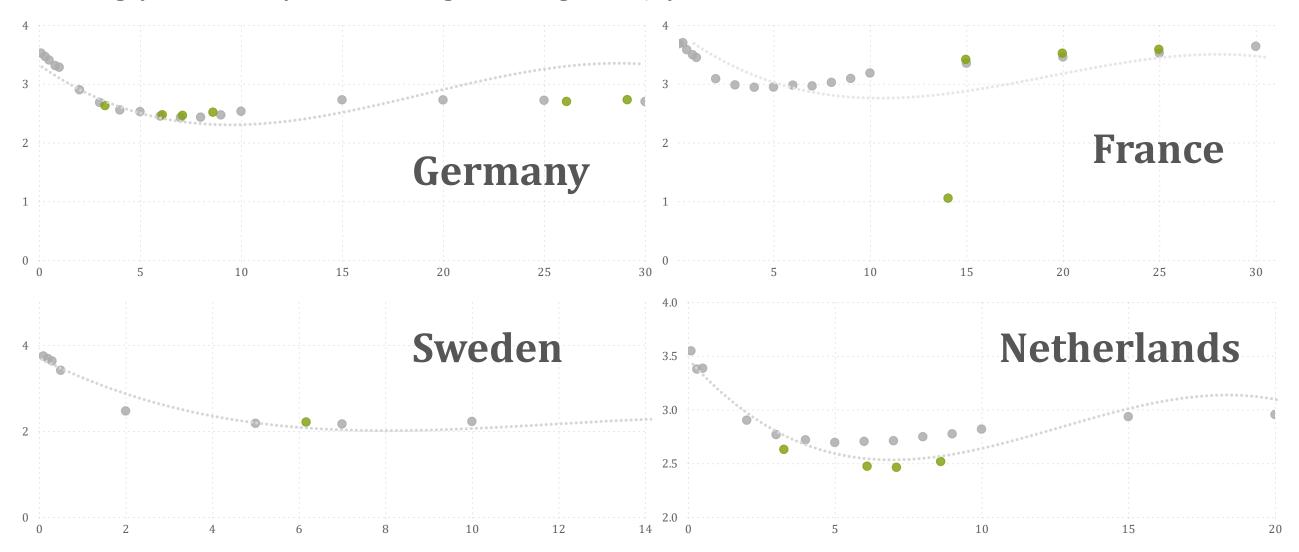
Maturity-adjusted interpolated spread against

conventional Dutch sovereigns

Oct 2023

afne/ Sovereign green premia

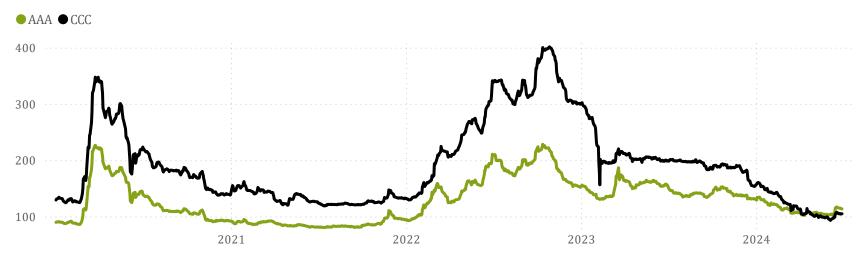
7.3 Sovereign yield curves and yields for selected green sovereign bonds. July 2024



afme/ESG Bond Spreads Finance for Europe



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



afne / ESG Bond Spreads Finance for Europe

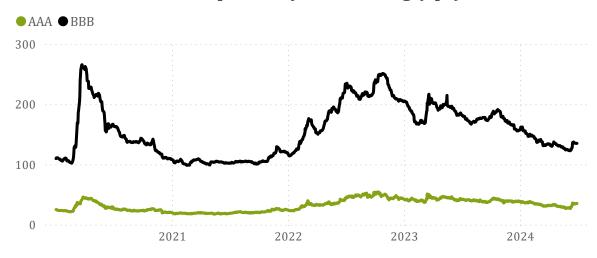
7.6 Green bond spreads by currency (OAS, bps)



7.7 EUR Corporate green bond spread (OAS, bps)



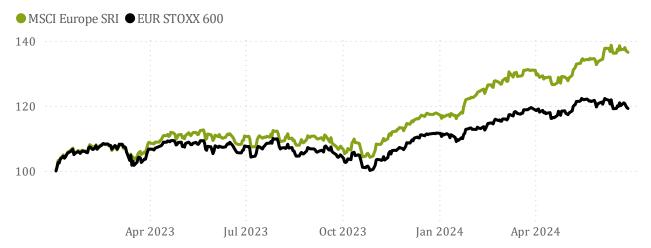
7.8 Global Green bond spreads by credit rating (bps)



Source: Barclays and Bloomberg

afne/ ESG Bond Spreads Finance for Europe

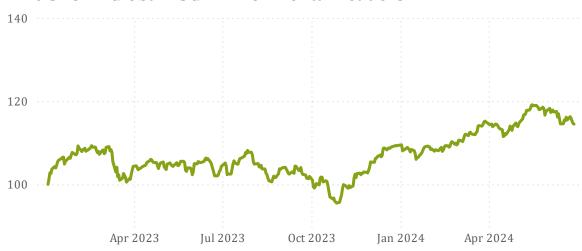
7.9 MSCI Europe SRI Net Index EUR and EUR STOXX 600 (1 Jan 2023 = 100)



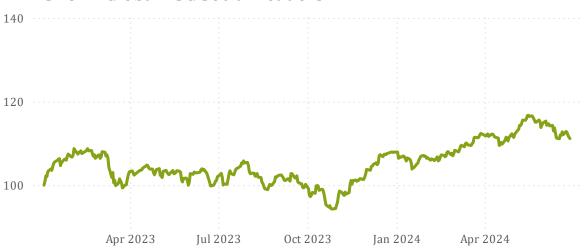
7.11 STOXX Global ESG Governance Leaders



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.

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