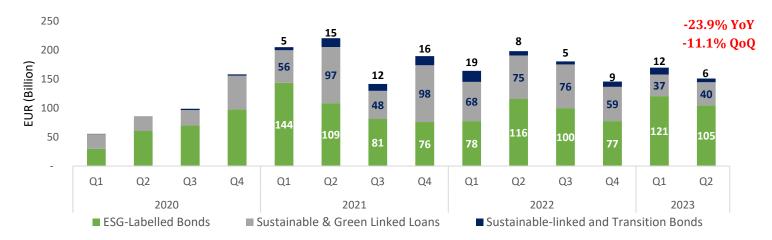


afme/ Contents Finance for Europe

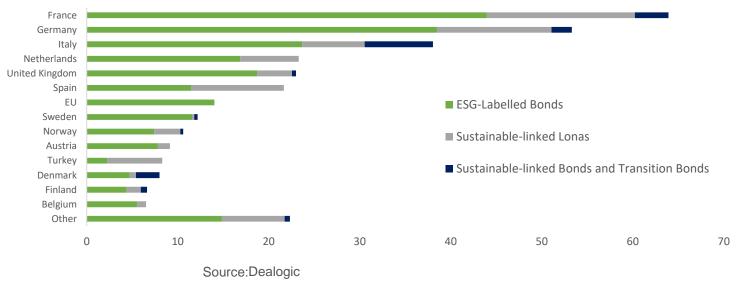
Key Findings	3
Regulatory Update	8
ESG Bond and Loan Issuance	11
ESG Bonds Outstanding	19
Carbon Pricing, Emissions and Trading	23
Fund Management	28
ESG Bond Trading	31
Valuations	34
Methodology and Criteria	41

afme/ Key findings

1.1 European ESG Bond and Loan Issuance 2020-2023 (Q2)



1.2 European ESG Bond and Loan Issuance by Country: EURbn (2023 YtD Q2)



In Q2'23, European ESG bond and loan issuance accumulated a total of €151bn in proceeds, declining 23.9% year-on-year (YoY) and 11.1% quarter-on-quarter (QoQ).

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

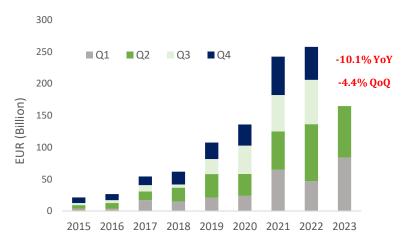
ESG-labelled bonds represented the largest portion of total ESG issuance, accumulating €105bn in proceeds during Q2'23, with Sustainable & Green Linked Loans following behind at €40bn, and sustainable-linked bonds representing the remaining €6bn.

French issuers maintained their leading position in total ESG bond and loan issuance, followed by German and Italian issuers.

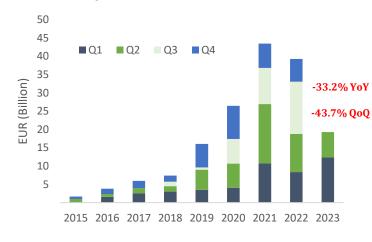
During H1'23, ESG Securitisation issuance accumulated €1.1bn in proceeds. No issuance was recorded in Q2'23.

afme/ Key findings

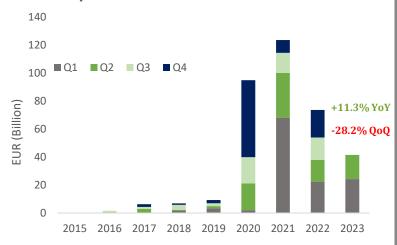
1.3 European Green Bond Issuance



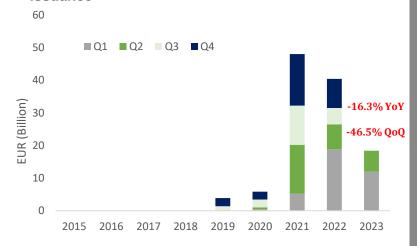
1.5 European Sustainable Bond Issuance



1.4 European Social Bond Issuance



1.6 European Sustainable-linked and transition Bond Issuance



Source: Dealogic

A quarterly contraction for all ESG segments

ESG-labelled bond issuance which comprises Green, Social and Sustainable bonds, accumulated €105bn in proceeds in Q2 2023.

All segments of the ESG-labelled market experienced a quarterly and yearly contraction in Q2 2023, with the exception of the social segment, which exhibited an annual increase.

Strong Q1'23 issuance contributed to H1 growth

A closer inspection, however, shows that half year volumes for ESG-labelled bonds have increased 17% YoY predominantly driven by the robust green bond issuance during Q1'23.

Sustainable-linked bonds have not continued the fast pace of 2021 and 2022 with a sharp quarterly decline of 46.5% QoQ and a 16.3% YoY decrease. Half-year volumes also declined by 31% against the first half of last year with fewer originations by the corporate sector.



Top single ESG bond issues by amount in 2023 YtD

)
•
7

During the first half of 2023, the sovereign sector had a significant participation across the green and sustainable primary markets. The largest single issue was originated by the Government of Italy in mid-April with a deal value of €10 bn.

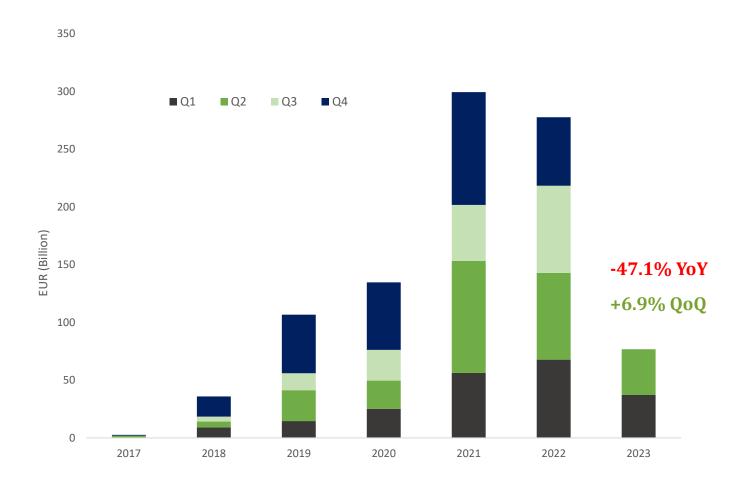
Other large single sovereign issues were issued during the first half of 2023:

- The European Commission, on behalf of the EU, with a total amount of €6bn (late March'23)
- The German government issued two new green bunds as part of the government sustainability strategy for €5 bn (issued in April and later reopened in July for an additional €1.2bn) and €4.2 bn (issued in June). Both green bunds have a conventional twin pair with same maturity date.
- The Republic of Ireland (€3.5 bn in January).
- Republic of Cyprus inaugural sustainable 10-year EUR bond (€1bn in April)
- The Republic of Slovenia largest Sustainability bond for €1.25bn (January)

The French Caisse d'Amortissement de la Dette Sociale (CADES) continues to consolidate as a market leader for social bonds.

afme/ Key findings

1.7 European sustainability-linked and Green-linked Loan Issuance 2017-2023 (Q1)



Sustainability-linked and green-linked loan origination decreased 47.1% to EUR 39.7bn in Q2'23 from EUR 75.0bn in Q2'22 but increased 6.9% QoQ from EUR 37.1bn Q1'23.

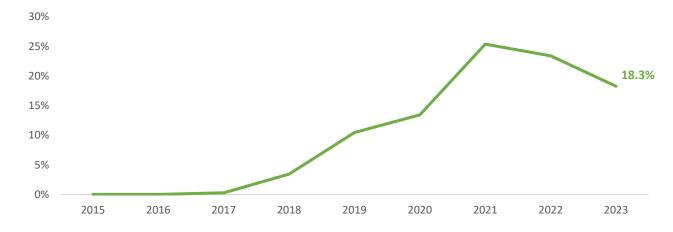
The total originated amount during H1'23 stands at around half the total amount originated in H1'22 and in H1'21.

afme/ Key findings

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, sustainable-linked and transition bonds, represented 18.6% of total European bond issuance during 2023YtD, a lower proportion from 21.3% in 2022 FY and 19.7% in 2021 FY. This was comprised of 12.6% green bonds, 3.2% social bonds, 1.5% sustainable bonds, 1.4% of sustainable-linked and transition bonds [SeeChart1.8]

The decline in the proportion of ESG bond issuance relative to the total was driven by the growth of total bond issuance (c30% during H1'23), a faster rate than that of ESG products during the period (17%).

Sustainability-linked and Green-linked loan issuance represented 18.3% of total European syndicated loan origination during 2023YtD, down from 23.4% in FY 2022 [SeeChart1.9].



Regulatory Update

Q1

Q2

- EU Green Bond Standard agreement reached
- SFDR RTS to apply
- European Commission announces members of the new mandate of the Platform on Sustainable Finance
- European Commission publishes responses to key SFDR questions raised by the ESAs
- European Commission mandates ESAs to conduct a climate risk scenario analysis exercise
- EBA launches industry survey on green loans and mortgages
- First Pillar 3 reporting of ESG risks due to be published
- ECB publishes first own climate report on corporate bond holdings
- UK Government publishes refreshed Green Finance Strategy
- FCA consults on sustainable governance, incentives and competence in regulated firms
- TNFD releases its Beta v0.4 framework for nature-related financial disclosures
- BCBS begins assessing implementation of principles on climate risk management
- ESAP agreement reached
- European Commission adopts Taxonomy Environmental Delegated Act for 'Taxo4', targeted amendments to the Disclosures Delegated Act (Art. 8) and Climate Delegated Act
- European Commission proposes a Regulation to strengthen the reliability and comparability of ESG ratings
- European Commission consults on sector-agnostic Sustainability Reporting Standards (ESRS)
- UK Government consults on a potential regulatory regime for providers of ESG ratings
- ESAs publish progress reports on greenwashing practices in the EU financial sector
- ESAs consult on the review of SFDR Delegated Regulation
- ISSB publishes first two Standards S1 (General Requirements) and S2 (Climate-related Disclosures)

Q3

Q4

- European Commission to adopt first set of ESRS as a Delegated Act
- Negotiations on EU ESG Ratings Regulation begin in European Parliament and Council
- Final negotiations on the Corporate Sustainability Due Diligence Directive (CS3D) to continue
- UK Government to consult on the introduction of requirements for the UK's largest companies to disclose their transition plans
- UK Government to consult on Scope 3 GHG emissions reporting
- UK Government to consult on the delivery of a UK Green Taxonomy
- FRC issues call for evidence to inform the UK's approach to the endorsement of IFRS S1 and S2
- FCA to publish policy statement on Sustainability Disclosure Requirements and product labels
- IOSCO publishes final report on Compliance Carbon Markets
- TFND to release its final framework for nature-related financial disclosures

Agreement on CS3D expected (tbc)

- European Commission to carry out comprehensive assessment of the SFDR frameworks and consultation
- European Commission to adopt guidance focusing on Taxonomy alignment reporting obligations for financial undertakings
- Platform on Sustainable Finance to publish report on usability of the framework
- ESAs to submit final report on the review of SFDR Delegated Regulation
- UK Transition Plan Taskforce to publish final disclosure framework and implementation guidance
- UK Transition Plan Taskforce to consult on sectoral Transition Plan Templates
- UK Government to consult on the specific steps and interventions needed to mobilise additional finance through high-integrity voluntary carbon markets
- Deadline for SSM banks to integrate climate and environmental risks in their governance, risk management and strategy
- IAASB to consult on draft standards for sustainability reporting assurance
- IOSCO to publish final Report on Voluntary Carbon Markets

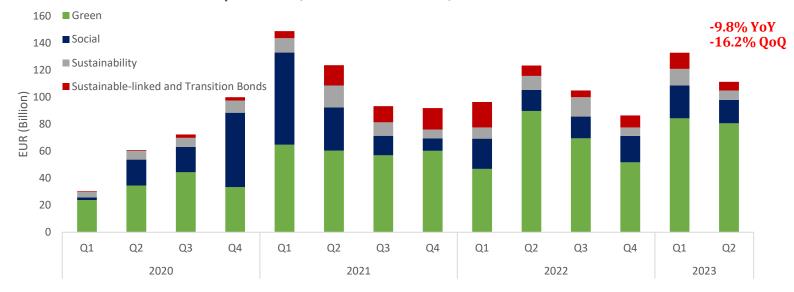


ESG Bond and Loan Issuance

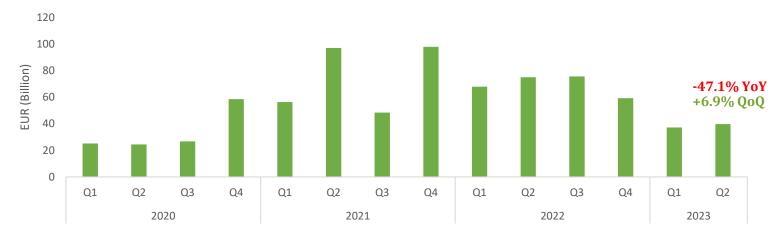


ESG Bond and Loan Issuance

2.1 European ESG, sustainable linked, and transition bond issuance



2.2 European sustainability linked and Green linked Loan Issuance



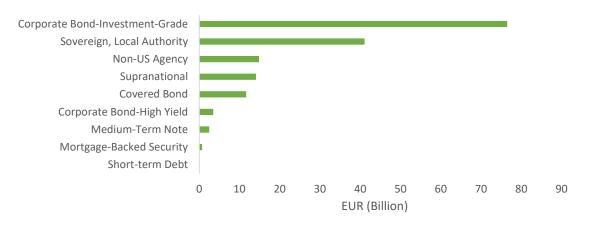
Source: Dealogic

In Q2 2023 ESG, sustainable-linked and transition bond issuance accumulated €111bn in proceeds, with an annual and quarterly decrease of 9.8% YoY and 16.2% QoQ.

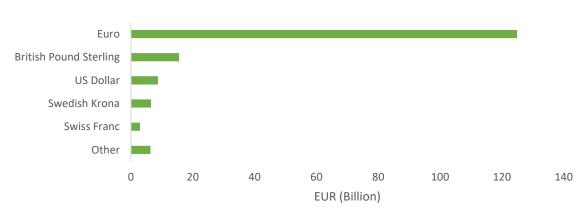
ESG linked loans increased 6.9% compared to last quarter to EUR 39.7bn but exhibited a YoY drop of 47.1%.

afme/ Green Bond Issuance

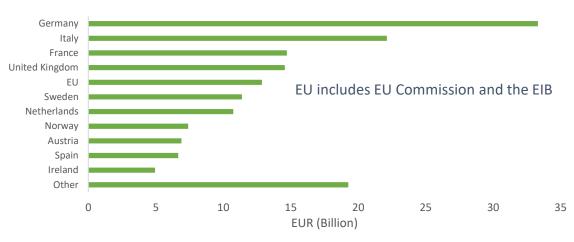
2.3 Green Bond Issuance by Deal Type 2023 YtD (Q2)



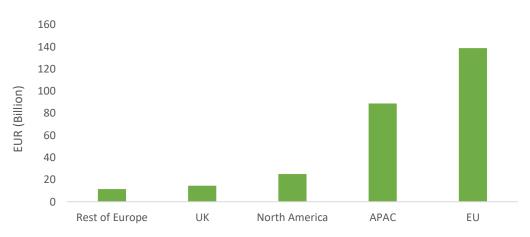
2.5 Green Bond issuance by Currency 2023 YtD (Q2)



2.4 Green Bond Issuance by Country (top 10) 2023 YtD (Q2)

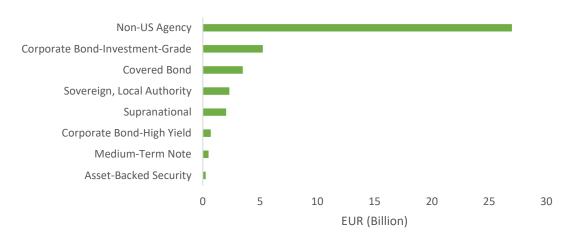


2.6 Green Bond Issuance Global Comparison 2023 YtD (Q2)

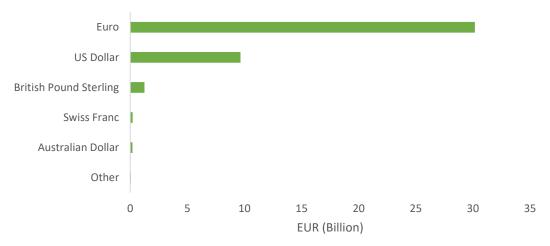


afme/ Social Bond Issuance

2.7 Social Bond Issuance by Deal type: 2023 YtD (Q2)

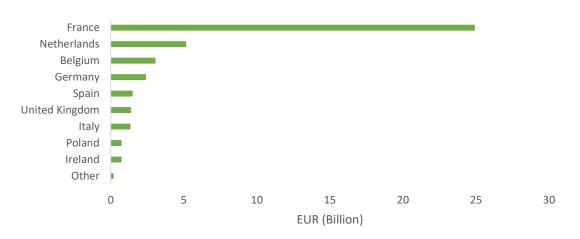


2.9 Social Bond Issuance by Currency: 2023 YtD (Q2)

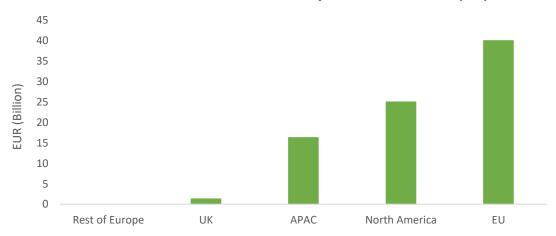


Source: Dealogic

2.8 Social Bond Issuance by Country: 2023 YtD (Q2)



2.10 Social Bond Issuance Global Comparison: 2023 YtD (Q2)

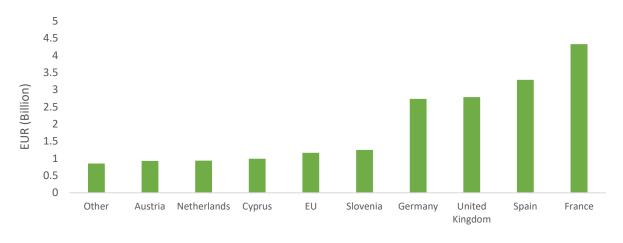




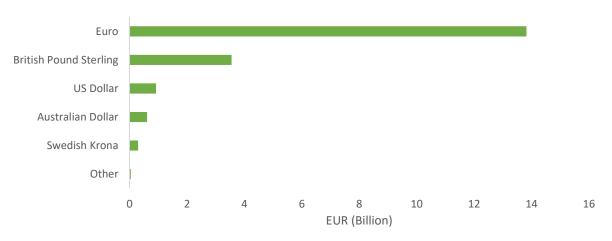
Sustainable Bond Issuance

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

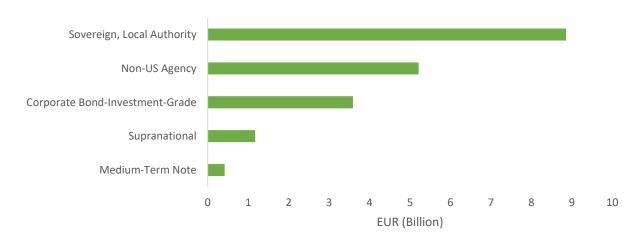
2.11 Sustainable Bond Issuance by Country: 2023 YtD (Q2)



2.12 Sustainable Bond Issuance by Currency: 2023 YtD (Q2)

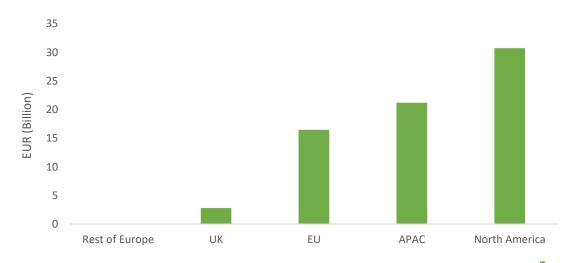


2.13 Sustainable Bond Issuance by Deal Type: 2023 YtD (Q2)



Source: Dealogic

2.14 Sustainable Bond Issuance Global Comparison: 2023 YtD (Q2)

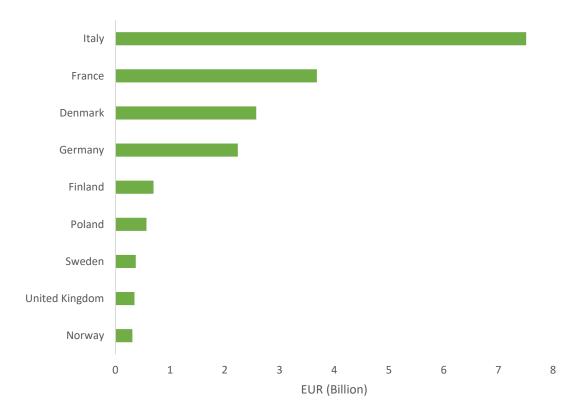




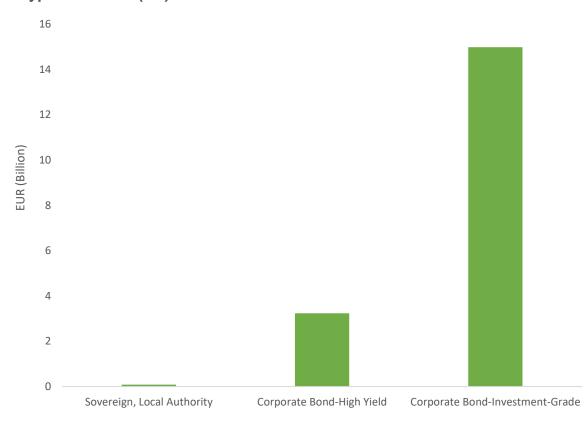
Sustainable-linked and Transition Bond Issuance

Sustainable-linked bonds are performance-based bonds where payment is contingent on pre-determined KPIs which are aligned with sustainability strategies. Transition bonds are brown bonds issued by carbon intensive companies with the intention of starting to green their operations.

2.15 European Sustainable-linked Bond Issuance by Country: 2023 YtD (Q2)



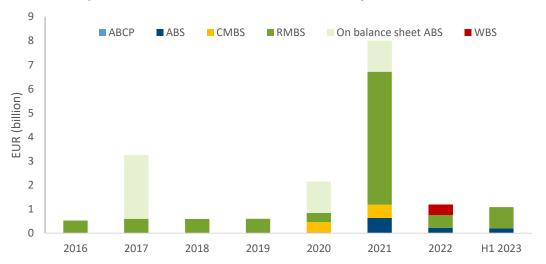
2.16 European Sustainable-linked Bond Issuance by Deal Type: 2023 YtD (Q2)



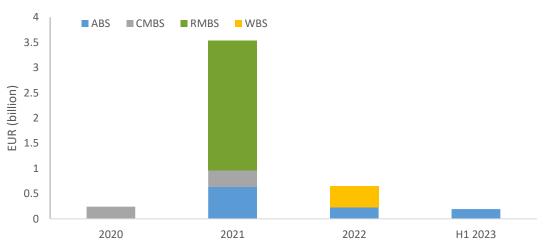
Source: Dealogic

afme/ ESG Securitisation Issuance

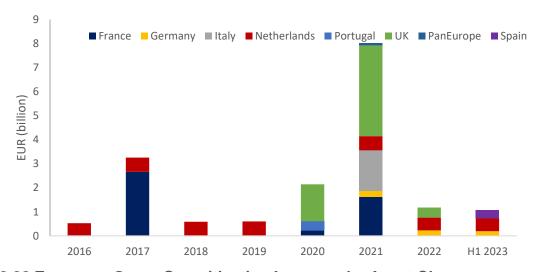
2.19 European ESG Securitisation Issuance by Asset Class



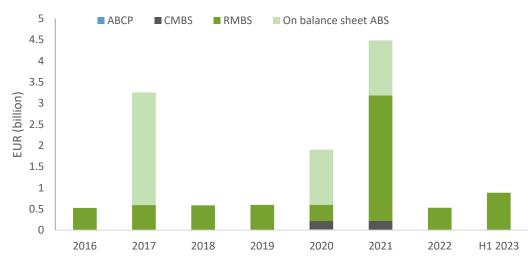
2.21 European Social and Sustainable Securitisation Issuance by Asset Class



2.20 European ESG Securitisation Issuance by Country



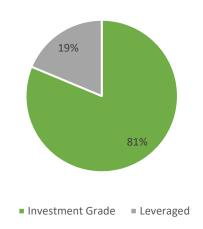
2.22 European Green Securitisation Issuance by Asset Class



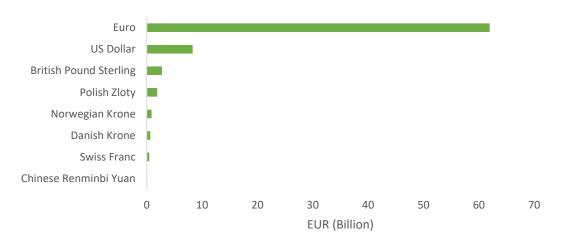
Source: AFME, Climate Bond Initiative, Credit Agricole, S&P, and European Data Warehouse

afme/ ESG linked and Green Loan Issuance

2.23 ESG linked and Green Loan Issuance by Deal Type: 2023 YtD (Q2)

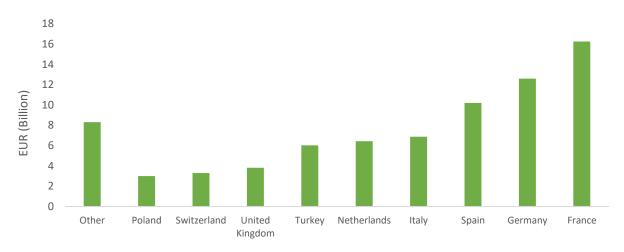


2.25 ESG linked and Green Loan Issuance by Currency: 2023 YtD (Q2)

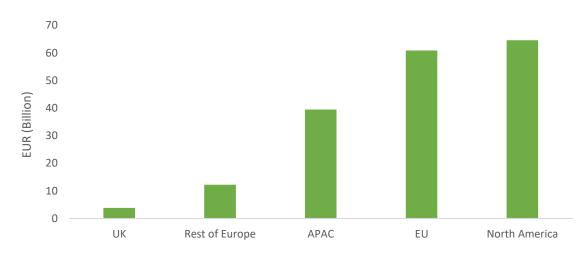


Source: Dealogic

2.24 ESG linked and Green Loan Issuance by Country: 2023 YtD (Q2)



2.26 ESG linked and Green Loan Issuance Global Comparison 2023 YtD (Q2)

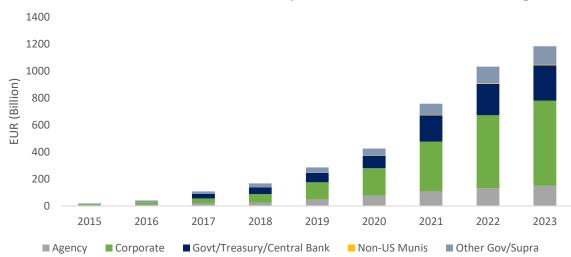




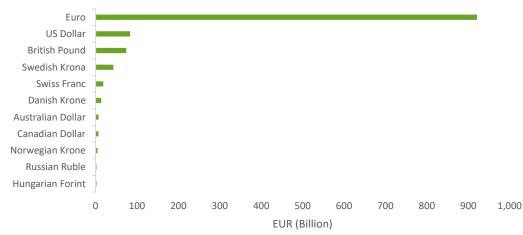
ESG Bonds Outstanding

afme/Green Bonds Outstanding

3.1 Evolution of European Green Bonds Outstanding

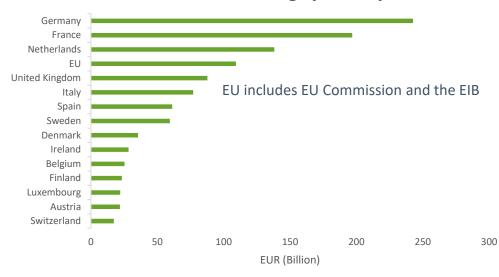


3.3 Outstanding Amount by Currency

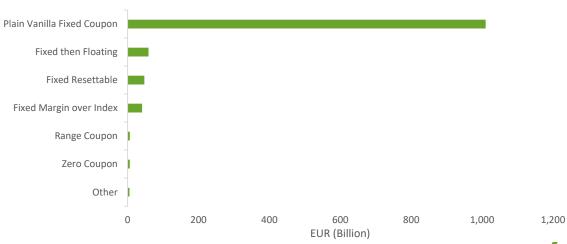


Source: Refinitiv Eikon

3.2 Green Bonds outstanding by Country

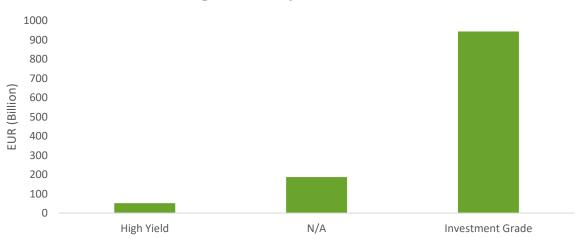


3.4 Outstanding Amount by Coupon Type

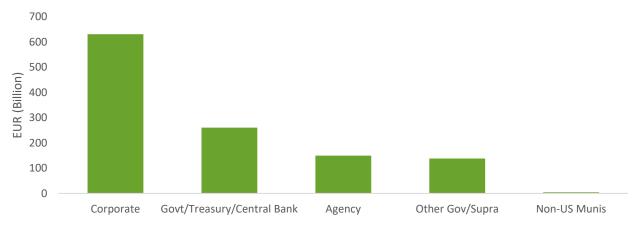


afme/ Green Bond Outstanding

3.5 Outstanding Amount by Bond Grade

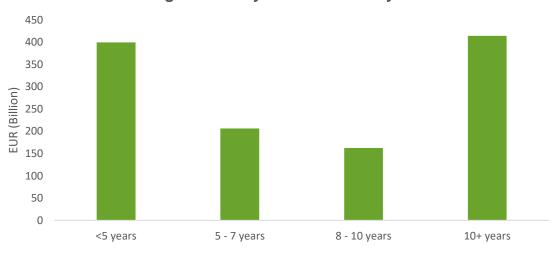


3.7 Outstanding Amount by Asset Class

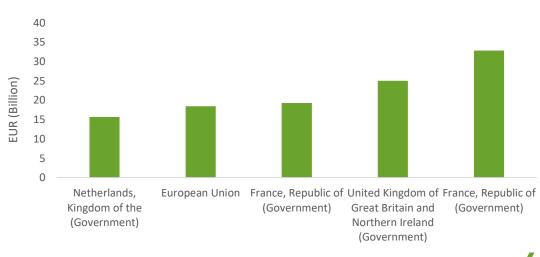


Source: Refinitiv Eikon

3.6 Outstanding Amount by Years to Maturity



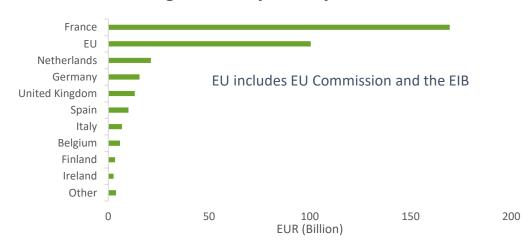
3.8 Outstanding by Top 5 Issuers



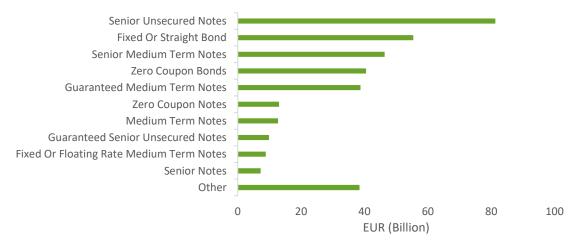
afme/ Social Bonds Outstanding

3.9 Evolution of Outstanding 400 ■ Mortgage-backed 350 ■ Investment Grade Corporate 300 ■ High Yield Corporate ■ Federal Credit Agency 250 EUR (Billion) ■ Emerging Market Corporate Investment Grade Corporate Asset-backed ■ Agency, Supranational, Sovereign 100 50 2015 2016 2017 2018 2019 2020 2021 2022 2023

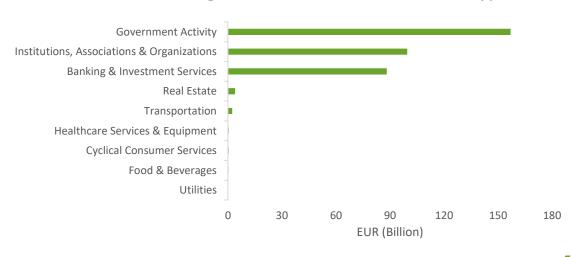
3.10 Outstanding Amount by Country



3.11 Outstanding Amount by Security Type



3.12 Outstanding Amount Issuer Economic Sector Type



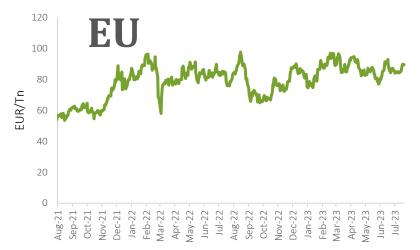
Source: Refinitiv Eikon

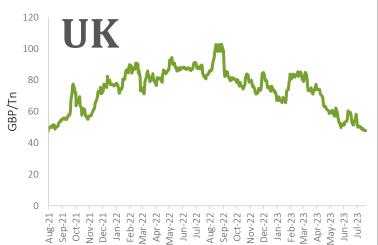


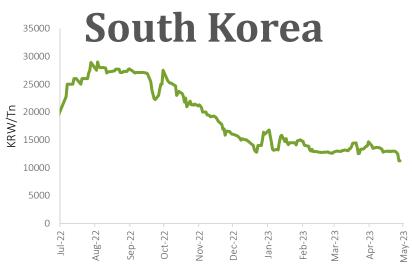
Carbon pricing, emissions and trading

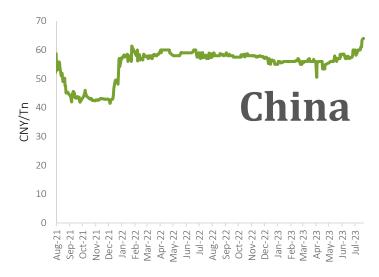
afme/ Carbon Market Prices

4.1 Comparison of Global ETS Allowance Prices









Source: Refinitiv Eikon *China's ETS includes exclusively the Shanghai ETS. Does not include other pilot programmes (Shenzen, Beijing, Guangong, Tianjin, Hubei, Chongqing, or Fujian)

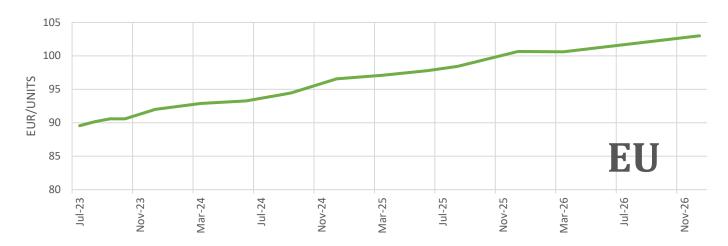
Some degree of divergence has been observed between EU and UK carbon prices in the course of the year, with European Union Allowance (EuA) carbon prices standing 10% above December 2022 levels while UK carbon prices have accumulated a decline of 35% over the same period.

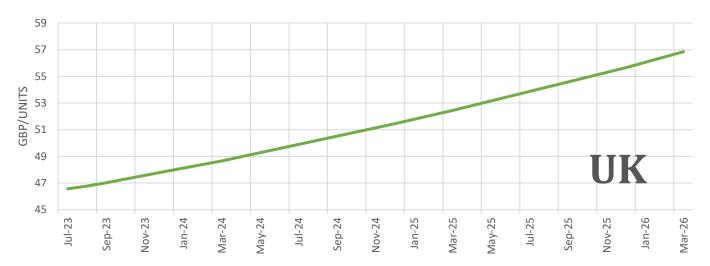
The Shanghai ETS has maintained the distinction of having the lowest prices among the main global ETS systems with a price per metric tonne of CNY64 as of Jul 2023 (€8.1/ Tonne.) The carbon prices in China, however, recently increased after a period of minimal fluctuations observed from Q3'22 to Q1'23.

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

afme/ Carbon Market Future Prices

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





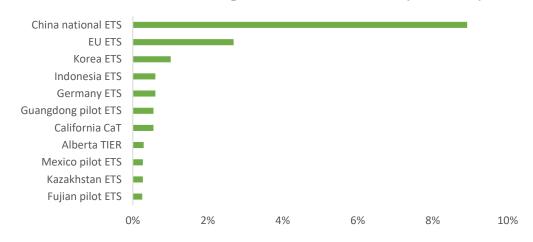
Source: Refinitiv Eikon

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

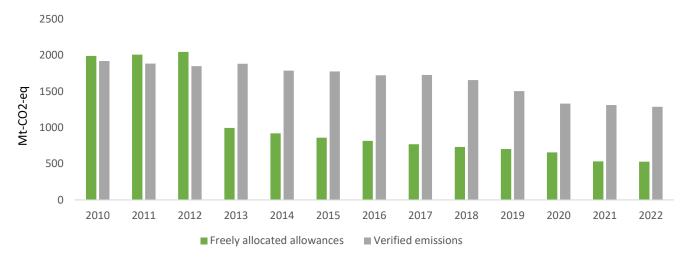


Measurement of Carbon Emissions

4.3 Share of annual global GHG emissions (Mar 2023)



4.4 EU 27 + UK Allowance Vs verified Emissions



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

As of 2023, China had the largest emissions trading scheme, with a global share of 8.92% of annual GHG emissions.

The European Union Emissions Trading System (EU ETS) remains the second largest green-house gas ETS globally, with a global share of 2.69%.

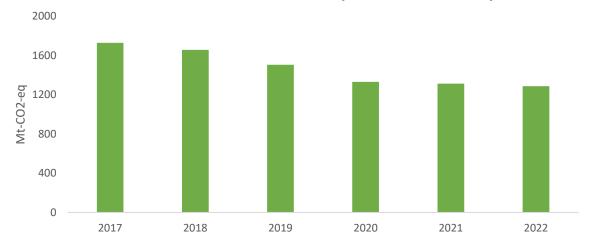
The third largest ETS globally is the Korea ETS, with a share of 1.01%.

EU+UK verified emissions have continuously decreased since 2013.

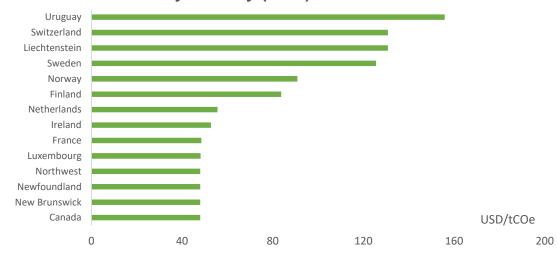


Carbon Pricing – Allowance & Tax

4.5 Allowances auctioned or sold (EUAs and EUAAs)



4.6 Carbon Tax by Country (2022)



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

The EU ETS involves a cap being set on the total amount of certain greenhouse gases that can be mitted by companies covered by the system. The cap is reduced over time so that total emissions fall.

Within the cap, companies receive or buy emission allowances, which they can trade as needed. The limit on the total number of allowances available ensures that they have a value.

Every year a company must surrender enough allowances to cover all its emissions. If a company reduces its emissions, it can keep the spare allowances to cover its future needs or sell them to another company that is short of allowances.

Total allocated allowances (EUA and EUAA) continued to decreased from 1311.83 MtCO2-eq in 2021 to 1286.62 MtCO2-eq in 2022.

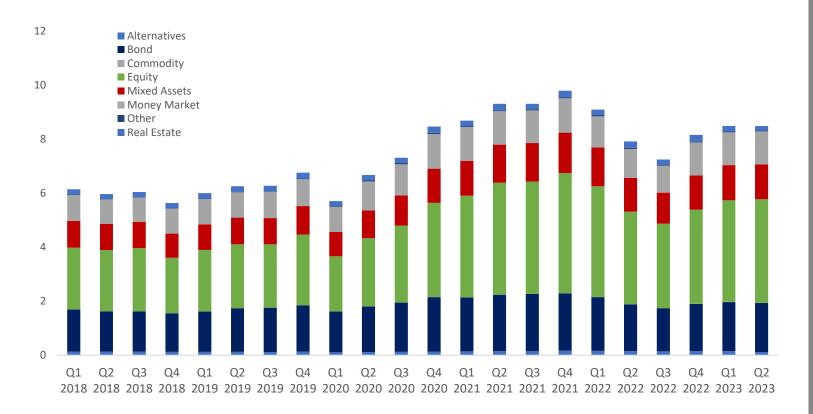
Carbon Taxes are another method of carbon pricing. Uruguay currently has the highest carbon tax globally at 155.9 USD/tCO2e. The country with second highest carbon tax is Switzerland, at 130.8 USD/tCO2e.



Fund Management

afme/Global ESG funds

5.1 Global ESG Funds by Asset Class (USD tn)



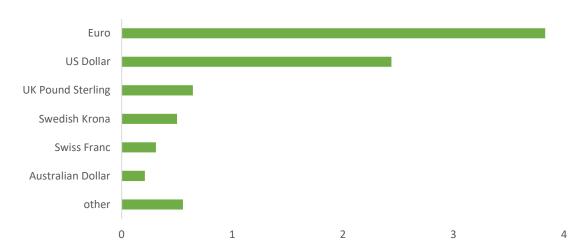
Global Funds with an ESG mandate (including Mutual Funds and ETFs) reached a value of \$8.4tn as of Q2'23, representing a 25.3% increase from Q2'22 but a marginal decrease of 0.1% when compared to Q1'23.

The majority of the asset classes did not exhibit significant changes during the quarter, with the exception of Real Estate (-20.6% QoQ) and Alternatives (-22.9% QoQ)

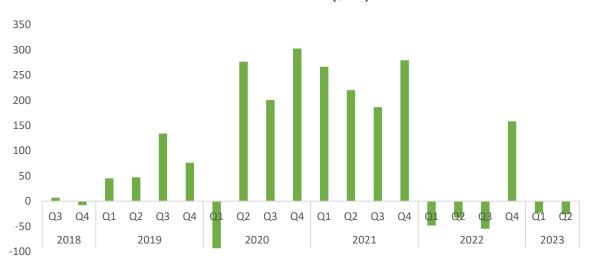
During the last quarter, the marginal decline in Global ESG funds was accompanied by net outflows, which accumulated a total of \$26.3bn during the second quarter of 2023, as observed in chart 5.4.

afme/ Size of Global ESG Funds Finance for Europe

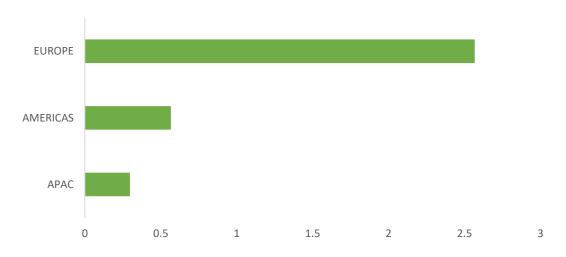
5.2 Global ESG Funds by currency base (USD tn)



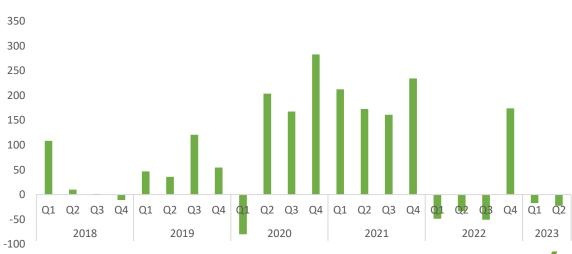
5.4 Global ESG fund flows (\$bn)



5.3 Global ESG Funds by geographical location (USD tn)



5.5 European ESG fund flows (\$bn)



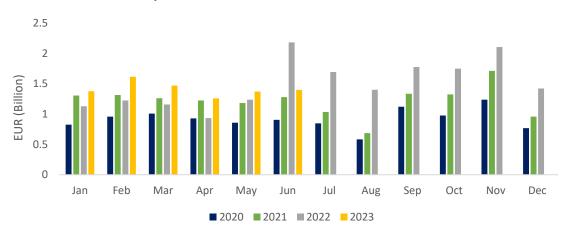


ESG Bond Trading

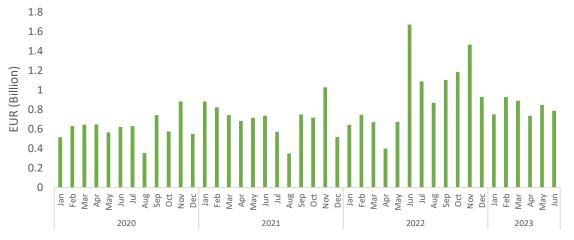
afme/ Finance for Europe

ESG Bond Trading Volumes

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

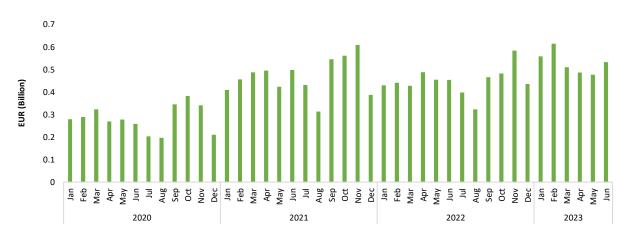


6.3 Average Daily Trading Volumes: European ESG Government, Agency, Supranational, and Sovereign Bonds

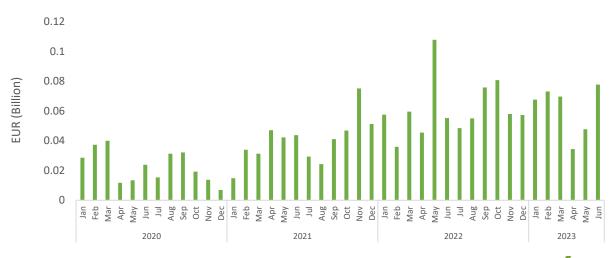


Source: MarketAxess TraX

6.2 Average Daily Trading Volumes: European ESG Corporate Bonds

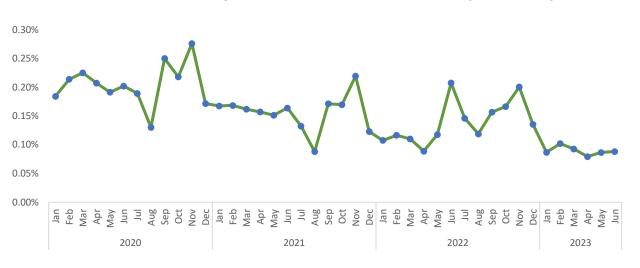


6.4 Average Daily Trading Volumes: European ESG ABS and Covered Bonds

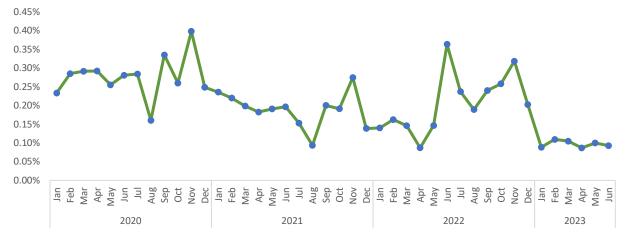


afme/ ESG Bond Turnover Ratios

6.5 European ESG Bond Turnover Ratio (all issuers)

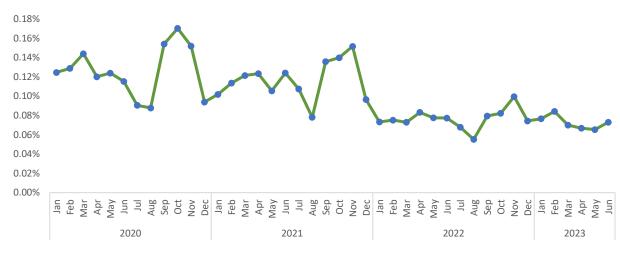


6.7 Turnover Ratio: European ESG Government, Agency, Supranational, and Sovereign bonds



Source: AFME from MarketAxess TraX and Refinitiv Eikon

6.6 Turnover Ratio: European ESG Corporate Bonds



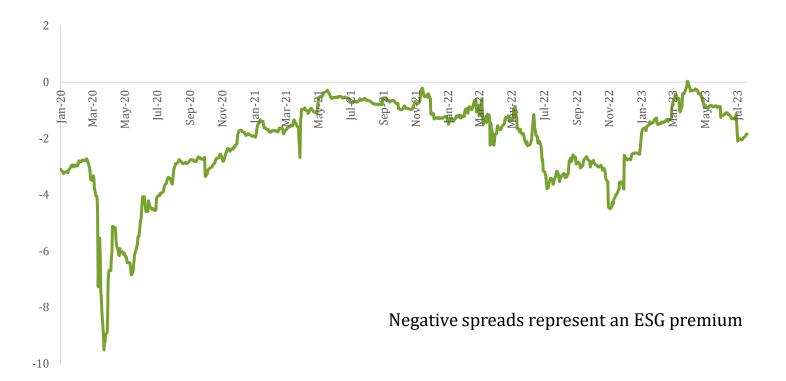
^{*} Turnover Ratio has been calculated by dividing the average daily trading volume by the outstanding amount



Valuations

afme/ ESG premia

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

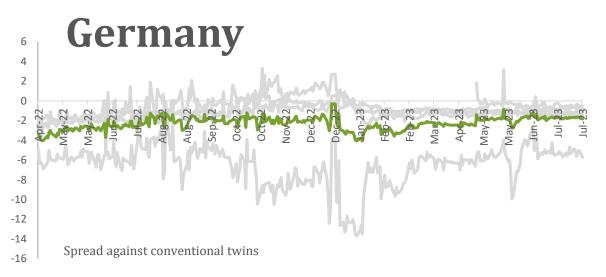


Spreads of corporate ESG bonds against non-sustainable benchmarks widened in the second quarter of the year from c0.2bps at the start of April to c1.8bps in late July 2023.

As shown on pages 36 and 37, the green premia (i.e. greenium) for sovereign bonds varies by issuer and by instrument, suggesting that in addition to the sustainability features of the sovereign benchmarks, other technical factors such as liquidity may influence yield premia against conventional bonds.

afme/ Sovereign green premia

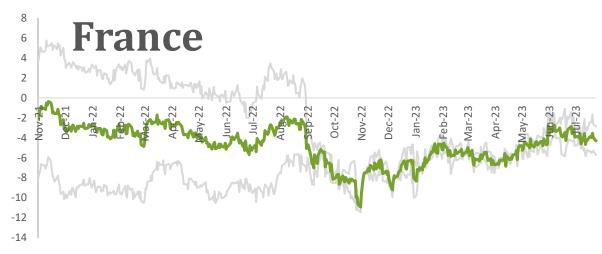
7.2 Spreads of sovereign green bonds against conventional reference (bps)





Source: Refinitiv Eikon and Datastream

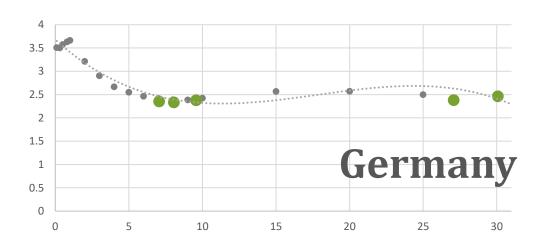
Negative spreads represent a green premium

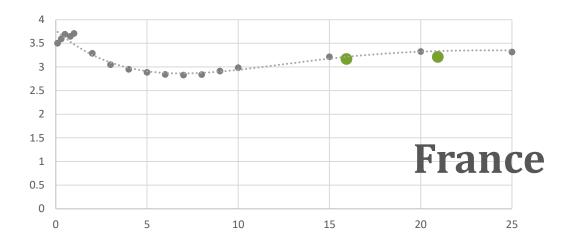


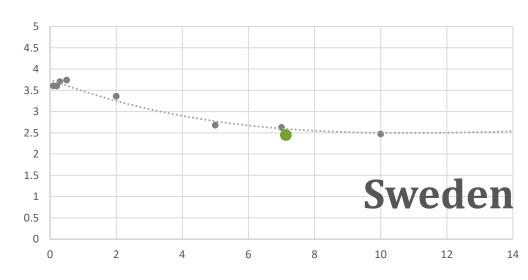


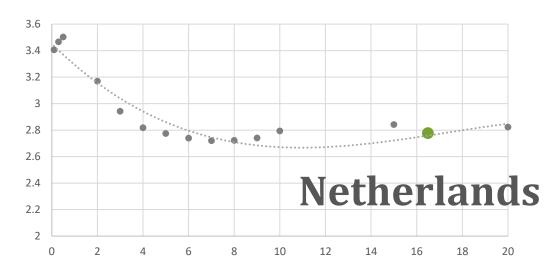
afme/ Sovereign green premia

7.3 Sovereign yield curves and yields for selected green sovereign bonds. 25 Jul 2023











ESG Bond Spreads



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



Source: Barclays and Bloomberg

afme/ Green Bond Spreads

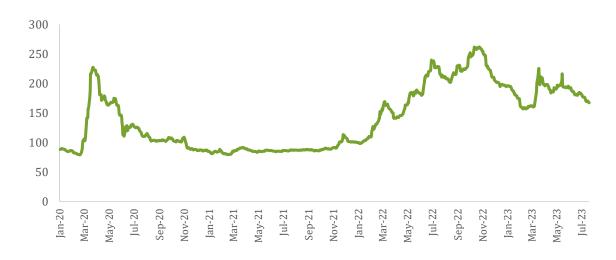
7.6 Green bond spreads by currency (OAS, bps)



7.8 Global Green bond spreads by credit rating (bps)

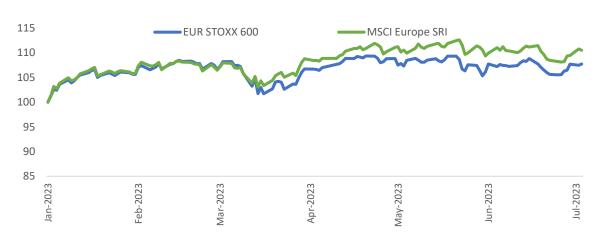


7.7 EUR Corporate green bond spread (OAS, bps)

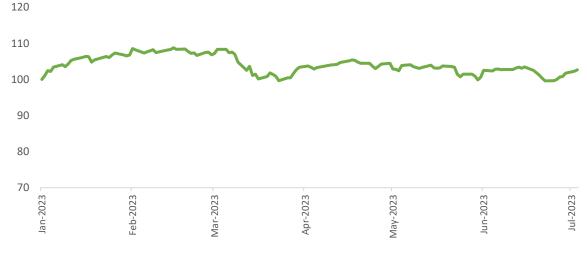


afme/ ESG Equity Indices

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

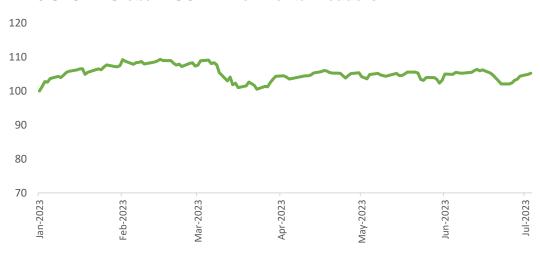


7.11 STOXX Global ESG Governance Leaders

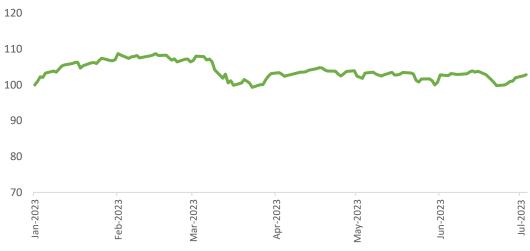


Source: Refinitiv Eikon

7.10 STOXX Global ESG Environmental Leaders



7.12 STOXX Global ESG Social Leaders



afme/ Methodology and Criteria

<u>Green Bonds:</u> Green bonds fund projects that have positive environmental and/or climate benefits. Most of the green bonds issued are green "use of proceeds" or asset-linked bonds. Proceeds from these bonds are earmarked for green projects but are backed by the issuer's entire balance sheet. There are also green "use of proceeds" revenue bonds, green project bonds and green securitized bonds. 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 by clarifying the approach for issuance of a Green Bond.

<u>Carbon Pricing:</u> 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

<u>EUA</u>: 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.

<u>Europe:</u> Countries included: Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, German Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Switzerland, United Kingdom.

Social Bonds: Social Bonds are 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.

Contacts

Research

Julio Suarez

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

Kevin Mushi

Graduate, Research Kevin.Mushi@afme.eu +32 2 883 55 41

Sustainable Finance

Oliver Moullin

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

Carolina Cazzarolli

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

Giorgio Botta

Manager, Sustainable Finance Giorgio.Botta@afme.eu +44 (0)20 3828 2736

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

Disclaimer and Methodology

Your receipt of this document is subject to paragraphs 3, 4, 5, 9, 10, 11 and 13 of the Terms of Use which are applicable to AFME's website (available at https://www.afme.eu/About-Us/Terms-of-use) and, for the purposes of such Terms of Use, this document shall be considered a "Material" (regardless of whether you have received or accessed it via AFME's website or otherwise).

AFME is registered on the EU Transparency Register, registration number 65110063986-76







