ESG Monitor

MONETARY AND CAPITAL MARKETS DEPARTMENT

April 1, 2021

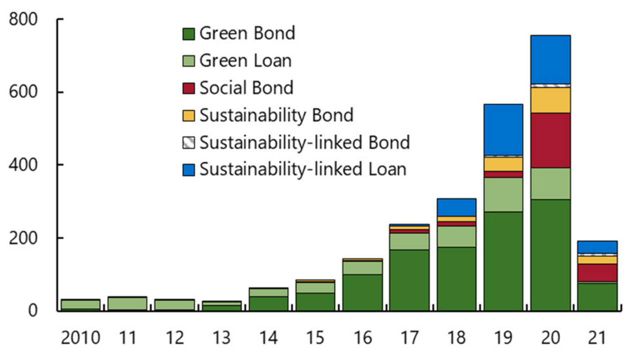
ESG Monitor Highlights

- This issue of the ESG Monitor features a deep dive in sustainable fixed income.
- Sustainable debt issuance started the year very strongly, especially for social bonds and sustainability-linked debt. A green and sustainable syndicated loan market has also evolved, especially for firms with high environmental score.
- The sovereign green bond market is seeing an expansion as countries embark on green projects, most recently with the massive interest for Italy's green bond sale.
- Investment supporting a transition towards a low carbon environment rose to new highs, and carbon markets continue to gather investor attention.

Sustainable debt issuance begins 2021 on solid footing

Sustainable debt issuance is off to a strong start in 2021.

1. Global Sustainable Debt Issuance
(Billions of US dollars; as of Feb 28, 2021)

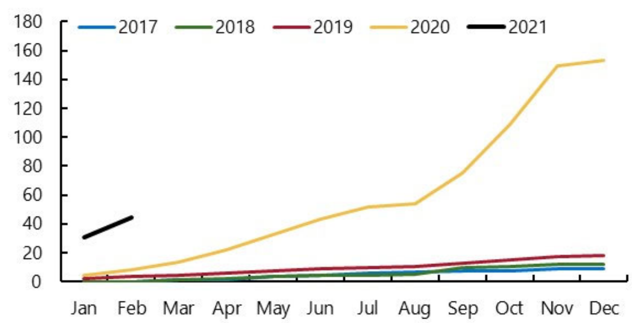


Source: BloombergNEF

- Sustainable debt issuance for the first two months of 2021 came in slightly below $200 billion, tracking at around 25% of 2020's overall issuances.
- Green bonds issuance remained close to 2020 levels, while other segments increased compared to the same period of 2020.

Social bond issuances supported by government entities in early-2021.

2. Global Social Bonds Issuance
(Billions of US dollars)



Source: BloombergNEF

- Social bonds issuances were 4.6x larger than 2020's issuances for the first two months of the year.
- The strength was driven by the EU ($12.2 billion) and French administrative agency Cades ($5 billion).
- EU's issuance marked the fourth issuance under its Support to mitigate Unemployment Risks in an Emergency (SURE) program in light of the pandemic. Cades's social bond would finance/ refinance the deficits in various branches of France's social security system.

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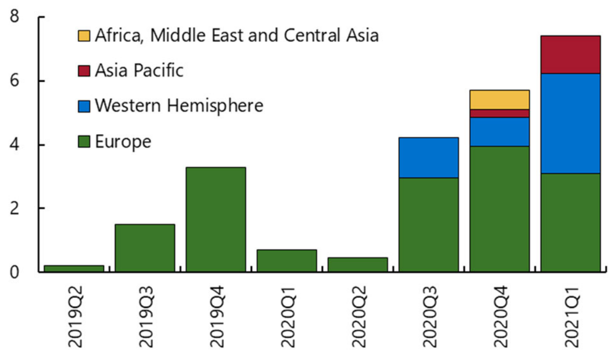
Sustainable-linked securities and the role of ESG in syndicated loans

Issuance of sustainability-linked bonds have risen to new quarterly highs.

3. Global Sustainability-linked Bond Issuance
(Billions of US dollars; as of Feb 28, 2021)

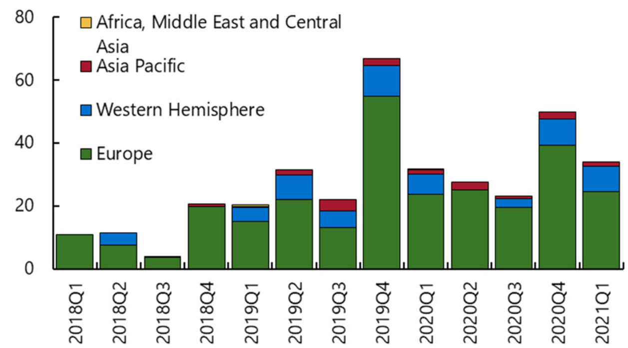


Source: BloombergNEF

- Issuance of sustainability-linked bonds in Jan-Feb 2021 already came in at 66% of 2020 volumes.
- They are evenly split between European and Western Hemisphere companies, while Asia saw a pick-up. The issuances cover a wide range of industries from consumer staples to industrials.

Sustainability-linked loans also keep strong momentum.

4. Global Sustainability-linked Loan Issuance
(Billions of US dollars; as of Feb 28, 2021)

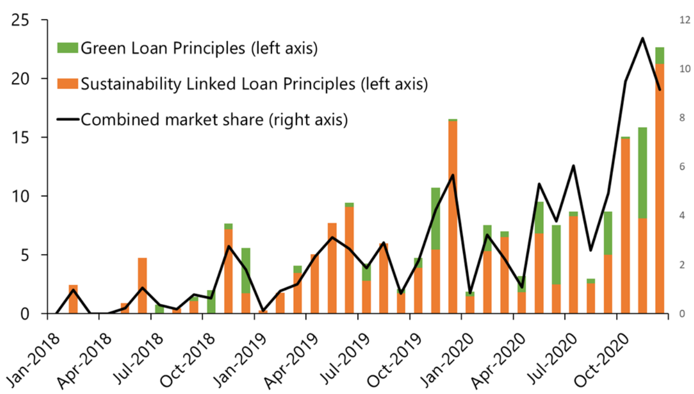


Source: BloombergNEF

- Q121's issuances are tracking around 25% of 2020's issuances, coming in at around $34 billion.
- European firms continue to dominate, with Anheuser-Busch InBev obtaining the largest revolver facility on record at $10.1 billion in February, subscribed by 26 lenders.

Issuance of green and sustainable loans by G7 countries reached about ten percent of the overall syndicated loan market.

5. Syndicated loan issuance with GLP or SLLP labels and combined share of such loans relative to total syndicated loan issuance
(Billions of US dollars, left axis; Percent, right axis)

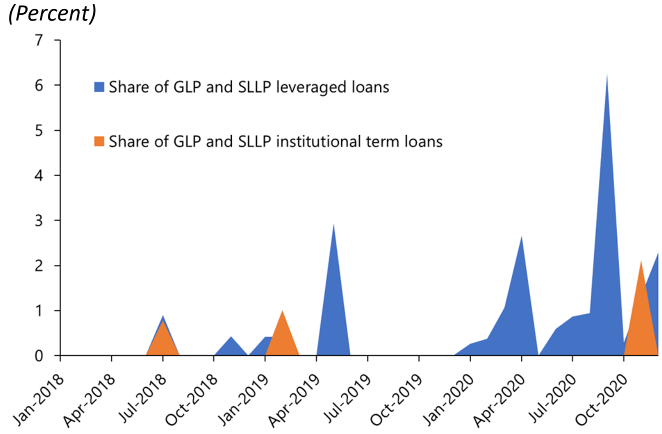


Source: Dealogic

- Loans issued according to the Green Loan Principles (GLP) and the Sustainability Linked Loan Principles (SLLP) have been increasing in the last two yews.
- Concentration of syndicated loans labelled as GLP or SLLP is high with around 1/3 of the average syndicated loan issuance by utilities.
- High concentration by issuers may make green loans less attractive to CLOs who face concentration limits.

Green and sustainable loans are rarely featured within the leveraged loan and institutional term loan segment.

6. Issuance of leveraged loans with GLP or SLLP labels relative to total leveraged loans and issuance of Term Loan B with GLP or SLLP labels relative to total Term Loan B issuance
(Percent)



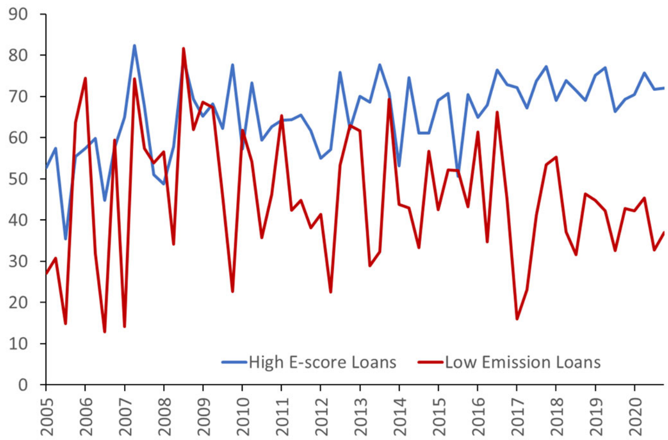
Source: Dealogic

- Leveraged loans are classified by Dealogic as loans to corporate borrowers with high levels of debt, low credit ratings, or high spreads.
- Institutional loans are defined as Term Loan B's (TLB) and lower, traditionally funded by institutional investors and more likely to be securitized and sold to CLOs.

Syndicated lending to green and brown firms

The share of lending to firms with high E-scores has been trending up, lending to low-emissions firms has not followed suit.

7. Share of total syndicated lending volume to firms with E-scores above median and to firms with emission intensity below median.
(Percent)

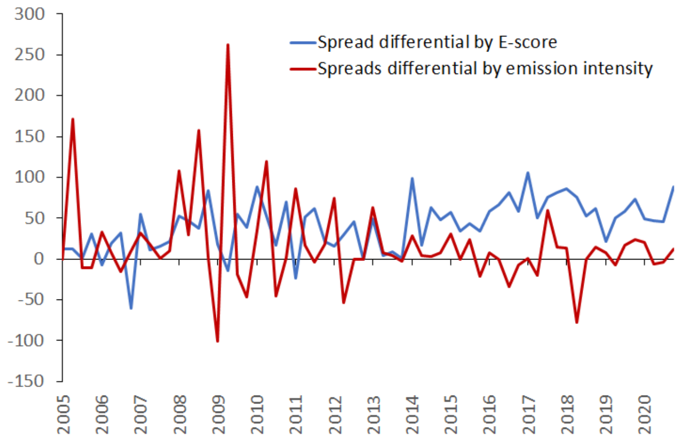


Source: Dealogic

- E-score is the Refinitiv environmental score, which forms part of the firms overall ESG score.
- Carbon intensity is defined as total carbon emissions relative to revenue.
- Divergent trends could point to disconnect between ESG-scores and emissions.

Similarly, spreads on loans to high E-score firms are lower, possibly reflecting lower credit risk, loans to low emission firms are not.

8. Weighted average spreads differential between loans to firms with E-scores above median (emission intensity below median) and firms with E-scores below median (emission intensity above median)
(Basis Points)

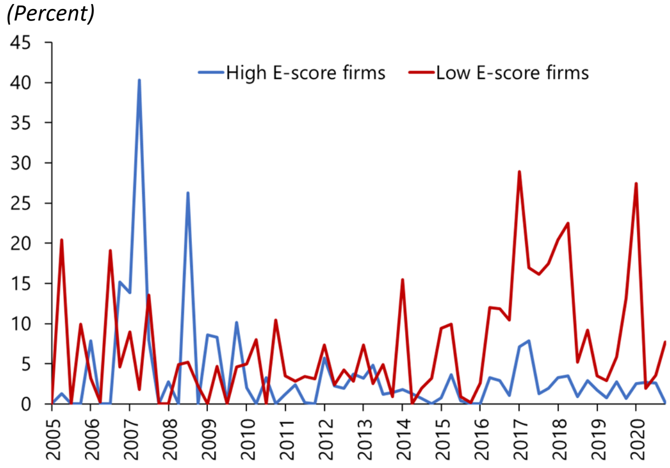


Source: Dealogic

- No difference between the spread of loans to low and high emission firms could imply lack of pricing of transition risks.
- The spread differential by E-score tend to increase further as loan maturities at issuance increase (spread is the all-in spread).

A larger share of brown loans than green loans is targeted at institutional investors in the past decade

9. Share of loans to high and low E-score firms that are institutional term loans (TLB)
(Percent)

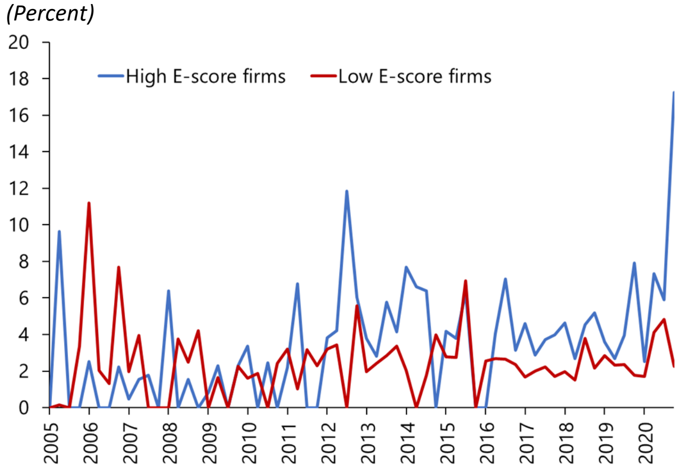


Source: Dealogic

- There could be a trend towards market segmentation where brown firms (low E-score) are sold predominantly to institutional investors.

Investors in brown loans do not appear to be compensated for environmental risk with higher yields.

10. Ratio of TLB-yield to other-yield for loans to high and low E-score firms
(Percent)



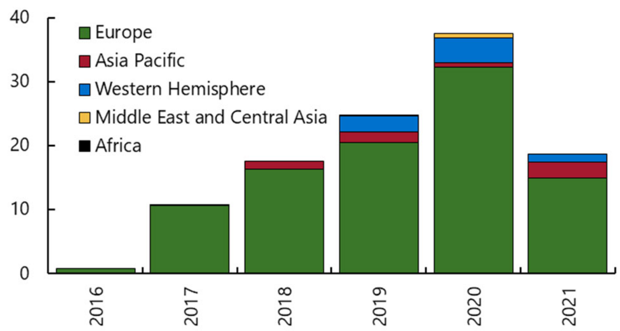
Source: Dealogic

- Institutional investors might be willing to absorb Environmental risks without paying a premium, possibly through risk-sharing in the CLO market.

A growing momentum for sovereign green bonds

The sovereign green bond market is expanding fast as countries embark on green projects.

11. Global Sovereign Green Bonds Issuance by Region
(Billions of US dollars; 2021 as of Mar 3)

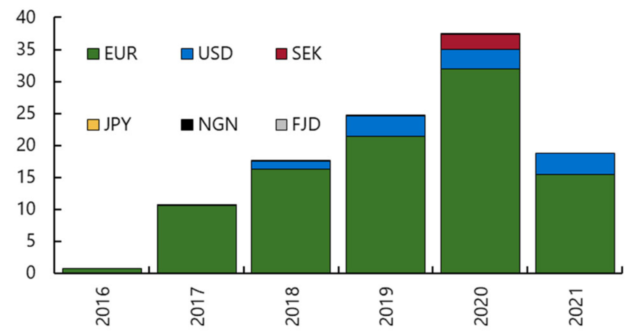


Source: BloombergNEF

- Sixteen sovereigns have issued green bonds since Poland debuted in 2016, with cumulative issuance exceeding $100 billion as of early-March 2021.
- Europe is a leader thus far, with Italy pulling in the biggest orderbook with its issuance of $10.2 billion in March 2021.
- More countries, including the UK, are expected to adopt green bond programs.

Issuances have largely been denominated in Euros given Europe's leadership.

12. Global Sovereign Green Bonds Issuance by Currency
(Billions of US dollars, 2021 as of Mar 3)

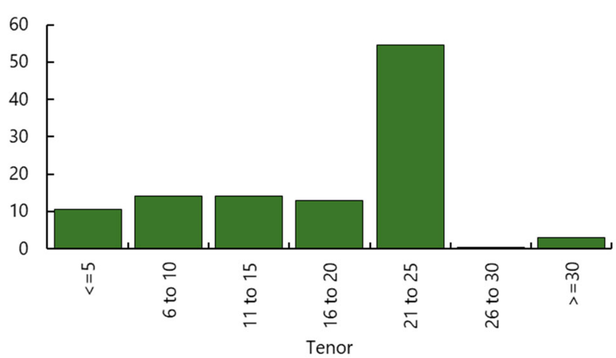


Source: BloombergNEF

- Euro-denominated issuances accounted for almost 90% of total issuances, followed by the US dollar.
- Hong Kong SAR, Indonesia, Chile and Egypt are among those that have issued in US dollars since 2018.
- Singapore announced plans to issue SGD 19 billion over the next few years.

Tenors of sovereign green bond issuances tend to be long.

13. Global Sovereign Green Bond Issuances by Tenor
(Billions of US dollars)

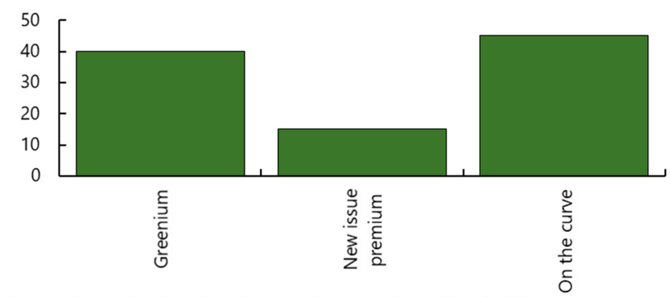


Source: BloombergNEF, IMF staff calculation

- Issuances are concentrated within the 21 to 25-year range and evenly spread among tenors below that.
- Climate Bond Initiative points out that longer tenors tend to attract insurance companies and pension funds that seek to match long-dated liabilities.

Some "greenium" is seen in sovereign green bonds.

14. Pricing Outcome of Select Sovereign Green Bonds
(Percent of Number of Bonds Issued)



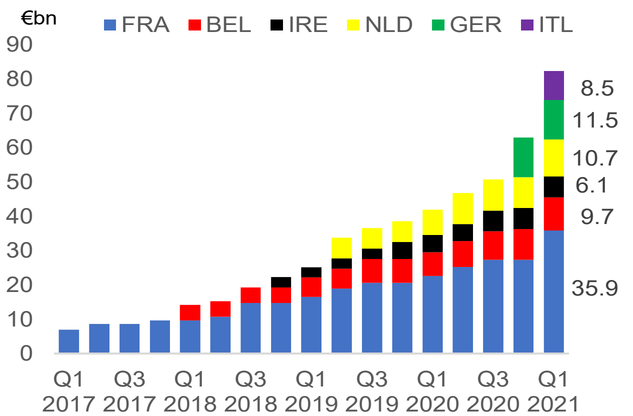
Source: Climate Bond Intiative: Sovereign Green, Social, and Sustainability Bond Survey
Note: Analysis based on 20 individual bonds issued by Belgium, Chile, France, Germany, Hungary, Indonesia, Ireland, Lithuania, Netherlands, Poland

- There is some evidence of greenium in sovereign green bonds. That said, an almost equal proportion of bonds were also priced on the curve, according to Climate Bond Initiative analysis.
- Greenium refers to the yield discount to comparable conventional bonds arising from investor demand.

Euro area sovereign green bond issuance continues amid strong investor interest

Six euro area countries now have issued green bonds.

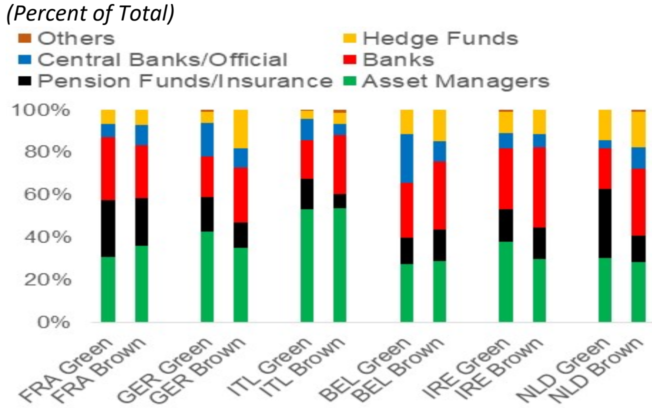
15. Eurozone Green Sovereign Bonds Outstanding
(Billions of Euros)



- Six euro area governments have launched green bond programs since 2017.
- Green debt by Euro area sovereign issuers reached €82 bn in Q1 2021, amounting to about 8% of the €850 bn global green bond market (but less than 1% of euro area debt).
- France and Germany will continue issuing in 2021, while the EU recovery fund will issue green debt in 2021H2.

Real money investors show relatively stronger interest in green sovereign debt…

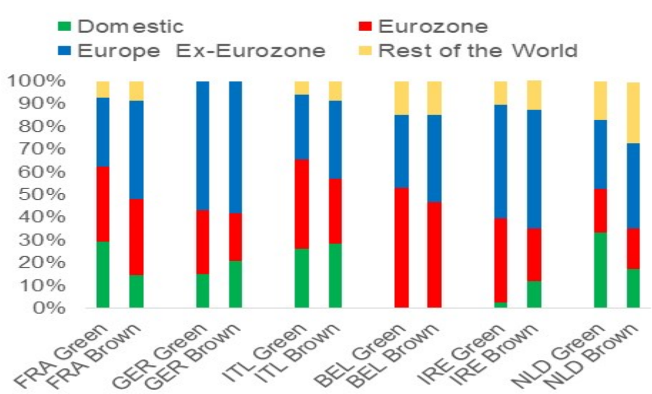
16. Syndication Investor Breakdown by Type
(Percent of Total)



- The investor base of green bonds is comparable to brown bonds but with a marginal shift towards real money investors based in the euro area.
- Country-specific factors and the tenor of issued bonds remain the primary determinants of allocation.

… especially those in the euro area.

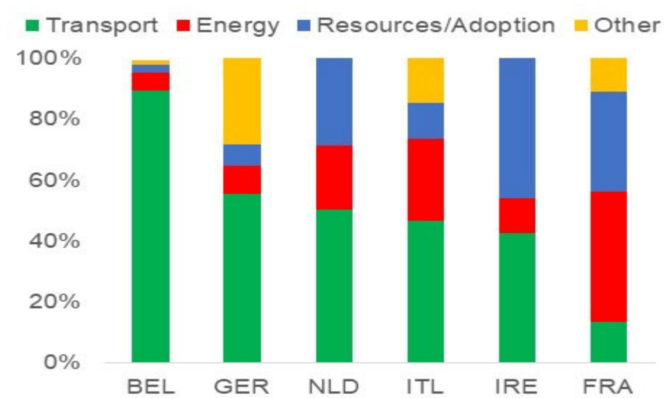
17. Syndication Investor Breakdown by Region
(Percent of Total)



- There is regular participation of real money investors from France, Benelux and Scandinavia, as well as from European and Asian sovereign wealth funds.
- Syndication reports and industry contacts confirm that green bonds attract a broad set of real money investors and allows for buyer diversification.

Use of proceeds of bond sales cover a wide range of projects.

20. Green Bond Proceeds Allocation by Sector
(Percent of Total)

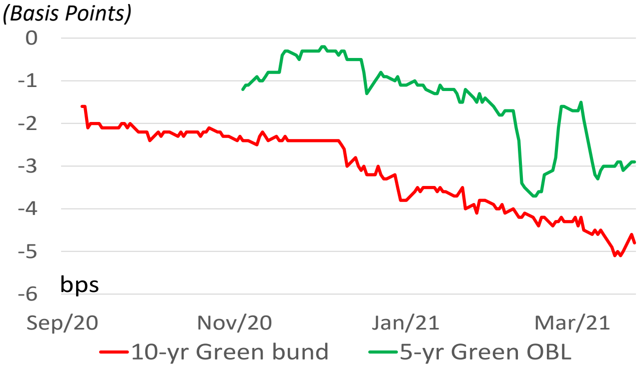


- The allocation of green bond proceeds tends to be directed towards transportation related projects which include subsidies for electric vehicle purchases and public transport infrastructure projects.
- In France, housing energy efficiency related subsidies account for the bulk of intended use of proceeds. Country level allocation are more idiosyncratic in living resource and adoption category with countries financing projects ranging from water supply (Ireland), flood protection (Netherlands) to agricultural and forest research and development (France).

The green premium in German bonds has persisted so far since issuance…

18. Green Premium in German Bonds

(Basis Points)



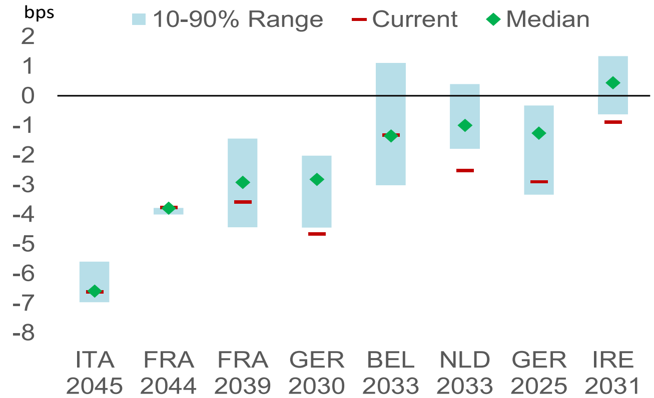
Source: Bloomberg and IMF

- A green premium has persisted for green bonds issued by the German government.
- Germany intends to establish a green curve. Green bunds are issued in a twin bond concept with brown bunds. Twin bonds share the same issuance, timeframe and co-exist in the secondary market.
- To mitigate any liquidity concerns, the German finance ministry allows investors to exchange the green bond for an otherwise identical conventional bond.

… and that's generally the case for most other euro area sovereign bonds.

19. Green Premium Implied by Swap Spreads

(Basis Points)



- The estimation of green premium for other sovereign issuers is subject to more uncertainty given differences in both bond characteristics and market liquidity.
- The comparison of swap spreads of green bonds versus an interpolated brown bond curve seems to confirm that investors tend to assign a higher valuation to European green securities. This is in contrast to earlier findings (see for example Chapter 6 of October 2019 GFSR).
- Markets are likely to price in green premia because of market segmentation and strong inelastic demand for still limited green sovereign bonds

The recent Italian debut green government bond attracted a massive €80 billion order book.

21. Syndicated Bond Placement Characteristics

	Placement Date	Tenor (yr)	Size (€bn)	Order Book (€bn)	Bid / Cover	Brown Bid / Cover*	Issuance Yield
France	2/20/2017	22	7.0	23.0	3.3	4.1	1.74
	7/13/2018	21	4.0	13.8	3.4		1.46
	3/16/2021	23	7.0	35.0	5.0	7.3	0.53
Belgium	2/26/2018	15	4.5	12.7	2.8	5.8	1.29
Ireland	10/10/2018	12	3.0	11.0	3.7	4.3	1.40
	10/10/2019	11	2.0	11.5	5.8		0.23
Netherlands	5/21/2019	21	6.0	21.0	3.5	4.0	0.56
Germany	9/2/2020	10	6.5	33.0	5.1	4.8	-0.46
	11/4/2020	5**	5.0	6.0	1.2	2.2	-0.85
Italy	3/3/2021	24	8.5	80.0	9.4	9.1	1.54
Average		16	5.4	24.6	4.7	5.5	

* Syndicated issuance of comparable non-green bonds

** German second green bond was auctioned

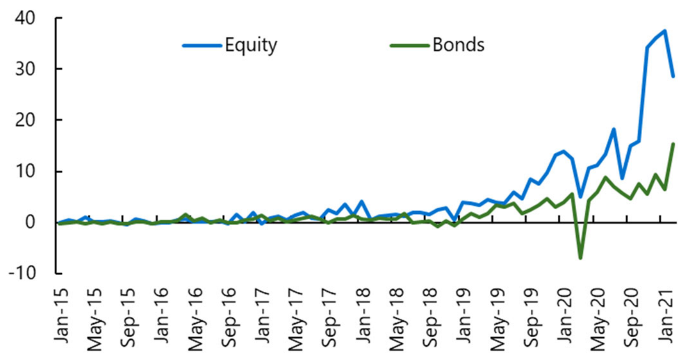
Source: Debt Management Agency Reports.

- The majority of green bond issuance has been done via bank syndication, with follow-up issuance via regular auctions.
- The programs target long to the ultra-long maturity segment with Italy's recent 24-year placement having the longest duration to date. Germany's 5-year note is the shortest security and was issued via a regular auction.
- Green bond placements have generally seen strong demand with order books exceeding the placement size by factor of four. Yet bid-to-cover ratios have generally been slightly below those for regular "brown" bond syndications, potentially owing to a slightly smaller investor set.

Strong ESG equity fund inflows…

Equity ESG fund flows remained strong into 2021…

22. Overall Equity and Bond Flows into ESG/SRI Funds
(Billions of US dollars; latest end January)

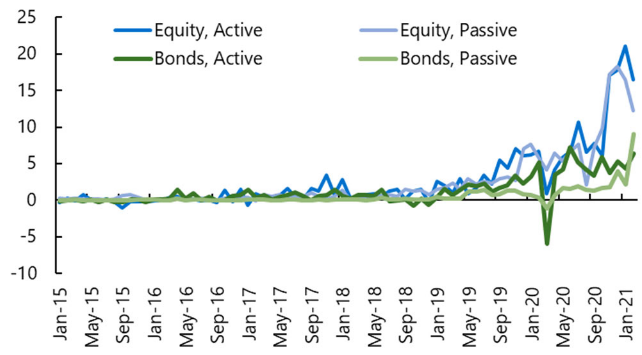


Source: EPFR

- ESG equity funds continued to experience robust inflows despite some easing from the record highs in February.
- Bond ESG funds trended higher and rose to an all-time high in February.

…driven by both active and passive inflows.

23. Overall Equity and Bond Flows into ESG/SRI Funds
(Billions of US dollars; latest end January)

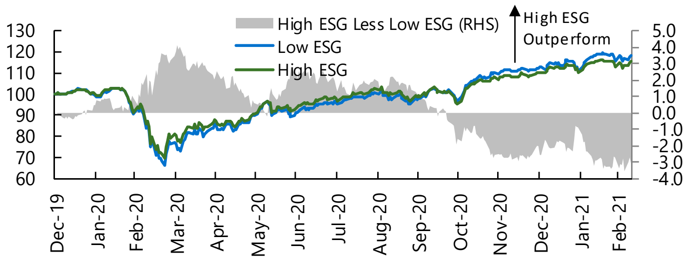


Source: EPFR

- Equity ESG fund flows have been driven by both active and passive funds.
- Active bond fund flows started picking up, rising above passive bond funds recently.

Equities with low ESG scores have continued to outperform into 2021.

24. S&P Global 1,200 Equity (High and Low ESG Baskets)
(Index; Normalized to 100 as of End-19)

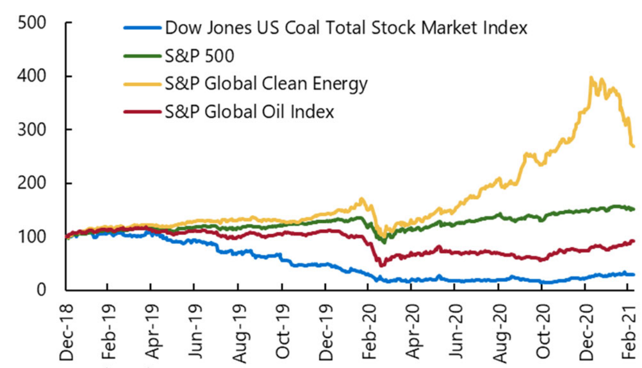


Source: Bloomberg
Note: Indices are created using members of the S&P Global 1,200 Index. High ESG = Average of indices created from 75th percentile scores from RobecoSam, Sustainalytics, Thomson Reuters; Low ESG = Average of indices created from 25th percentile from RobecoSam, Sustainalytics, Thomson Reuters

- Global equities with low ESG scores remained in leadership position as industrials and commodities within the value category outperformed.

Renewable energy equities have started to cool following a strong 2020.

25. US Equities, Clean Energy, Coal and Oil Company Equity Prices
(Normalized to 100 as of end-2018)



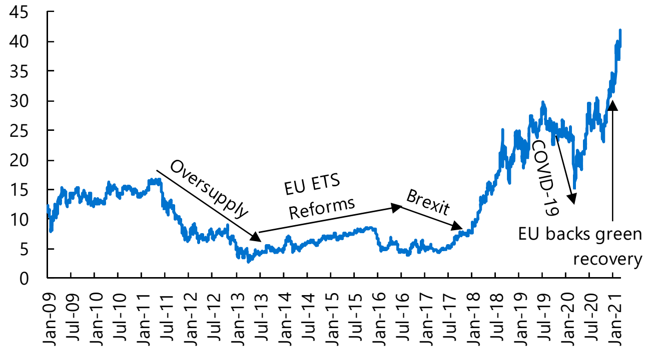
Source: Bloomberg

- Renewable energy equities performed strongly in 2020 as ESG momentum gathered steam.
- However, they have recently corrected on overvaluation concerns, with forward price-to-earnings ratio reaching a high of more than 50 at their peak.

Carbon markets continue to garner attention

European carbon price rallied to new highs…

26. Spot Carbon Price in European Union Emissions Trading System
(Euro per Ton)

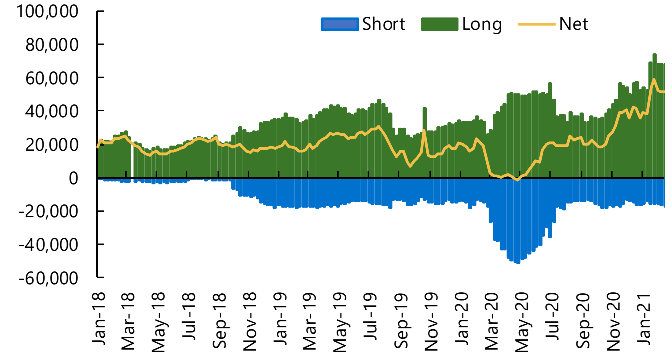


Source: Bloomberg

- EU carbon price rallied sharply by over 30% in 2021 to reach a record high of more than €40.
- The market is bullish on expectations that the EU would propose legislation later in 2021 to tighten the annual supply of allowances to align with its new climate target of 55% emission reduction from 1990 levels.

… sparking speculation concerns as investment funds have increased their long exposures...

27. European Union Allowances Futures Investment Fund Contracts
(Number of Contracts)

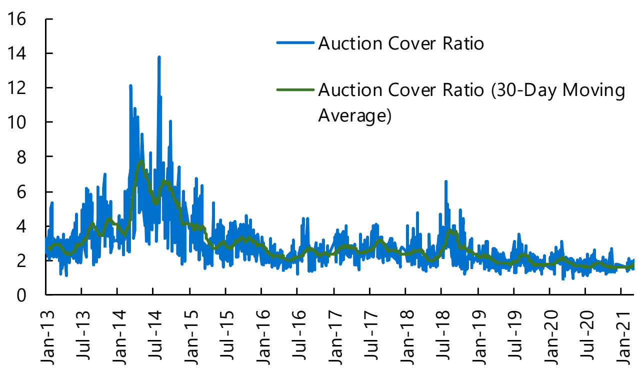


Source: Bloomberg

- Investment funds' net longs in Europe carbon futures contracts are at multi-year highs, coinciding with record high prices.
- There are increasing calls for regulators to analyze the impact of investor speculation and consider curbs.

…while auction demand has been muted.

28. European Union Allowances Auction Cover Ratio
(Number of Times)

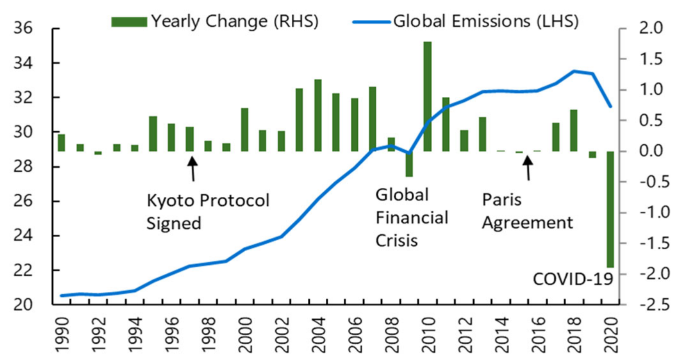


Source: Bloomberg

- Auction demand has declined further since 2019. Auction volumes have also dropped, according to Bloomberg.
- Bloomberg states that the weaker auction demand can be partially explained by lower emissions in the power sector given that utilities are most active in auctions.

Global CO2 emissions saw a temporary decline amid the pandemic.

29. Global Energy-related CO2 Emissions
(Gt CO2)



Source: IEA

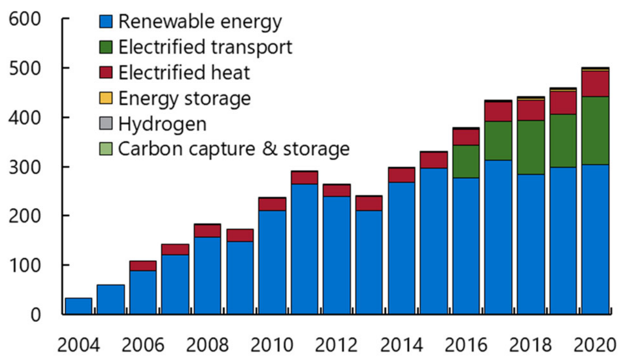
- Total annual CO2 emissions fell by 5.8% to 31.5Gt in 2020.
- Monthly data, however, suggests that emissions have already returned to 2019 level by the end of 2020

Investment supporting a transition towards a low carbon environment rose to new highs

Private investment in energy transition picked up to fresh records in 2020.

30. Global Investment in Energy Transition by Sector

(Billions of US dollars)



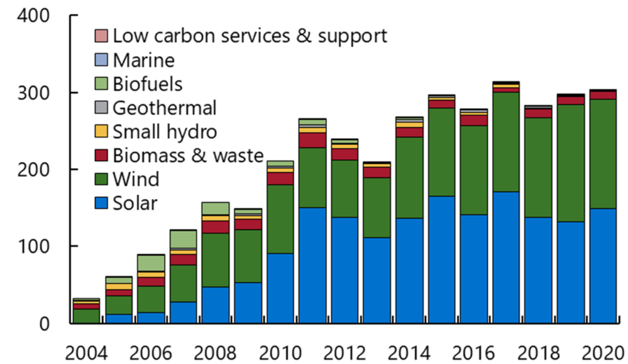
Source: BloombergNEF

- Global investment rose 9% year-on-year to around $500 billion in 2020 despite COVID-19.
- Renewable energy remains the largest category (60% of total), followed by electric transport (28%).

Global renewable energy investment has been largely stable over the past few years.

31. Breakdown of Global Investment in Renewable Energy

(Billions of US dollars)



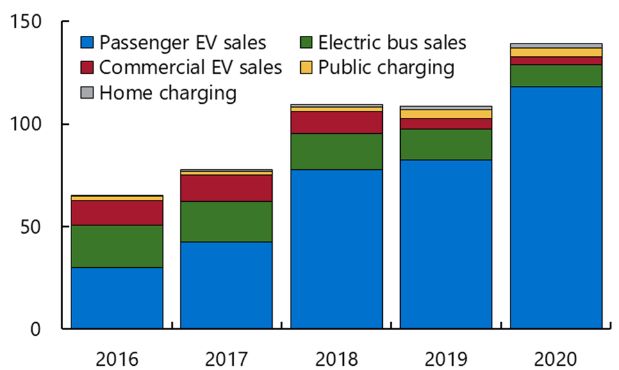
Source: BloombergNEF

- Renewable energy investment came in at $304 billion in 2020, supported by solar, up 12%.
- China remains the largest investment country at $84 billion, but Europe saw a jump of 52% to $82 billion, the highest since 2012.

Global investment in electrified transport has increased rapidly.

32. Breakdown of Electrified Transport Investment

(Billions of US dollar)



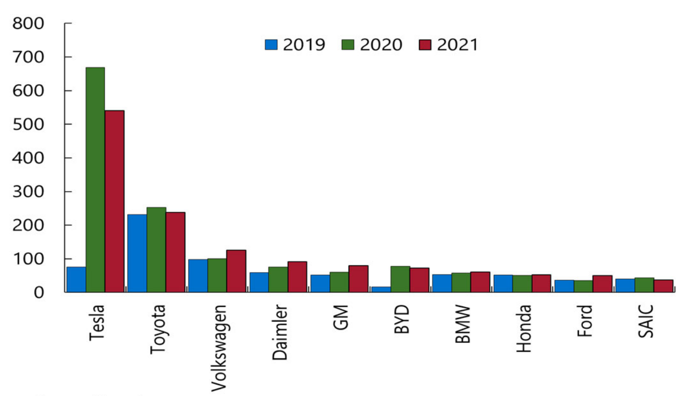
Source: BloombergNEF

- Global investment in electrified transport grew 28% to reach a new high of $139 billion in 2020 and has tracked at a compound annual growth rate of 21% since 2016.
- The fast-growing passenger electric vehicles (EV) are the largest component. They have quadrupled in four years.

The adoption of EVs and investors' rising focus have been reflected in higher valuation for Tesla.

33. Auto Market Capitalization

(Billions of US dollars; 2021 as of March 8)



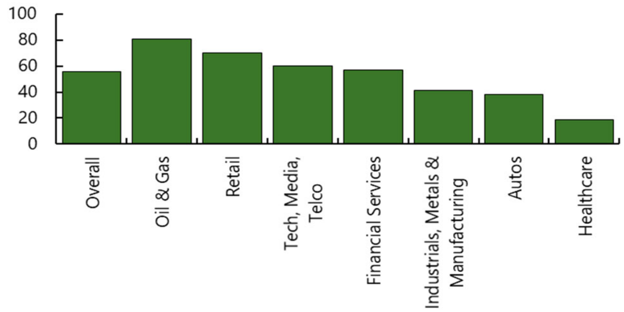
Source: Bloomberg

- Tesla's market cap has surged over 6x to exceed $600 billion from slightly below $100 billion in 2019, far exceeding other automakers.
- It entered the S&P500 index at fifth position in December 2020, with a weighting of 1.69%.
- Tesla is the top EV automaker with around 18% of the global market share, delivering around 500k cars in 2020.

Climate risk acknowledged by big companies but room for stronger disclosures remains large

A majority of large global companies recognize climate risks.

34. Companies that Clearly Acknowledge Climate Change as Potential Risk to the Business in their Annual Reporting
(Percent)

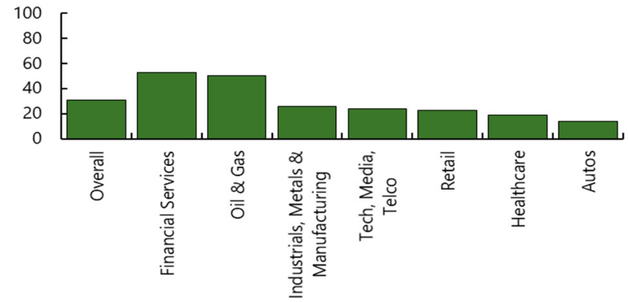


Source: KPMG Towards Net Zero Report
Note: The world's 250 largest companies as defined by the Fortune Global 500 ranking for 2019 were evaluated.

- 56% of the top 250 companies worldwide acknowledge climate risk in their financial reporting, rising from 48% in KPMG's 2017 survey.
- O&G firms are particularly concerned about climate change given the increased scrutiny on the use of fossil fuels.

Financial institutions and oil & gas (O&G) firms tend to discuss climate-related risks.

35. Companies that Include Climate-related Risks in their Annual Report and/or publish Stand-alone Climate Risk or TCFD Report
(Percent)

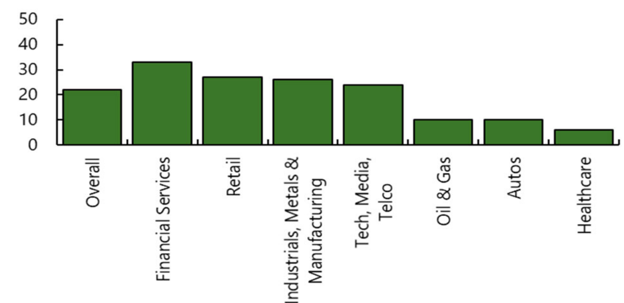


Source: KPMG Towards Net Zero Report
Note: The world's 250 largest companies as defined by the Fortune Global 500 ranking for 2019 were evaluated.

- 53% and 50% of global financial institutions and oil & gas firms highlight climate-related risks, versus 31% overall.
- Financial services are a key driver in development and adoption of TCFD recommendations while O&G has high climate-related risks from potential stranded assets.

Scenario planning on climate risks is lagging.

36. Companies that Include Scenario Analysis of Climate-related Risks in their Reporting
(Percent)

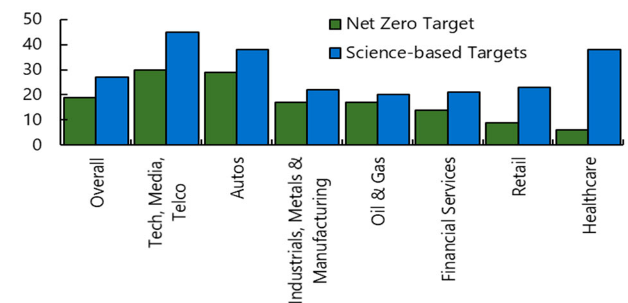


Source: KPMG Towards Net Zero Report
Note: The world's 250 largest companies as defined by the Fortune Global 500 ranking for 2019 were evaluated.

- Only 22% of global businesses include scenario analysis of climate risks in their reporting and is underwhelming across all sectors.
- Financial services have relatively higher levels of reporting at 33%. In terms of countries, Japanese disclosures are leading at 50%.

A total of 46% of global companies have set some form of carbon reduction targets linked to greater climate goals.

37. Companies that Report a Net Zero Target, Science-based Targets
(Percent)



Source: KPMG Towards Net Zero Report
Note: The world's 250 largest companies as defined by the Fortune Global 500 ranking for 2019 were evaluated.

- 27% of the companies set science-based targets while 19% established net zero targets.
- Technology firms and automakers are leading in target setting, possibly due to investments in electric vehicles and renewable-powered data centers.

Annex: IMF ESG Monitor

- Environmental, social and governance (ESG) considerations are being increasingly integrated in the decision-making of lenders, investors and firms. This is largely driven by rising concerns about climate-related *physical risks* (losses as climate-related changes disrupt economic activity and destroy capital) as well as growing awareness of *transition risks* (the potential for losses resulting from a shift toward a lower-carbon economy).
- The ESG Monitor discusses the role of ESG factors in financial markets covers global developments in sustainable finance, and provides periodic updates on ESG issuance, asset price performance, and ongoing policy initiatives that affect the private sector perception of ESG-related risks.

Sustainable finance is the incorporation of ESG principles in business and investment decisions

Select Environmental, Social, and Governance (ESG) Issues

Key Pillars	Key Themes	Key Issues	
Environment	Climate change	Carbon footprint	Vulnerabilities from climate change events
	Natural resources	Energy efficiency Sourcing of raw materials	Water efficiency Usage of land
	Pollution and waste	Toxic emissions Wastewater management Hazardous materials management	Air quality Electronic waste management
	Opportunities and policy	Renewable energy Clean technology	Green buildings Environmental and biodiversity targets and investment
Social	Human capital	Workplace health and safety Development opportunities	Employee engagement, diversity, and inclusion Labor practices (e.g., wages, working conditions)
	Product responsibility	Product safety and quality Selling practices and product labeling	Customer privacy and data security Access to products
	Relations	Community Government	Civil society
Governance	Corporate governance	Board structure and accountability Accounting and disclosure practices	Executive compensation and management effectiveness Ownership and shareholder rights
	Corporate behavior	Management of corruption Systemic risk management Earnings quality	Competitive behavior Management of business environment (e.g., legal, regula Transparency on tax and related-party transactions

Source: IMF, Global Financial Stability Report (Chapter 6, October 2019).

Glossary of Frequent Terms in Sustainable Finance in This Issue

ESG	Environmental, Social and Governance
ETS	Emissions Trading System (related to carbon emissions)
NGFS	Network (of Central Banks and Supervisors) for Greening the Financial System
PRI	Principles for Responsible Investment (UN-supported network of investors)
SRI	Sustainable, Responsible and Impact Investing
TCFD	Task Force on Climate-related Financial Disclosures

Endnote: Sustainable and Responsible Impact Investing Strategies

Impact and underperformance concerns have led the evolution of ESG strategies from exclusions to more selective inclusion and investor activism. Initially, sustainable investing was primarily about negative screening strategies that excluded firms or entire sectors from investment portfolios. Over time, concerns about risk management, benchmark underperformance, and a need to demonstrate material ultimate impact have given rise to strategies based on positive screening for companies with good ESG performance (best-in-class, improvement), companies that fulfill certain minimum standards or norms (norm-based screening), or sectors that are considered sustainable (sustainability-themed investments). For more information see Chapter 6 of the October 2019 *Global Financial Stability Report*.