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European Banks – Quarterly ESG Update (4Q21)

- ESG bond issuance reached record levels last year and could surpass the EUR1trn mark in 2022
- Commission takes pragmatic approach to Taxonomy, classifying gas and nuclear as transitional green activities, which should further develop ESG space in coming years.
- SLB growth could increasingly include FIG and SSA issuers in 2022 as frameworks develop.
- Rising inflation and prospect of monetary tightening saw spreads widen in primary and secondary ESG markets in 4Q21.

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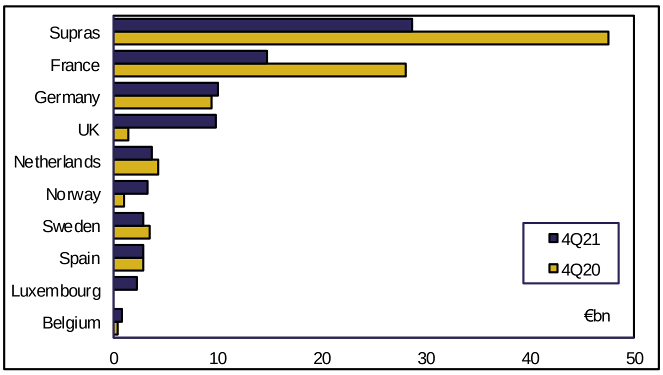
Overview: ESG issuance in 2022 poised for another strong year

Issuance of ESG bonds – comprising green, social and sustainable bonds – continued to grow in the fourth quarter compared to the same period in 2020, albeit at a softer rate. Global ESG bond issuance in 4Q21 amounted to EUR201bn (4Q20: EUR139bn), taking the annual total to EUR836bn (FY20: EUR429bn), just slightly below our full-year projection of EUR850bn. For 2022, global issuance could surpass the EUR1trn mark, supported by advancements in market frameworks and regulation. Laggards such as the US and emerging markets are expected to intensify their efforts and gain market share, although Europe should remain pre-eminent.

European ESG-linked bond sales from SSAs and FIGs reached EUR84bn in 4Q21 according to Bloomberg data. Bucking the recent trend, this represented a decrease of 17% yoy. Of that total, green bond sales amounted to EUR55bn (+103% yoy), social bond volumes stood at EUR11bn (-82% yoy), sustainable bonds accounted for EUR17bn (+37% yoy), while sustainability-linked bonds (SLBs) totalled just EUR348m across several smaller investment company deals. Entities from France, Germany and the UK led European ESG debt issuance in 4Q21 alongside Supras.

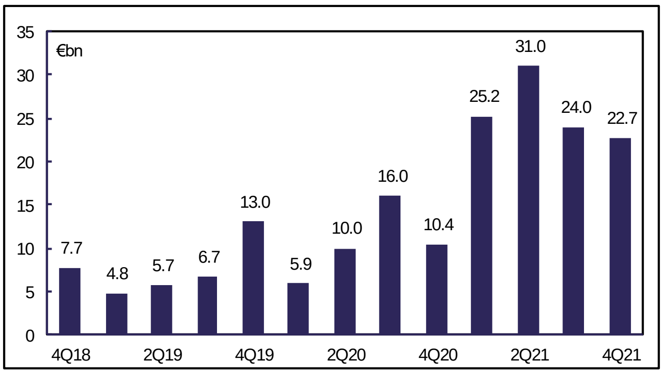
ESG-themed bonds issued by European financial institutions reached EUR23bn last quarter compared to EUR10bn in 4Q20, an amount equivalent to 54% of total 2020 issuance. They also accounted for 58% of the global ESG total in the sector during 4Q21. However, euro-denominated ESG-themed debt issued by European entities as a share of total FIG and SSA issuance declined as the quarter progressed, particularly for SSAs. Contrasting the strong growth of green bonds in 4Q21 (+77.6% yoy), the decline in issuance of social bonds compared to 4Q20 caused an overall reduction of themed debt in Europe. That reflected the exceptional temporary role in 4Q20 of the EU's social bond programme (SURE), which contributed record issuance of the format as the region responded to the pandemic. Meanwhile, growing SLB volumes are expected to help support 2022 estimates but still stem almost exclusively from non-financial corporates. A recent report by the World Bank, however, seeks to provide a framework to help facilitate the issuance of sovereign SLBs to meet national climate and environmental commitments, which could spur further issuance in this segment.

European ESG Bond Issuance by Country



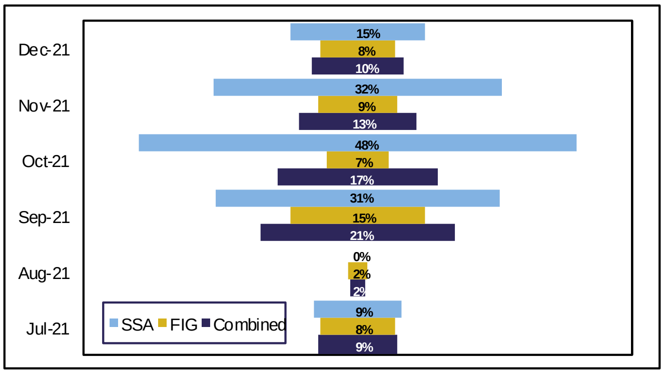
Source: Bloomberg; includes FIGs & SSAs; Daiwa Capital Markets Europe Ltd.

Quarterly ESG Bond Issuance: European FIGs*



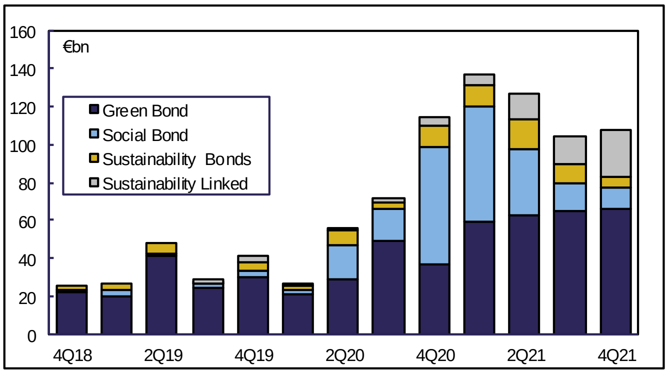
Source: Bloomberg and Daiwa Capital Markets Europe Ltd.; *Green, social and sustainability labelled bonds >€250m

Proportion of ESG themed debt to total issuance*



Source: Bloomberg; Daiwa Capital Markets Europe Ltd.;*in EUR by European issuers

Quarterly European ESG Bond Issuance by Type



Source: Bloomberg; FIG, SSA & Corporates; Daiwa Capital Markets Europe Ltd.

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Commission takes pragmatic approach to Gas and Nuclear in EU Taxonomy

Since January, companies have been required to report to what degree their economic activities are sustainable under the official standard set out under the EU's Taxonomy of Sustainable Economic activities. Delegated acts (DA) grant the European Commission authority to set technical screening criteria (TSC) determining the conditions under which an economic activity qualifies as contributing to climate change mitigation or adaptation. Until now, the DAs – which cover around 90 economic activities – have excluded natural gas and nuclear power given concerns over their sustainability. However, on 02 February the Commission published its final findings on the two energy sources in a complementary delegated act (CDA), proposing to classify both gas as 'transitional' green activities if there are no feasible low-carbon alternatives and certain environmental safeguards apply. The Commission argued that this pragmatic approach would accelerate the phase out of more harmful energy sources, such as coal, and move the EU towards a more green, low-carbon energy mix consistent with its 2050 climate neutrality goals.

In particular, the proposals would allow new gas power stations, which obtain a construction permit by 2030 and meet certain levels of efficiency or are used to replace coal power, to be considered sustainable as transition investments. Nuclear power plants approved until 2045 would also be considered a sustainable transition activity as long as compliant plans are in place to dispose of the waste product. When first proposed by the Commission, the initiative faced a backlash from certain EU governments, the EIB, and the Sustainable Finance Platform (SFP), which is the main advisory body to the Commission on sustainability from the corporate, public and financial sectors as well as academia and civil society. Criticisms related to the inclusion of potentially harmful and polluting technologies in the Taxonomy as well as a softening of technical screening criteria, which risked undermining the credibility of the EU's supposed science-based approach and thus globe-leading status.

Critics warn of dilution of the rulebook against scientific advice

In particular, the SFP argued that including such activities in the new CDA would be inconsistent with the Taxonomy Regulation's principle of technology neutrality, which ruled out any power plant that generates emissions equivalent to more than 100gCO2e/kWh. Indeed, the threshold for gas power plants was set by the Commission at 270g, which the Taxonomy previously considered to represent "significant harm" to the climate. Best-in-class, modern combined-cycle gas turbines operate well above 300gC02e/kWh. Additionally, although nuclear has near-zero GHG emissions, the reality of operating such a power plant runs counter to the "Do No Significant Harm" requirement of the Taxonomy. Harmful waste production and disposal runs counter to the concepts of the circular economy, pollution prevention and control, water and marine resource objectives, and the preservation of biodiversity and ecosystems. Ultimately, the Commission made some modest concessions to the critics e.g. by setting time-limits on Taxonomy alignment and insisting on detailed plans for safe waste disposal and decommissioning of nuclear plants.

Most opponents of the inclusion of gas and nuclear energy did not seek to prevent future investment in those sectors as the Taxonomy is not a prescriptive investment tool. Rather, they sought a disclosure requirement with the aim of defining greenness and providing transparency to investors. Certain investor bases already have fairly strict and predefined exclusion policies with respect to certain activities, so the discussion around inclusion should have little impact on them. For example, in Scandinavia and Northern Europe, particularly Germany, a large number of investors are not able to invest into the nuclear sector due to exclusions. On the flipside, some investors with less stringent investment policies may welcome the inclusion of gas and nuclear into the Taxonomy as it would broaden their aligned portfolios, and so the proposals should contribute to further deepening of the ESG bond market.

Successful German lobbying on gas benefits industry but could prove politically costly

Germany's newly formed coalition government of social democrats, greens and liberals signalled its pro-gas position during the consultation while reiterating its opposition to nuclear power. Germany also successfully lobbied the Commission to scrap the partial yet mandatory use of certain shares of low-carbon gases like hydrogen. So-called fuel switching requirements were removed but the Commission remained firm on a 100% switch to carbon-neutral gases by 2035. Many countries in Central and Eastern Europe also supported the use of gas while France was inevitably a strong advocate for nuclear energy. It is even possible that the labelling of nuclear as a green transitional activity under the Taxonomy may yet induce a late change of mind among some of its chief opponents such as Germany. For the moment however, the German government's position on gas has gone against the political base of its socialist and green coalition members and could cause ongoing internal friction.

Imperfect solution shows EU realpolitik prioritises current energy problems

While several member states initially voiced criticisms, so far only Spain, Austria and Luxembourg have signalled their determination to vote against the inclusion of gas and nuclear in the Taxonomy, falling well short of the 20 member states required to block its adoption. Meanwhile, the EU Parliament will have four months to scrutinise the text, after which a simple majority of its members will be required to vote against to block its adoption. Despite the principled arguments against, rising energy demands, politically contentious increases in energy prices, overreliance on Russian gas imports, and ambitious emission targets all give further credence to the inclusion of both technologies. So, we strongly expect the thresholds for opposing the proposals in both Council and Parliament to be missed, and the regulation to be adopted and enforced from January 2023.

SLBs market for FIGs and SSAs could take off in 2022

Sustainability-Linked Bonds (SLB) are expected to be one of the main growth drivers in the European ESG space in 2022. According to Bloomberg data, issuance grew to EUR24.2bn (+57% qoq) in 4Q21 with total 2021 issuance almost eight times higher than in 2020. The stock of SLBs is still almost entirely made up of issuance by non-financial corporates. Rather than necessarily being based on the use-of-proceeds principle, SLBs link funding conditions to the delivery of sustainability targets by the issuer. The forward-looking metrics of the instruments commit the issuer to future improvements in sustainability outcomes. This might be more attractive to issuers that do not have enough green or social projects available to fund use-of-proceed structures, or the capacity or intention to comply with the reporting obligations that come with other forms of sustainable bonds.

SLB Principles were developed by ICMA in June 2020, based on key-performance indicators (KPIs) measured against Sustainability Performance Targets (SPT). KPI considerations that go beyond simple GHG reduction targets may focus on social issues such as the promotion of ethnic and gender equality or the adherence to Sustainable Development Goals for emerging market issuers. For SSAs, these should represent policy goals that can withstand political fluctuations. A recent World Bank report noted sizeable potential for sovereigns (and by extension perhaps supra-national agencies) to issue SLBs, identifying possible KPIs that might be used to help develop a market that so far barely exists. It references the ICMA principles as the basis for its recommendations, to help bridge the gap between what SSA investors would view as appropriately ambitious actions and what issuing countries see as achievable targets. In early 2022, the first agency SLB was issued out of a municipality in Sweden with KPIs linked to the region's targets for reducing GHG emissions. Should the issuer be unable to meet its targets it would need to pay a step-up on the final coupon payment.

Considerations on FIG SLBs

Overview
- First FIG SLB issued in April 2021 by European bank. Market volume has grown rapidly since.
- Regulatory concerns over MREL eligibility in Europe means format still needs to evolve to be widely adopted

Opportunities
- SLB's open issuers up to a larger investor base that want to look at companies holistically rather than scrutinise UoP bonds case by case.
- SLB format provides issuers with time to transition as it does not focus on current performance but rather on incremental improvement over the life of the bond

Challenges
- Regulatory concerns persists over capital treatment of SLBs due to coupon step-ups or fees tied to specific KPI's.
- These are viewed as incentives to redeem by the EBA, hence contradicting eligibility criteria of bail-inable instruments, potentially compromising their loss absorbing capacity.
- Data availability and monitoring challenging, especially for banks with diversified and granular loan books.

Source: Daiwa Capital Markets Europe Ltd.

Considerations on SSA SLBs

Overview
- Only one SLB issuance from SSAs to date.
- ICMA published SLB Principles in June 2020, benefitting from existing use of proceeds frameworks. This provided criteria for a second party to evaluate the frameworks. World Bank report based on the back of it.

Opportunities
- Well positioned to embrace KPI-linked SLB's as they are already subject to a number of sustainability commitments.
- Investor focus shifting to issuers with clear sustainability goals and commitments. Adopting KPI-linked SLB's, especially for EM issuers, could raise their profile.
- KPI could go beyond environmental indicators and include social factors such as diversity and equality initiatives.

Challenges
- KPI selection faces broader scrutiny compared to private sector and is subject to political fluctuations.
- Adequate selection of either external or internal performance monitoring and verification.

Source: Daiwa Capital Markets Europe Ltd.

In 2021, we counted eight SLB transactions in the FIG space, totalling EUR2bn up from none in 2020. This growth was carried into 2022, when we have already seen three FIG SLBs issued for a total volume of EUR1.56bn. As it is still a relatively new space for FIG issuers and investors alike there are widely varying KPIs and SBTs that demonstrate that the market is innovating. Most recently, London based investment firm Intermediate Capital Group plc (ICG) pledged to pay a step-up coupon of 30bps, if over a two-year period it failed to have 50% of the relevant companies in which it invests having SBTs validated by the Science Based Targets Initiative (SBTi). The target range increases to 100% by 2030. In addition to pledging to reduce its own GHG emissions to net zero by 2040, ICG should also incentivise others. The SBTi offers companies a defined path to reduce emissions in line with the Paris Agreement goals as well as validation process of such decarbonisation efforts. The guidance is provided by sector, and for financial institutions the guide was released in October 2021.

In January 2022, the EBA published a report on prudential disclosures on ESG risks, stating that the introduction of the green asset ratio (GAR) would be delayed by one year until 2024, among other things. Primarily this is thought to give banks sufficient time to make the relevant reporting data available. The GAR will allow investors to see the share of bank's assets that are Taxonomy-aligned. A second ratio, the banking book Taxonomy alignment ratio (BTAR), will also be introduced featuring additional information on exposures that fall outside of the scope of the EU's NFDR directive. While we believe that the delay to the introduction of both ratios could set back some of the growth in FIG SLBs, we also deem the standardisation of relevant metrics as necessary. As the sector grows and requirements to analyse these products inadvertently increase, the appropriateness of KPIs/SPTs moves increasingly to the foreground.

Primary markets in 4Q21

Fourth quarter **SSA** volumes reached EUR55bn (+3.8% qoq) of which 58% had a green bond indicator, 28% were sustainability bonds and 13% were social. The nominal growth of green bonds (+33% qoq) during the quarter offset declines among social (-33% qoq) and sustainability bonds (-13% qoq). In October of last year, the **European Union** issued its inaugural EUR12bn green bond under its Next Generation EU (NGEU) borrowing programme. It was the last bond the EU issued in 2021 and emerged as the largest green bond to date. Order books for the 15-year deal saw strong demand of EUR135bn (11.25x subscribed) guiding the spread to MS-8bps (-3bps from IPT). With this transaction, the EU firmly placed itself at the top of our 2021 ESG issuer table for European SSAs. Despite the successful placement of the transaction, the NGEU programme fell short of its initial EUR80bn funding target for 2021 as it ended up syndicating EUR66bn across five transactions and raised EUR5bn through two bond auctions. The reduced borrowing needs were due to delays to the submission and approval of certain national recovery and resilience plans, a prerequisite for accessing NGEU funds.

SSA - Top 10 European ESG Issuers FY21

Issuers	Total Issued (€m)*	Average Tenor (years)
European Union	58,137	14.5
CADES	36,024	6.5
IBRD	30,466	7.3
UK	18,729	21.8
KfW	11,521	3.8
Unedic	10,000	12.2
France	9,280	23.3
Italy	8,500	24.1
EIB	7,640	7.1
SGP	6,500	20.0

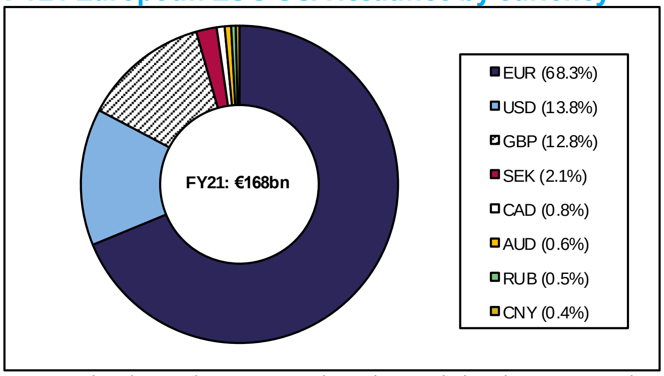
*Source: Bloomberg, *Cumulative issuances FY21*

In 2022, the Commission will issue both conventional and NGEU green bonds via syndications and auctions while short-term EU-Bills will continue to be issued exclusively via auctions. The EU's intention is to concentrate the EUR800bn borrowing under the NGEU between mid-2021 and 2026, which suggests annual issuance of around EUR150bn. However, as per the latest investor presentation, long-term funding needs for the first half of 2022 were only listed at EUR50bn, subverting investor expectations. The first bond is scheduled to be placed at the beginning of February. Overall 2022 borrowing estimates under the NGEU range between EUR110bn-140bn but could change depending on whether the remaining EU member states finalise and receive approval for their national recovery and resilience plans. Given the flexibility the EU demonstrated in reducing its funding targets last year, we may well see it revise its plans upwards should the circumstances require it.

French issuers **Société Du Grand Paris (SGP)** and **Caisse d'Amortissement de la Dette Sociale (CADES)** also placed in our top 10 list. SGP, established by the French government to develop the infrastructure network in Greater Paris, launched a green dual tranche deal in November. The maturities of 10 and 30 years had a combined volume of EUR3bn, skewed towards the shorter leg. The proceeds will go towards financing the Grand Paris Express automatic metro, which is of strategic importance to the French government, also helping it meet its carbon emission objectives. However, SGP launched into an uncertain market backdrop caused mainly by inflationary fears and possible central bank action. Subscription levels only reached 1.1x deal size and final spreads remained unchanged from guidance for both legs. The issuer reportedly paid a concession of 3bps despite the themed nature of the bond. CADES launched two social bonds in October and November for a combined USD5.5bn brining the annual transaction total to 10. The combined EUR36bn in volume was placed in EUR, USD and GBP and was complemented by smaller tap issues and private placements, helping CADES largely meet its 2021 funding target of EUR40bn. In 2022, we expect CADES once again to rank among the top issuers as its funding programme indicates a total funding volume of EUR40bn, of which EUR35bn will be issued with a social label.

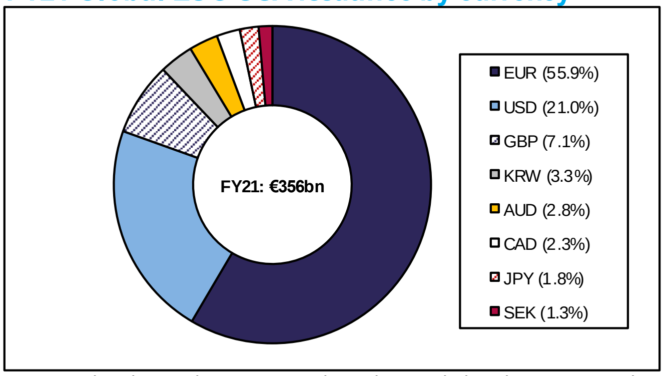
In 4Q21 new green bond issuance at **KfW** was mostly confined to its USD3bn bond launched in October as well as smaller PLN and CNY deals carrying the ESG label. The USD deal, however, was KfW's largest green bond ever in the currency and saw demand reach 3.7x, helping it price slightly within fair value. The final spread was set at SOFR MS+19bps, making it one of the tightest 5-year SSA USD benchmark deals. The German development bank also attracted attention by once more upsizing its funding plans, after having already done so in 1H21. In 2022, total funding needs will range between EUR80-85bn (+EUR10bn vs 2021) of which 'at least' EUR10bn will fund green bonds.

FY21 European ESG SSA issuance by currency



Source: Bloomberg; 8 largest currencies Daiwa Capital Markets Europe Ltd.

FY21 Global ESG SSA issuance by currency



Source: Bloomberg; 8 largest currencies Daiwa Capital Markets Europe Ltd.

Total **FIG** ESG supply continued its strong run in 4Q21 with volumes reaching EUR28.5bn (+39.9% yoy) bringing the FY21 total to EUR124bn. The last quarter saw an expected drop in activity towards the end of the year due to the holiday season. 36% of all deals took place in October, 46% in November and just 18% in December. New Covid variants, rising inflation and the prospect of central banks pivoting towards tighter monetary policy generated some volatility in 4Q21. However, European bank deposit volumes remained elevated providing them with a degree of flexibility when it came to accessing capital markets. Nevertheless, the growing 'risk-off' sentiment in the market saw a focus on senior debt with shorter maturities. This trend has carried over into 2022 and is expected to persist well into the year as credit spreads are expected to widen. Notable issuers and transactions in 4Q21 included:

FIG - Top 10 European ESG Issuers FY21

Issuers	Total Issued (€m)*	Average Tenor (years)
LBBW	4,322	7.8
Caixa Bank	3,582	7.7
Helaba	3,000	8.0
CTP	2,500	6.6
Swedbank	2,289	5.8
BNP Paribas	2,149	5.9
LeasePlan	2,000	5.0
ABN AMRO Bank	1,885	8.0
NatWest Group	1,702	8.0
Deutsche Bank	1,519	9.1

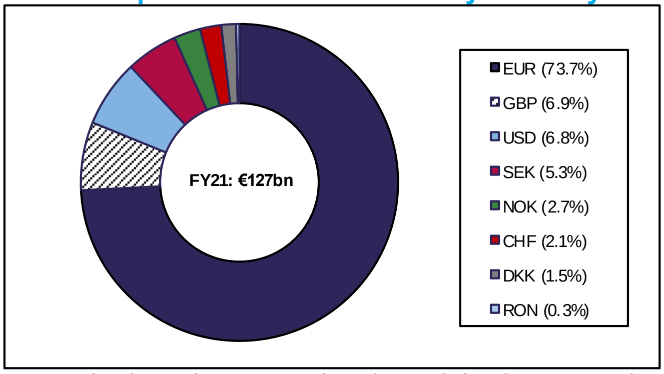
*Source: Bloomberg, *Cumulative issuances FY21*

- **Deutsche Bank** – Deutsche propelled itself into our top 10 list late in the year on the back of three senior offerings (2 SP, 1 SNP) totalling USD1.4bn. The two SP bonds were issued in November and December for USD500m and USD700m respectively, both carrying a 6-year maturity. DB arguably picked an opportune moment to tap the market for themed debt as it will have been encouraged by credit rating upgrades in the preceding months by Moody's and Fitch on the back of continued progress in its restructuring efforts and meeting medium-term targets. Deutsche has also committed itself to provide EUR200bn in sustainable finance by 2023 of which 78.5% have already been delivered. Furthermore, the bank has undergone key structural changes such as the appointment of a new chairman while investment firm Cerberus reduced its stake in the firm, lessening its influence. An updated business plan will be presented in March 2022 in which we expect to see new ambitious sustainability targets set.

- **BNP Paribas** – Europe's largest bank placed most of its labelled debt of the year during 2H21. In November it launched its largest green bond of the year with a EUR1bn green SNP offering. The maturity was 6.5NC5.5 and final book orders stood 2.25x over deal size, tightening the spread by some 25bps from IPT to MS+68bps. From an organisation perspective, BNP has recently undergone some significant changes, through the sale of its US retail division sharpening its focus on Europe where it has grown significantly through the acquisition of Deutsche and Credit Suisse's equity and prime brokerage businesses. The sale echoes that of other European banks that have also exited the US market (BBVA; HSBC). Additionally, the Financial Stability Board (FSB) recently moved BNP up into the third of five buckets in its assessment of globally systemic banks (G-SIBs), placing higher capital requirements on the bank from 2023 onwards. In February, BNP is due to present its 2022-2025 strategic plan with new business targets, accounting for these changes as well as formulating new sustainability goals for the group.

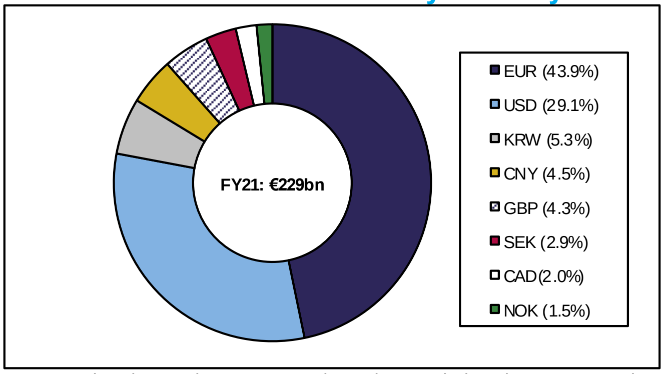
- **NatWest** – In November, NatWest launched its inaugural Sterling green bond for GBP600m. The green Sr. HoldCo transaction had a maturity of 7NC6, pricing in a spread of G+127bps (-13bps from IPT). It will be used to finance new or existing green mortgages, in line with the bank's eligibility criteria of its sustainable bond framework. Despite strong demand (2x subscription level), the deal is thought to have left a 3-5bps new issue premium on the table as it was placed into a relatively volatile trading environment for Sterling ahead of the BoE's decision to raise Bank Rate. This deal brings NatWest's total ESG tally to four transactions (two green, two social). The group thus far exceeded its commitment of issuing 25% of its Sr. HoldCo paper in labelled format. At end-2021 NatWest had financed roughly 40% of the GBP3.6bn Sr. HoldCo with an ESG label. Ahead of COP26, NatWest also committed to provide GBP100bn in sustainable finance by 2025 of which 20% has already been provided as the bank met its preliminary targets early. Nevertheless, 4Q21 was the slowest quarter in terms of ESG Sterling issuance by European FIGs, totalling just GBP1.3bn against a strong second quarter totalling GBP2.5bn.

FY21 European ESG FIG issuance by currency



Source: Bloomberg; 8 largest currencies Daiwa Capital Markets Europe Ltd.

FY21 Global ESG FIG issuance by currency



Source: Bloomberg; 8 largest currencies Daiwa Capital Markets Europe Ltd.

(Table 1) Key ESG Transactions 4Q21

Bank	Rank	Amount	Maturity	Final Spread (bps)	IPT (bps)	Book Orders
SSA						
European Union (NGEU)	Sr. Unsecured (Green)	EUR12bn	15Y	MS - 8	MS - 5	>EUR135bn
Société Du Grand Paris	Sr. Unsecured (Green)	EUR1.75bn	10Y	OAT + 23	OAT + 23	>EUR1.95bn
Société Du Grand Paris	Sr. Unsecured (Green)	EUR1.25bn	30Y	OAT + 23	OAT + 23	>EUR1.45bn
CADES	Sr. Unsecured (Social)	USD2.5bn	3Y	SOFR MS + 20	SOFR MS+21	>EUR3.1bn
CADES	Sr. Unsecured (Social)	USD3bn	5Y	Libor MS + 5	Libor MS + 6	>USD6bn
KfW	Sr. Unsecured (Green)	USD3bn	5Y	SOFR MS + 19	SOFR MS + 21	>USD11bn
UK	Sr. Unsecured (Green)	GBP6bn	32Y	G - 1	G - 1/0	>GBP74.1bn
IBRD	Sustainable Dev. Bond	EUR2bn	25Y	MS + 12	MS + 13	>EUR2.65bn
IBRD	Sustainable Dev. Bond	USD2bn	7Y	SOFR + 29	SOFR + 30	>USD2.2bn
EIB	Climate Awareness Bond	EUR750m	6Y	MS - 20	MS - 18	>EUR5.75bn
FIG (Senior)						
BNP Paribas	SNP (Green)	EUR1bn	6NC5	MS + 68	MS + 70/75	>EUR2.25bn
NatWest	Sr. HoldCo (Green)	GBP600m	7NC6	G + 127	G + 140/145	>GBP1.2bn
SocGen	SNP (Social)	EUR1bn	6NC5	MS + 80	MS + 100	>EUR2.2bn
ABN AMRO	SNP (Green)	USD1bn	8NC7	T + 110	T + 135	n.a.
Swedbank	SP (Green)	USD1bn	5Y	T + 47	T + 65/70	n.a.
BPCE	SNP (Social)	USD1bn	6NC5	T + 95	T + 115	n.a.
KBC Group	Sr. Unsecured (Green)	EUR750m	5.25NC4.25	MS + 47	MS + 70/75	>EUR2bn
Iccrea Banca	SP (Social)	EUR500m	5NC4	2.125%	2.125%	>EUR650m
BCP	SP (Social)	EUR500m	6.5NC5.5	MS + 200	MS + 215/220	>EUR725m
FIG (Subordinated)						
Bayern LB	Tier 2 (Green)	EUR500m	11NC6	MS + 140	MS + 140/145	n.a.

Source: BondRadar, Bloomberg, Daiwa Capital Markets Europe Ltd.

Secondary markets in 4Q21

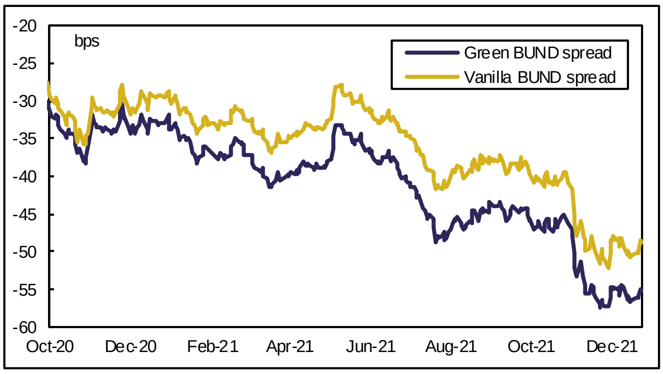
For most of 2021, funding conditions were highly favourable, allowing issuers to achieve tight spreads. However, the responses by major central banks towards rising inflation, signalling the withdrawal of monetary support previously provided to counter the adverse economic effects of the pandemic, generated uncertainty within financial markets. Consequently, credit spreads across payment ranks have widened and this development is expected to continue well into 2022. But there appears to be a divergence in monetary policy between the euro area on the one hand and the UK and US on the other. The Bank of England (BoE), like the Fed, appears to be taking a relatively hawkish approach, with the Monetary Policy Committee (MPC) voting to raise Bank Rate by 15bps to 0.25% in December and to 0.50% in February, signalling further tightening to come this year. But while the Fed is also expected to hike rates steadily throughout 2022, the ECB does not expect to raise rates before 2023 and will maintain its net asset purchases through to October and probably beyond. With economic and financial fundamentals remaining broadly robust, and some fiscal and liquidity support measures still in place, spread widening should be manageable unless inflation remains very high and central banks have to tighten much more aggressively than is currently envisaged.

Recent EBA data displayed in the latest European Banks Risk Dashboard suggests that European FIGs are entering this period of uncertainty from a position of relative strength, with measures surrounding asset quality, capital adequacy and liquidity all sound. However, as the ECB is set to slow its net asset purchases in each quarter this year, frontloading of issuance by FIGs in early 2022 was understandable. Volumes should normalise as markets adjust to the new normal.

After a period of uncertainty, particularly throughout November and early December, spreads eventually stabilised. This development was visible in the option-adjusted spreads (OAS) for ESG and non-ESG themed indices in 4Q21. In 2021, the median negative OAS differential between the Barclays MSCI Euro-Corporate ESG Index and Barclays Pan-European Aggregate Corporate Index was -4.08bps compared to -7.79bps one year prior. During the most recent quarter, it averaged -3.66bps, albeit having risen in late November to as high as -0.79bps. Supply dynamics remained largely intact with large volumes of themed debt reaching the market. The prospect of further sizeable issuance into the segment in the wake of COP26 may have reduced investor's willingness to factor in a greenium into bond purchases.

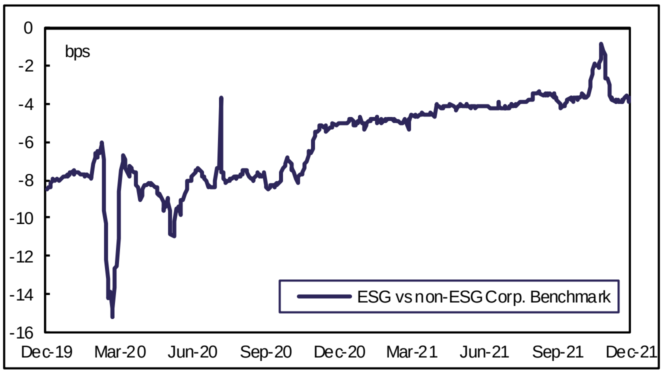
The general uncertainty regarding central bank intentions in fixed-income markets in the fourth quarter might have compounded this impact given the lower trading volumes of ESG bonds compared to conventional bonds. But the impact of the narrower investor base of themed bonds, much of which tends to have a 'buy to hold' objective, is not clear-cut. In 4Q21, the prevailing 'risk-off' sentiment put the spotlight on issues such as liquidity risk, credit quality and fears over potential greenwashing. However, so far in January, greeniums have partially been restored with issuers of conventional senior bonds having had to pay concessions in the region of 10-15bps for new issues, while concessions for senior sustainable bond were roughly half of that at just 5-8bps. So, perhaps the preponderance of buy-to-hold investors is now once again supporting stability in the ESG segment. We also note that the greenium for liquid sovereigns such as German Bunds remains in place compared to their conventional curve. Over the course of 4Q21 the median spread differential persisted at -6.02bps bringing the 2021 median to -5.51bps (1Q21: -4.20bps; 2Q21: -5.24bps; 3Q21: -6.38bps).

Green vs Vanilla BUND Z-spreads



Source: Bloomberg; Daiwa Capital Markets Europe Ltd.

Spreads (OAS) of ESG vs non-ESG benchmarks



Source: Bloomberg; Barclays MSCI Euro-Corporate ESG Index vs Barclay Pan-European Aggregate Corporate Index

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Other Disclosures Concerning Individual Issues:
1) As of 26 April 2016, Daiwa Securities Co. Ltd., its parent company Daiwa Securities Group Inc., GMO Financial Holdings, Inc., and its subsidiary GMO CLICK Securities, Inc. concluded a basic agreement for the establishment of a business alliance between the four companies.
As of end-December 2017, Daiwa Securities Group Inc. owned shares in GMO Financial Holdings, Inc. equivalent to approximately 9.3% of the latter's outstanding shares. Given future developments in and benefits from the prospective business alliance, Daiwa Securities Group Inc. could boost its stake in GMO Financial Holdings, Inc. to up to 20% of outstanding shares.

2) Daiwa Real Estate Asset Management is a subsidiary of Daiwa Securities Group Inc. and serves as the asset management company for the following J-REITS: Daiwa Office Investment Corporation (8976), Daiwa Securities Living Investment Corporation (8986).

3) Samty Residential Investment became a consolidated subsidiary of Daiwa Securities Group Inc. effective 10 September 2019.

4) On 30 May 2019, Daiwa Securities Group Inc. formalized an equity/business alliance with Samty, and as of 14 June 2019 it owned 16.95% of shares outstanding in Samty along with convertible bonds with a par value of Y10bn. Conversion of all of said convertible bonds into common shares would bring the stake of Daiwa Securities Group Inc. in Samty to 27.28%.

5) Daiwa Securities Group Inc. and Credit Saison Co., Ltd. entered into a capital and business alliance, effective 5 September 2019. In line with this alliance, Daiwa Securities Group Inc. is to acquire up to 5.01% of Credit Saison's total common shares outstanding (excl. treasury shares; as of 31 Jul 2019).

Notification items pursuant to Article 37 of the Financial Instruments and Exchange Law
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If you decide to enter into a business arrangement with our company based on the information described in this report, we ask you to pay close attention to the following items.

- In addition to the purchase price of a financial instrument, our company will collect a trading commission* for each transaction as agreed beforehand with you. Since commissions may be included in the purchase price or may not be charged for certain transactions, we recommend that you confirm the commission for each transaction. In some cases, our company also may charge a maximum of ¥2 million per year as a standing proxy fee for our deposit of your securities, if you are a non-resident.
- For derivative and margin transactions etc., our company may require collateral or margin requirements in accordance with an agreement made beforehand with you. Ordinarily in such cases, the amount of the transaction will be in excess of the required collateral or margin requirements**.
- There is a risk that you will incur losses on your transactions due to changes in the market price of financial instruments based on fluctuations in interest rates, exchange rates, stock prices, real estate prices, commodity prices, and others. In addition, depending on the content of the transaction, the loss could exceed the amount of the collateral or margin requirements.
- There may be a difference between bid price etc. and ask price etc. of OTC derivatives handled by our company.
- Before engaging in any trading, please thoroughly confirm accounting and tax treatments regarding your trading in financial instruments with such experts as certified public accountants.

* The amount of the trading commission cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of each transaction etc.
** The ratio of margin requirements etc. to the amount of the transaction cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of each transaction etc.

When making an actual transaction, please be sure to carefully read the materials presented to you prior to the execution of agreement, and to take responsibility for your own decisions regarding the signing of the agreement with our company.

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