Environmental Finance

Sustainable Bonds Insight 2022

Contents

Introduction

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The sustainable bond market has become accustomed to setting spectacular record-breaking annual issuance totals in recent years. Nonetheless, even in that context, the eagerly anticipated $1 trillion milestone for green, social, sustainability and sustainability-linked (GSSS) bond issuance achieved in 2021 was a special one.

According to figures from *Environmental Finance Data*, total GSSS bond issuance reached $1.03 trillion in 2021 – more than 69% higher than the $606 billion in 2020, and more than triple the $326 billion issued in 2019.

The catalysts for this were numerous, but it is hard to ignore the increasingly ubiquitous nature of sustainable finance activity among a progressively diverse group of issuers.

Corporate issuers increasingly made their presence felt among sustainable bond issuers, with their share of the total market jumping to 37% from just 26% in 2020 after total issuance more than doubled. This was supported by a rapidly expanding list of blue chip and high yield issuers joining the fray.

Meanwhile, sovereign issuance more than doubled as a flurry of maiden issuances were delivered by the likes of European heavyweights UK, Italy, and Spain earlier in 2021 as well as Benin, Slovenia, Latvia, Peru and Colombia.

More growth is expected in 2022. According to forecasts collated by Environmental Finance, market experts predict total sustainable bond issuance to reach $1.5 trillion in 2022.

This is expected to be primarily driven by green bond issuance jumping 50% to $790 billion in 2022 from $534 billion in 2021. Sustainability-linked bond issuance, meanwhile, is forecast to more than double to $200 billion in 2022 after multiplying more than nine-times in 2021.

Of course, it will not be all plain sailing for 2022 sustainable bond issuance.

2021 started with the Covid-19 pandemic continuing to drive interest in "building back better" – a message well suited to sustainable bonds – and came to a close shortly after the UN COP26 climate summit raised the pressure on global actors to turn warm words on financing climate transition into affirmative action.

In 2022, however, the year has started with accelerating inflation and rising interest rates in numerous countries – including the key economies of Europe and US which together represented three-fifths of total sustainable bond issuance in 2021.

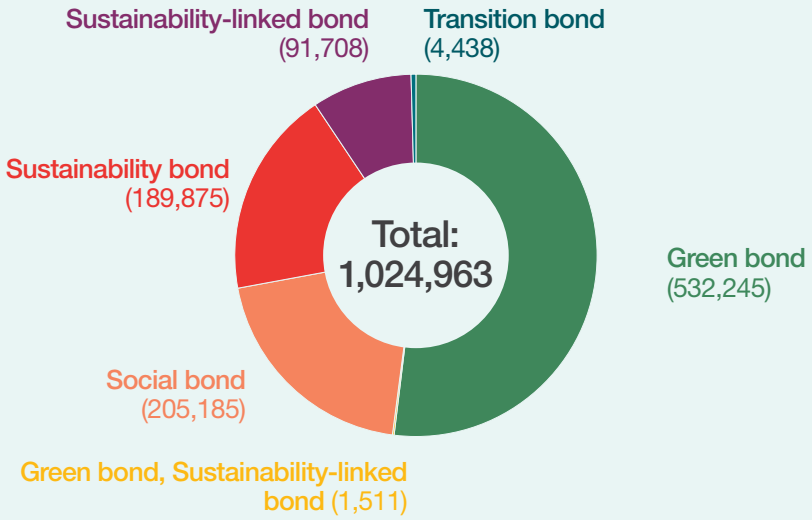
How will sustainable bond issuers and investors respond to this changing environment? It is not yet clear, but it is a fine reminder of just how young the sustainable bond market still is.

Green bonds – the oldest of the sustainable bond labels – have only existed since 2007, with the Green Bond Principles not emerging until 2014. The social, sustainability and sustainability-linked bond labels, meanwhile, have histories that stretch back little more than five years at best. The market is, therefore, a child of the post-financial crisis world where interest rate trends have predominantly been marked by a downward trajectory rather than a sustained upward trajectory that faces the market in 2022 and beyond.

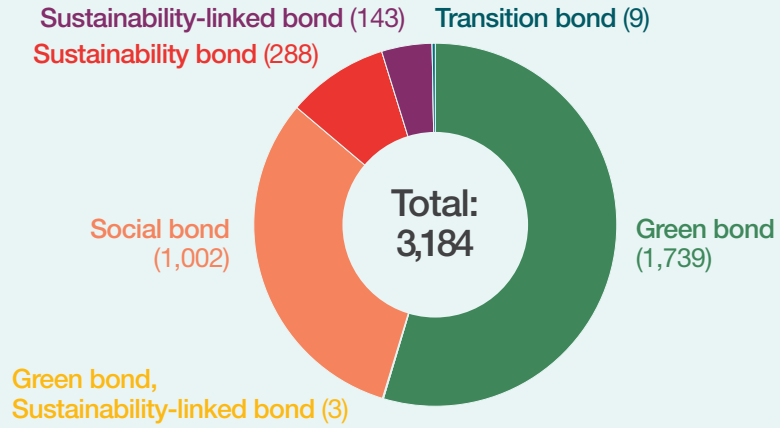
Nonetheless, environmental and social factors have become core considerations in financing strategies in recent years across an increasingly broad range of issuers – and this trend is likely to fortify rather than falter in 2022 and beyond.

The fact remains that finance is one of the most powerful tools to deliver economy-wide environmental and social impact, and the sustainable bond market looks set to continue to innovate and burnish its credentials as a pace-setter in this respect. Whatever 2022 brings, issuers and investors alike must appreciate the potential of sustainable bonds to achieve their environmental and social goals – if they do, this new trillion dollar market should continue to strengthen and scale for years to come. ■

2021 Sustainable bond issuance value breakdown ($M)



2021 Sustainable bond issuance volume breakdown



Top 10 biggest issues of 2021

Issuer		Value (bn)	Currency	Value in USD (bn)
	European Union	14.1	EUR	17.2
	European Union	13	EUR	15.5
	European Union	12	EUR	13.9
	United Kingdom	10	GBP	13.7
	European Union	10	EUR	12.2
	European Union	9	EUR	10.7
	Republic of Italy	8.5	EUR	10.2
	Republic of France	7	EUR	8.4
	United Kingdom	6	GBP	8.2
THE WORLD BANK	IBRD	8	USD	8

Largest in 2021

The largest deal and issuers of the year in the green bond market

Largest Single Green Bond

European Union
Value: €12,000 M ($13,879 M)

Largest Supranational

European Union
Value: $13,879 M

Largest Issuer

United Kingdom
Value: $21,924 M

Largest Corporate

NTT Finance
Value: $4,338 M

Largest Agency

KfW
Value: $18,562 M

Largest Financial Institution

China Development Bank
Value: $6,350 M

Largest Sovereign

United Kingdom
Value: $21,924 M

Largest Municipal

Government of Hong Kong
Value: $6,269 M

The largest deal and issuers of the year in the social bond market

Largest Single Social Bond

European Union
Value: €14,137 M ($17,171 M)

Largest Supranational

European Union
Value: $60,393 M

Largest Issuer

European Union
Value: $60,393 M

Largest Corporate

East Nippon Expressway
Value: $3,117 M

Largest Agency

Cades
Value: $43,035 M

Largest Financial Institution

BNG Bank
Value: $1,716 M

Largest Sovereign

Republic of Chile
Value: $12,784 M

Largest Municipal

State of New York Mortgage Agency
Value $772 M

The largest deal and issuers of the year in the sustainability bond market

Largest Single Sustainability Bond

IBRD
Value:
$8,000 M

Largest Supranational

IBRD
Value:
$39,755 M

Largest Issuer

IBRD
Value:
$39,755 M

Largest Corporate

Toyota
Value:
$3,948 M

Largest Agency

Agence Francaise de Developpement
Value: $4,171 M

Largest Financial Institution

Islamic Development Bank
Value: $2,500 M

Largest Sovereign

Republic of Peru
Value: $3,250 M

Largest Municipal

The Federal State of North Rhine Westphalia
Value: $4,279 M

The largest deal and issuers of the year in the sustainability-linked bond market

Largest Single Deals

Enel
Value: $12,058 M

Teva Pharmaceutical
Value: $5,010 M

ASTM
Value: $3,394 M

BCP V Modular Services Finance II PLC
Value: $1,724 M

Tesco
Value: $1,525 M

Top 5 largest issuing countries in 2021 in the green bond market

The US is the largest green bond issuing country in 2021 while China became the second largest displacing France while Germany remained the third largest in 2021.

USA $83,587 M

Largest deals

Wells Fargo	$2,880 M
Ford	$2,500 M
Mondelez International, Inc.	€2,000 M ($2,371 M)

Largest issuers

Fannie Mae	$13,801 M
Wells Fargo	$2,880 M
Ford	$2,500 M

USD conversion taken from pricing date resulting in variation in USD value

Methodology: Deals from supranational entities have not been included in individual countries.

France $52,730 M

Largest deals

Republic of France	€7,000 M ($8,353 M)
Republic of France	€2,280 M ($2,574 M)
Republic of France	€2,122 M ($2,509 M)

Largest issuers

Republic of France	$17,573 M
Société du Grand Paris	$7,615 M
BPCE	$3,577 M

United Kingdom $36,308 M

Largest deals

United Kingdom	£10,000 M ($13,678 M)
United Kingdom	£6,000 M ($8,247 M)
Canary Wharf Group	£950 M ($1,310 M)

Largest issuers

United Kingdom	$21,924 M
Virgin Media	$1,786 M
Canary Wharf Group	$1,310 M

Germany $58,536 M

Largest deals

Federal Republic of Germany	€6,000 M ($7,292 M)
KfW	€4,000 M ($4,733 M)
Federal Republic of Germany	€3,500 M ($4,151 M)

Largest issuers

KfW	$18,562 M
Federal Republic of Germany	$11,443 M
Landwirtschaftliche Rentenbank	$4,185 M

China $58,825 M

Largest deals

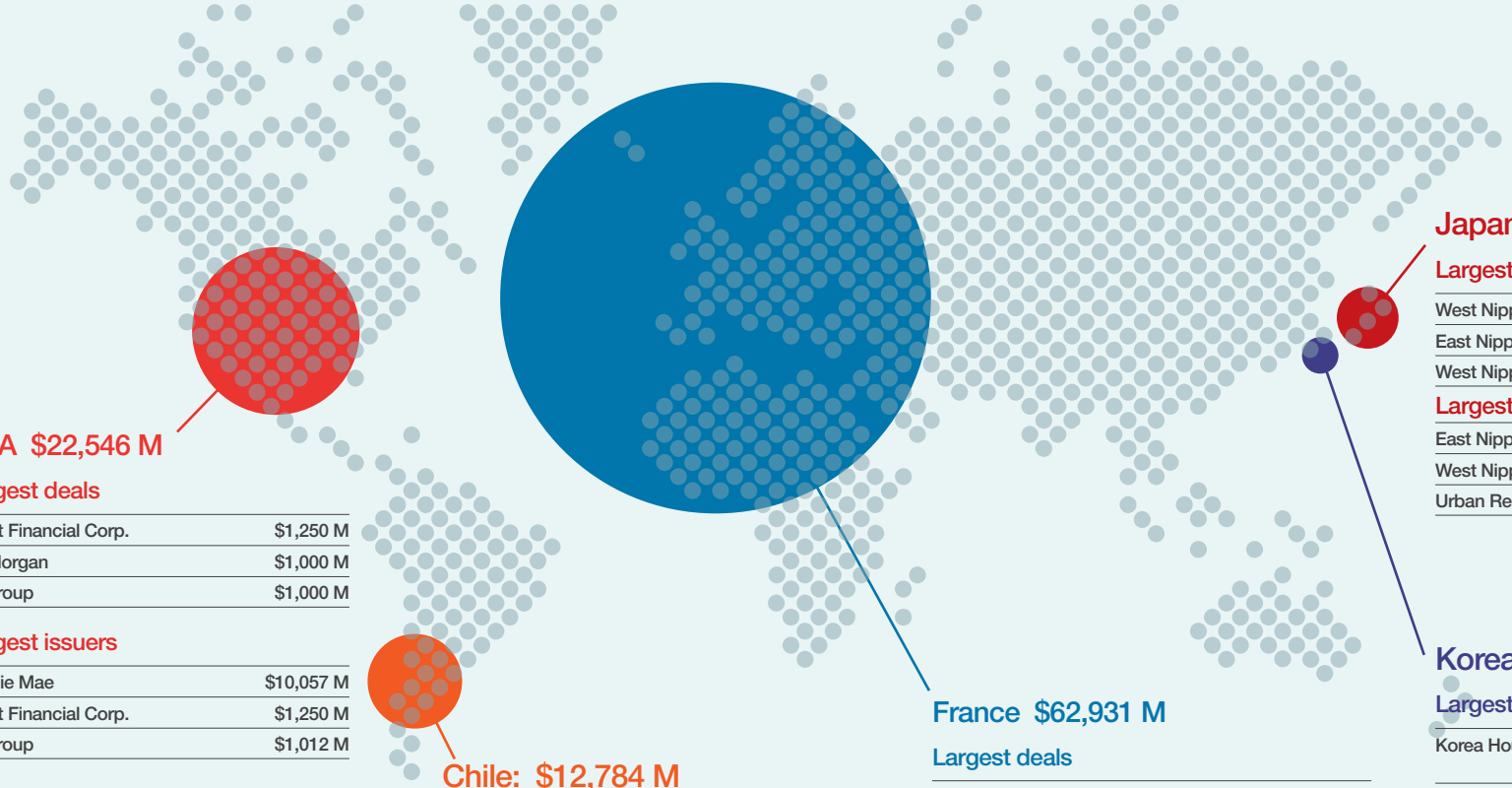
China Development Bank	CNY20,000 M ($3,074 M)
CHN energy	CNY10,000 M ($1,547 M)
China Development Bank	CNY10,000 M ($1,538 M)

Largest issuers

China Development Bank	$6,349 M
ICBC	$3,222 M
China Three Gorges	$3,102 M

Top 5 largest issuing countries in 2021 in the social bond market

France, USA and Chile are the three biggest issuing countries in the social bond market in 2021.



USA $22,546 M

Largest deals

Truist Financial Corp.	$1,250 M
JP Morgan	$1,000 M
Citigroup	$1,000 M

Largest issuers

Fannie Mae	$10,057 M
Truist Financial Corp.	$1,250 M
Citigroup	$1,012 M

Chile: $12,784 M

Largest deals

Republic of Chile	$3,750 M
Republic of Chile	€1,918 M ($2,262 M)
Republic of Chile	€1,750 M ($2,062 M)

Largest issuers

Republic of Chile	$12,784 M

France $62,931 M

Largest deals

Cades	€5,000 M ($5,941 M)
Cades	€5,000 M ($5,930 M)
Cades	$5,000 M

Largest issuers

Cades	$43,035 M
Unédic	$11,929 M
EDF	$1,530 M

Japan: $8,296 M

Largest deals

West Nippon Expressway	JPY150,000 M ($1,327 M)
East Nippon Expressway	JPY140,000 M ($1,273 M)
West Nippon Expressway	JPY100,000 M ($884 M)

Largest issuers

East Nippon Expressway	$3,117 M
West Nippon Expressway	$2,919 M
Urban Renaissance Agency	$720 M

Korea: $4,858 M

Largest deals

Korea Housing Finance Corporation	€1,000 M ($1,191 M)
Korea Housing Finance Corporation	€1,000 M ($1,191 M)
Korea Housing Finance Corporation	€550 M ($640 M))

Largest issuers

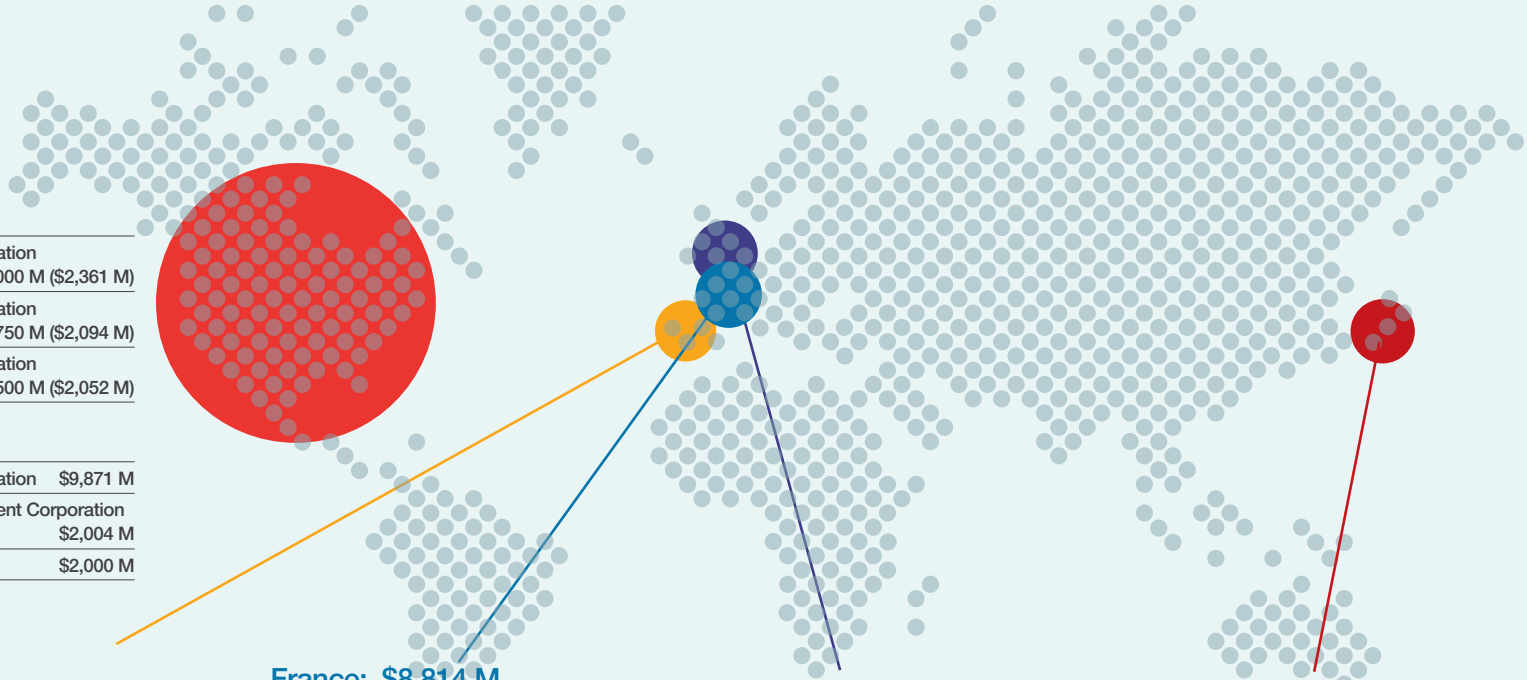
Korea Housing Finance Corporation	$3,022 M
KEB Hana Bank	$606 M
NH Nonghyup Bank	$600 M

USD conversion taken from pricing date resulting in variation in USD value

Methodology: Deals from supranational entities have not been included in individual countries.

Top 5 largest issuing countries in 2021 in the sustainability bond market

USA, France and UK are the three biggest issuing countries in the sustainability bond market in 2021.



USA: $37,223 M

Largest deals

International Development Association	€2,000 M ($2,361 M)
International Development Association	€1,750 M ($2,094 M)
International Development Association	£1,500 M ($2,052 M)

Largest issuers

International Development Association	$9,871 M
New York City Housing Development Corporation	$2,004 M
Bank of America	$2,000 M

Spain: $8,197 M

Largest deals

Telefonica	€1,000 M ($1,205 M)
Autonomous Community of Andalusia	€1,000 M ($1,188 M)
Autonomous Community of the Basque Country	€1,000 M ($1,183 M)

Largest issuers

Telefonica	$2,062 M
Autonomous Community of Andalusia	$1,779 M
Autonomous Community of the Basque Country	$1,183 M

USD conversion taken from pricing date resulting in variation in USD value

Methodology: Deals from supranational entities have not been included in individual countries.

France: $8,814 M

Largest deals

Agence Francaise de Developpement	€2,000 M ($2,346 M)
Agence Francaise de Developpement	€1,500 M ($1,825 M)
Action Logement Services	€1,000 M ($1,184 M)

Largest issuers

Agence Francaise de Developpement	$4,171 M
Action Logement Services	$2,184 M
Caisse des Dépôts et Consignations	$613 M

United Kingdom: $8,708 M

Largest deals

Anchor Hanover Group	£450 M ($623 M)
Standard Chartered	€500 M ($572 M)
PA Housing	£400 M ($556 M)

Largest issuers

Standard Chartered	$1,072 M
Anchor Hanover Group	$623 M
PA Housing	$556 M

Japan: $8,532 M

Largest deals

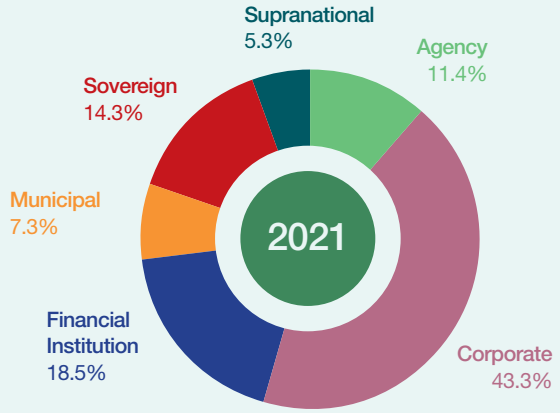
Toyota	$2,750 M
Toyota	JPY130,000 M ($1,198 M)
Development Bank of Japan	€600 M ($710 M)

Largest issuers

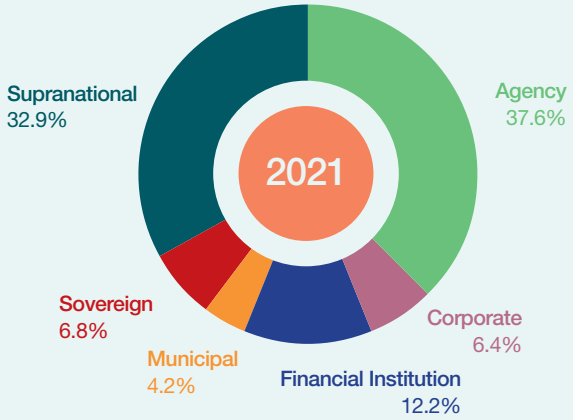
Toyota	$3,948 M
Development Bank of Japan	$1,230 M
Japan Railway Construction, Transport and Technology Agency	$664 M

Breakdown of issuers of green, social and sustainability bonds

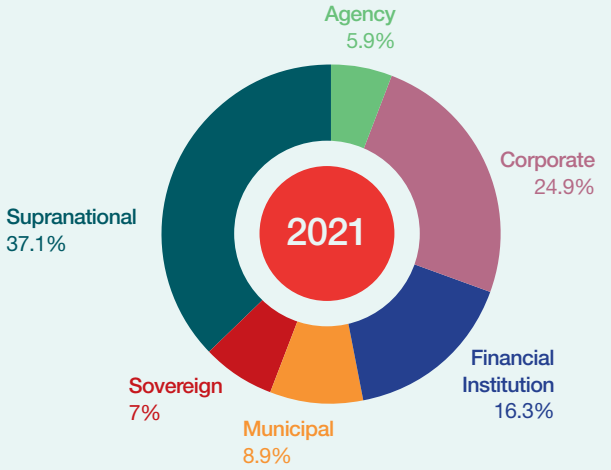
Green bonds

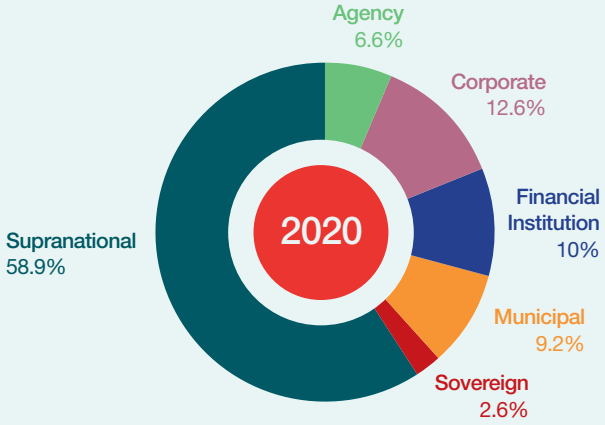


Social bonds



Sustainability bonds





Ensuring the integrity of sustainability bonds as more issuers enter the market

Currently toping Bloomberg's corporate and government global green bonds league table of 2022 so far and having consistently ranked in the top 3 for market share in social and sustainable bonds over the last few years, BNP Paribas is at the forefront of where the market is developing

The bank's head of sustainability research Trevor Allen, predicts another bumper year across both green and sustainability-linked bonds. He forecasts a total green bond issuance of $900 billion in 2022, an increase of 68.6% from 2021, according to *Environmental Finance Data*. In addition, Allen predicts the sustainability-linked bond market to hit $220 billion this year, which is growth of 135% on what we saw in 2021 in this market.

Environmental Finance: What do you expect from the sustainability bonds market in the year ahead?

Agnes Gourc: We see a big interest from corporates for sustainability linked bonds, both from investment grade and high-yield segments. It's fair to say that last year most of the high-yield sustainable bonds have been in sustainability linked format. We expect growth will carry on in that segment.

The big question for 2022 in sustainability-linked bonds will definitely be around sovereigns, supranationals and agencies (SSAs) and bank issuers. At the moment, out of the three types of issuers we have only seen a very limited number of examples of banks and SSA accessing this market.

In addition, compared with other types of sustainable bonds, sustainability-linked transactions are not limited by the size of the projects, which needs to be identified for a green, social or sustainability bond.

That's an additional feature of the market growth. We worked on the Teva transaction, a pharmaceutical company, in 2021 and that was the largest sustainability-linked bond ever. They did a multi-tranche offering, across USD and Euros, which were all in sustainability-linked format.

Agnes Gourc, head of sustainable finance markets

On the use of proceeds side, social bonds have been driven by Covid-related transactions in recent years; in essence SSAs coming with measures to support employment in the pandemic. You would expect less of those transactions in 2022, so that may be an area that will stabilise. Corporates haven't really come to that market yet either, so you don't have that relay of growth.

> "The big question for 2022 in sustainability-linked bonds will definitely be around sovereigns, supranationals and agencies (SSAs) and bank issuers."
>
> Agnes Gourc

Green bonds is the steady one over the years. Effectively when you look at volumes it's about 50% of the sustainable bond market, over the last two years, and it keeps growing strongly. I would expect that momentum to continue. There's an interesting dynamic in Europe with the regulations coming, which means a lot of ESG investors will look at green bonds in Europe with a new perspective, as they have to start reporting on EU taxonomy alignment.

Constance Chalchat, CIB head of company engagement & chief sustainability officer, Global Markets

EF: Is the market becoming more aware of what is materially relevant in sustainable bonds?

AG: Definitely and there are a few reasons. Sustainability-linked is a fairly new instrument, we worked on the first ever sustainability-linked bond for Enel in 2019 and the International Capital Markets Association (ICMA) Principles were published in June 2020, so it's still a fairly nascent market. However, last year sustainability-linked made about 10% of the overall sustainable bond market, so the market now has a decent amount of precedents across multiple sectors.

In sustainability-linked format, the issuer is expected to publish an annual report on where it stands on all the key performance indicators (KPIs) it's integrated in the transaction, so investors get to see year on year how the company has progressed on those KPIs, and most importantly the factors that have driven that progression. That builds on the market understanding and knowledge.

BNP Paribas is an executive member of the ICMA Principles, which have historically proven the value of promoting transparency to increase the robustness of the market.

EF: With a rapidly growing market, with new issuers entering, how do you ensure integrity, and avoid greenwashing, without limiting its size?

Constance Chalchat: This will be a strong focus year. How do we ensure integrity, how do we ensure sustainable finance remains something which brings added value to finance.

Greenwashing can happen because of two possible risks. The first is linked to the company, it can have ambition when it comes to a sustainable plan but their sustainable plan may not be not robust enough at this stage to be fully credible. In this case, we strongly advise the company not to issue sustainable debt. Our recommendation is to start with a plan, we can be in situations where we advise on what is the right plan, what is expected by stakeholders, what is credible, what are the indicators to disclose and progress on.

The second risky area is at the transaction level. We strongly support the new EU green taxonomy as it clearly defines what is and isn't green. We welcome the implementation of certain standards this year defining green assets for green diverse issuances. The other type of issuances where we can see greenwashing risk are KPI-linked transactions. In this case, we look at the materiality and ambitiousness of the KPIs chosen. So we have, internally, the list of what KPIs are deemed as material for a given sector. For instance, a mining company that could be electricity they use and how sustainable they are in energy usage, as electricity would count for a large part of their carbon emissions. Another mining KPI could be protection of the local population, robustness of infrastructure, and fair employment practices etc.

Likewise, for a beverage company, the most material KPIs would be plastic and water usage. So in this case we would have a strong dialogue with the company on what credible KPIs to choose. We then look at the ambitiousness of the KPIs and as a leader in sustainable finance, we can provide a serious benchmark, best practice transaction in the market to guide them as to what is expected when it comes to ambition.

Finally, we need to address the symmetry of bonuses and penalties. Typically for KPI-linked finance, if a company

Trevor Allen, head of sustainability research, BNP Paribas Markets 360

reaches their objectives they'll get a discount, a bonus, if they don't they should pay a penalty. We have seen transactions in the market where the company gets a discount if they reach their objectives but they don't get any penalty if they don't. This is increasingly criticised.

The make or break of the market this year is ensuring real impact, giving confidence to investors that they can really have impact and then how able are the banks and clients to bridge the sustainable financing gap.

We need corporates to issue more environmental, social and governance (ESG) and green papers that are solid, robust, serious and impactful. If we are able to do this, there's massive amounts to be invested by investors looking for impact paper. I strongly believe it's the year of the principal scale up, provided the market is not killed by greenwashing. I strongly encourage corporates to rely on rigorous, expert banks that can advise them to do the right thing.

We're moving from an opportunistic, deal driven market to one which is a strategically ESG infused market. ESG was something that was a niche segment that grew up

Laurent Leveque, global head of official institutions coverage

and developed, but this year is the shift to it becoming the mainstream market. It has become something that is the strategic focus of the vast majority of institutional investors and corporates today.

EF: How is the growth of awareness of materiality affecting corporates?

Trevor Allen: The turning point was really Conference of the Parties (COP) 26. We saw more attendance from corporates than at any previous COP meeting. We know that corporates largely went there with an idea that they wanted to influence COP, but what actually happened was they became quite influenced by COP through governments and the different groups that were there proclaiming how climate change was impacting us now. The corporates really get a sense now of how they need to change their business activities.

So it's this nascent view of how corporates are actually going to change their business activities in a meaningful way. One of the quickest or most straightforward ways to do that now is renewable energy. So we're certainly seeing more demand from corporates for renewable energy and if you look at the Power Purchase Agreement (PPA) market in the US that's up-ticking now, as it is in Europe. What companies are looking for in these PPAs is specifically green energy on the back of that.

Green CAPEX and green bond issuance is a way for corporates to finance greening their business activities, and to also explore how they can green their supply chains. We also know on the auto sector, investors very much want to see more green debt coming from the automakers, i.e building more electric vehicles.

EF: What will be the main drivers for sustainability bonds for SSAs?

Myriam Zapata: In terms of the innovations we have witnessed recently, the biggest step was the sovereigns entering the market. They provided the liquidity that was necessary to unlock all that investor appetite that was latent and just waiting for someone to provide the green bonds in size so they could commit to larger amounts of investment.

We have seen this in the last couple of years, particularly as more sovereigns come in to play, so every day we see more green funds opened by investors and more public commitments made out loud. This is obviously triggered by the sovereigns providing that liquidity.

The next step now, in addition to seeing more sovereigns jumping on because we haven't seen it all yet, is going to be the quality. First is the quantity, then it's going to be the quality, and the quality often comes from the SSA sector. All the conversations on greenwashing, the importance of transparency, quality of impact reports and ESG ratings are the focus going forward.

EF: What impact will more corporates joining the market have in SSA activity?

MZ: The role of SSAs and the public sector is to make sure that their best practice cascades down to the corporate and financial institutions. That's really going to continue, and capacity building remains at the core of SSAs, along with liquidity. That sets the stage for others to be able to follow,

Séverine Mateo, global head, BNP Paribas Low Carbon Transition Group

and it's the whole drive of public and private money so we can solve the climate issue together.

Laurent Leveque: It's not a competition between the two worlds. SSAs keep coming and usually have a big share of the total issuances because they're big by nature, and often issue larger volumes than corporates. They're clearly setting the standards for the market.

EF: How are net zero targets and transition strategies influencing financing needs across carbon intensive sectors?

Séverine Mateo: Net zero targets are becoming the new normal for corporates, and the financing needs within carbon intensive sectors remain high. Scaling up tangible investments towards a material net zero transition will be critical. As the sustainable bond market develops to address net zero challenges across the economy, the industry is harnessing sustainable market innovations – including science based targets integrated within bonds – to scale up transformative solutions including hydrogen, battery technologies, electric vehicle charging and carbon capture. ■

ISS ESG

Sustainability-linked financing for a credible net-zero transition

How can issuers, including within carbon-intensive sectors, use sustainability-linked markets to help finance their climate transition? Viola Lutz, Federico Pezzolato and Marie-Bénédicte Beaudoin discuss the issues at stake

Environmental Finance: What role can sustainable finance play as companies plan to transition towards net zero?

Viola Lutz: COP26 has helped trigger enormous interest from corporates and financial institutions alike in net zero, as well as creating the context for ambitious net-zero strategies. In this regard, sustainable finance can create a framework for much more transparency around the net-zero process. By using sustainable finance, issuers – particularly those in carbon-intensive sectors – are signalling their commitment to a rigorous, transparent process, because they will automatically subject themselves to greater levels of scrutiny than would otherwise be the case.

There are minimum requirements around the information that needs to be disclosed, and it is established market practice that issuers subject themselves to a second-party opinion [SPO] to provide an external view. Of course, there are different types of SPOs, some are more detailed than others, and some provide more of a critical assessment. ISS ESG's objective is to offer an independent assessment of the credibility of what the issuer is presenting in terms of its climate transition – for example, how a long-term net-zero pledge, usually going out to 2050, combines with short- and medium-term targets used for a sustainability-linked bond. This shows the specific practical steps a company plans to undertake to get there.

EF: What are the processes that companies need to undertake to link net-zero strategies with sustainability linked financing?

Federico Pezzolato: At the core, of course, is the identification of the right KPIs [key performance indicators]. These need to be material, relevant to the operations of the issuer, and display the appropriate level of ambition in terms of target setting. Therefore, greenhouse gas [GHG] KPIs may be more material to companies in certain sectors, depending on the industry and emissions profile. The company also has to identify and clearly state the existing technologies, production processes and corporate plans that it will implement to achieve its targets.

The Climate Transition Finance Handbook from ICMA [the International Capital Markets Association] is an important benchmark. You can debate whether you need to explicitly reference it, but we would strongly recommend that an issuer's sustainable finance framework covers the content of the handbook. This requires the issuer to disclose on four main elements: its climate transition strategy and governance; its business model environmental materiality; the 'science-based' nature of the strategy, including targets and pathways; and how it plans to implement the transition.

There are some misconceptions in the market regarding the usability of the handbook. To many, it seems more appropriate as a guidance document, compared with ICMA's Green Bond or Sustainability Linked Bond Principles. For example, the latter requires an issuer to identify a material KPI, set an ambitious target, and have externally verified reporting; the actual strategy itself is somewhat in the background and of course the focus is not on climate. However, the Climate Finance Transition Handbook requires for indicators to be disclosed regarding the trajectory and the mission of the company to deliver the expected targets.

EF: What is the appropriate boundary for a net-zero target and the associated KPIs?

Marie-Bénédicte Beaudoin: Firstly, net-zero targets are usually long-term targets to be achieved by 2050 or, in very ambitious cases, 2040. So, the net-zero ambition itself needs to be underpinned with a medium-term target, usually set to be achieved sometime between 2026 and 2035. Those medium-term targets usually form the basis for the KPI linked to the transaction.

Secondly, I would strongly recommend that any issuer who

wants to go out with a KPI linked to a net-zero pledge thinks very carefully about boundaries. In a net-zero context, the key element is the emission scope. It will, to some extent, depend on the industry involved, but it should capture all main greenhouse gases, not just carbon dioxide, and all material emissions from Scopes 1, 2 and 3.

To understand what material Scope 3 emissions are for an industry, reference points such as the Science Based Targets initiative [SBTi] and Climate Action 100+ can be used. Some issuers will set different KPIs for Scope 1 and 2 and Scope 3 emissions; that is fine in principle, but if coupon payments are linked to the achievement of emissions targets, they should focus on the material emissions of the company.

EF: How do you judge the credibility of strategies and targets?

MBB: It is highly recommended that there is an external reference point to judge the ambition of the target set. It could be the SBTi, the Transition Pathway Initiative, or a third-party consultant: it is important for an issuer to not only issue a statement, but to explain which external party has looked into the detail of its target.

In terms of assessing strategies, it is a difficult topic. That will be a huge area of development in the year to come. There are external reference points for industries, such as from industry bodies, investor coalitions etc. From the company point of view, it should qualitatively describe its activities, and best practice would be to quantify the contribution per activity to the reduction target: so, for example, that the substitution of raw materials will contribute 10% to the achievement of the Scope 3 emissions target.

One point that is important to make is that 2°C as a benchmark is not sufficient anymore. That is something that became very clear as a result of COP26. For a long time, the 2°C narrative was dominant, but 2021 marked the year that the narrative fully shifted to the importance of the 1.5°C threshold.

There is sometimes a misconception that the SPO is simply a validation of what has been done by the issuer, its advisors, banks, etc. On the contrary: we see analysing the case presented by the issuer, and perhaps asking some difficult questions, as a very important part of our role. There have been times where, during the SPO process, the issuer has quite dramatically changed the scope or ambition of its targets, which resulted in going to the market with a much more robust framework. Also, what we deliver is an opinion: our aim is to provide differentiated and granular information to investors. It is not simply a stamp of approval or disapproval.

Viola Lutz, executive director, head of climate solutions at ISS ESG

Federico Pezzolato, associate director, sustainable finance business manager at ISS Corporate Solutions

Marie-Bénédicte Beaudoin, associate director, head of SPO operations at ISS ESG

EF: What about residual emissions? And can unproven technologies be incorporated in sustainable finance strategies?

MBB: I think the market is still collectively working this out. But the key point is that, whatever an issuer decides, there needs to be 100% transparency: the chances are, whatever you are doing at the moment will not be the answer in five years. The best practice transition plan, at this point, would say that "this is the X percent of our emissions that we currently, as a company, consider residual because, quite frankly, we do not yet know how we will tackle them." For almost every company, however, there is so much they can do to reduce their non-residual emissions that they will be able to action plenty for the next five to 10 years.

As for unproven technologies, some are key for ultimately reaching net zero in the long-term and hence should certainly be discussed, especially related to research and development investments. But, to be very clear: medium-term targets need to be based on realistic action plans, so unproven technologies should not really play a role in those as you cannot quantify what share of emission reductions you expect them to contribute if they are still unproven.

EF: What are the key criteria that investors in these instruments have for companies with net-zero goals? What are their concerns?

VL: Investors are certainly on a journey, but at the moment there are three elements that most investors are looking at. The first is the long-term pledge, the overall net-zero commitment. Secondly, backed by a specific medium-term target? Does this target cover all the relevant scopes? Lastly, is there a decarbonisation strategy linked to that?

And, as simple as it sounds, is that before we even reach any of these topics, a key question remains as to whether the company is reporting emissions. Where sustainable finance plays a wonderful role in the transition towards net-zero is on some of these really basic issues. If a company wants to issue a sustainability-linked financing instrument, it needs to have reported its emissions for three years and it needs to have those figures audited. Some companies are going through that process for the first time when issuing such financing. It's worth noting that, out of the more than 28,000 companies that ISS covers, only about 5,200 report emissions and, of those, only a little over 1,400 have reported good Scope 3 data.

EF: How do you see the market evolving for sustainability-linked financing from companies with net-zero targets?

VL: For investors, I think what we're seeing now is the journey that happened a couple of years ago with Paris-aligned investment approaches. These evolved from larger investors to smaller players looking into them, and then the approach was applied to indices, and then in turn to ETF products. I think that a similar journey can be expected for net-zero investment.

A key element will also be the growing demand from investors for substantiating transition plans. I would also note that the fact we have high-emitting industries moving is an absolutely key trend. Setting net-zero targets is a bold move for such companies, if you think of the magnitude of the challenge, given how many technological unknowns remain, and how dependent they are on uncertain policy environments. So, I expect this to be applauded but, at the same time, their transition plans will be scrutinised.

Finally, I also think that we are likely to be in a more dynamic target-setting environment than many companies and investors assume. We've seen this in the COP process. Countries submitted their nationally determined contributions, which were assessed as insufficient to hit the climate targets. So, rather than come back in several years with new targets, as was originally planned, an agreement was reached to come back within the next year.

I think a similar dynamic might happen with investors and companies because, so far, the world has a consistent track record of missing climate targets. That means that, with a finite carbon budget, the emission reduction curve needs to get steeper and steeper. If I were a company or an investor, I would question whether the emission reduction trajectory that you're setting yourself now would be the one that is required in the future. The best-prepared companies and investors will be those that have the tools and the internal processes in place to continuously adapt to a changing environment. ■

Viola Lutz is head of climate solutions at ISS ESG, based in Zurich, Marie-Bénédicte Beaudoin is head of SPO operations at ISS ESG, based in Paris, and Federico Pezzolato is sustainable finance business manager at ISS Corporate Solutions, based in London.

To learn more about ISS' Sustainable Finance Solutions or to see example case studies, contact: SPO@isscorporatesolutions.com

By way of background, ISS Corporate Solutions (ICS) works in collaboration with ISS ESG, the responsible investment arm of Institutional Shareholder Services, as the distributor of SPOs. While the SPOs are sold and distributed by ICS, the analytical work to prepare and issue SPOs is performed by ISS ESG.

Four takeaways to set credible net-zero targets:

1. **Develop a comprehensive and transparent transition strategy to adapt your business to a low-carbon economy**
2. **Adopt ambitious targets to reduce your emissions, covering all material scopes**
3. **Implement state-of-the-art solutions and be prudent with unproven technologies**
4. **Offsetting does not count**

Taking a lifecycle view of green bond carbon reductions

Currently, most green bond issuers disclose the reduced or avoided carbon of the projects they finance. However, as Franklin Templeton found, analysing their 'induced carbon' can dramatically change the calculation. Gail Counihan explains.

Environmental Finance: You recently published the first Impact Report for the Franklin Liberty Euro Green Bond UCITS ETF. It asked the rather provocative question, "when is a green bond not really green?" What is behind that concern?

Gail Counihan: To better understand the impact of the Green Bond ETF, we decided to use data from Carbon4Finance, because its methodology includes an assessment of end-to-end carbon emissions, including the carbon produced during a project's production and manufacturing phase. This is something that we didn't see as standard in green bond impact reporting, but which we think is fundamental to understanding whether a green bond actually provides a climate benefit or not.

Our starting point is the concept of the carbon budget – the volume of carbon that we can emit without risking a temperature rise of more than 1.5°C. That is what the Paris Agreement is based upon. Our approach is a common-sense way of trying to take the concept of a carbon budget seriously: if a green bond project emits more carbon than it actually reduces or removes from the atmosphere, then how can we genuinely consider that to be a green bond?

EF: Explain the concepts of 'induced carbon' and the 'carbon impact ratio'.

Gail Counihan, senior fixed income sustainability analyst

GC: Induced carbon is that which is emitted in the construction or manufacture phase of the building, the car plant or electric vehicle, or the mass transport system. Thinking about induced carbon makes us focus a lot more intently on things like the supply chain, building standards, whether the project is recycling demolition material, etc. – the specifics of the build-out phase that we found were very often not included in green bond frameworks.

The frameworks are usually based on building a new energy plant or a low-energy consumption building, but very often specific details of the construction phase will be left out. That means that we've got no idea what the induced carbon is going to be for that project.

The carbon impact ratio, meanwhile, is the ratio of avoided emissions to induced emissions. This provides a simple measure of the capacity of a project to reduce greenhouse gas emissions compared to the emissions induced by its activity. Another way to think of it is to consider how many tons of carbon can be avoided by 'spending' one ton of carbon?

EF: Fundamental to the green bond markets is high-quality disclosure from issuers. Where is this falling short?

GC: We need reporting to be reliably consistent – issuers should have to attest or rubber stamp that they have followed

guidelines or a convention. ICMA [the International Capital Markets Association] has done a lot of valuable work in convening working groups to establish best practice guidelines, but essentially the reporting is a long way away from being reliably consistent. Take accounting standards; depending on which standard you use, you can be reasonably certain about what each metric includes and this allows one to compare like with like. The same can't be said of impact metrics, reduced emissions, or labelling something as 'energy efficient'.

Another big gap is disclosure in green bond frameworks. We regularly receive information that funds will be used to finance certain types of projects, but we don't get transparency or guarantees around how the projects will be implemented, what standards they will align to, or how their sourcing will be responsibly managed.

EF: The ETF focuses on three sectors: clean energy, buildings and low-carbon transport. In clean energy, how do you assess different technologies and jurisdictions?

GC: We really need to assess different jurisdictions and technologies on a case-by-case basis. Obviously, the greener the better, but green for Italy or France is probably not green for Iceland and similarly, green for Poland might be a regression for France. It depends on the existing carbon intensity of the domestic energy mix. A new technology or energy source must be evaluated for how carbon-intensive it is to establish, as well as how much less carbon-intensive it is than the incumbent energy source at producing a unit of energy.

So one size definitely doesn't fit all and it must be extremely difficult to have to codify these fuels into the EU Taxonomy as included or not — essentially, as good or bad. Eliminating lower-carbon energy sources from the mix does eliminate tactical options for some countries, although giving oil and gas companies a free pass to continue exploration doesn't feel like the right way forward either. Our view is that the EU Taxonomy revision should have focused more on induced emissions by distinguishing between existing power plants – where we have already 'spent' our carbon by building the plant – and plants that don't yet exist.

EF: Given a lack of standardisation in the definitions of 'green buildings', what criteria do you use?

GC: Most green buildings standards focus on achieving a certain level of energy output per square meter or a certain level of energy efficiency. What we learned through looking at our data is that the majority of emissions from buildings are in the construction phase; there's only a small amount of gain to be had from adhering to even very strict building standards – generally the benefit is that the buildings are less energy-intensive to run.

We realised that there wasn't nearly enough of a focus on upstream emissions, on the steel manufacturers, the concrete manufacturers, all those raw materials that green bond frameworks very often don't give us insight into. That was where we needed to focus our attention.

Although the relative gain that you get from refurbishing old buildings is quite small, it is most often worth it because of improvements in energy efficiency. Therefore, we believe that conserving and refurbishing existing buildings is more beneficial because its unlikely that we will suddenly be able to start building everything with a more sustainable upstream supply chain – the green steel and low-carbon concrete isn't yet available at scale.

EF: The carbon impact ratio for transport is relatively low compared with energy and buildings. What are the key factors you look for?

GC: For the rail projects we looked at, the carbon impact ratio was lower than we were expecting, because there is such a huge amount of induced emissions in these massive infrastructure projects. Projects that are so carbon-intensive absolutely have to be scalable – and most rail systems inherently are. If you consider how many trucks could be displaced off roads by a rail network that can transport much of Europe's freight – the decarbonisation effect is huge.

Similarly, the carbon impact ratio on average for EV [electric vehicle] projects is also low. EVs have such emissions-intensive supply chains that if an EV manufacturer isn't meticulous about battery recycling, the sourcing of its materials, and ensuring the car has as long a life span as possible, then the carbon impact ratio could become negative. The difference between dividing that carbon emitted over eight years versus dividing it by 12 years can mean a negative carbon impact ratio instead of a positive one. There is a bigger take-away here, regarding personal transport. What place does personal transport have in a low-carbon future? The carbon impact ratio prompted us to really think carefully about that.

EF: Your report warns of the 'halo effect'? What is that, and how can investors control for it?

GC: There will often be reputational benefits for a company that go hand-in-hand with issuing a green bond, as such companies are seen to be starting their journey towards decarbonising and paying more attention to the impact of their products and services.

There is also a huge amount of demand for green bonds from ESG investors, so it means that there's a lot of competition for their debt. A lot of ESG funds out there will often invest fairly indiscriminately in green bonds. We don't support this approach. We will invest if we think that the issuer is sound from a fundamental credit perspective, but is also heading in the right direction with regard to its environmental strategy. This means that, when we look at its green bond framework, it mustn't look like it's a fish trying to swim upriver against the general direction of the company.

We need to watch out for the halo effect because there are some companies that will just issue a green bond without aiming to transition their overall strategy and without trying to integrate decarbonisation more widely across the balance sheet. We would always prefer to invest in a company that has a plan to move to a low-carbon future than just support one individual project.

EF: The converse of a green bond that isn't green is a 'normal' bond that you consider to be green enough for the ETF to invest in. What can that assessment be based upon?

GC: We carry out an assessment based on three aspects. And the first one is the product or service that the company is offering. It's either going to be supportive of a low-carbon future, or potentially even going to accelerate us towards a low-carbon future, or it's going to be in direct competition to that.

The second thing that we look at is the company's actual environmental performance over the last few years. Can it demonstrate good performance or is it just coming off the blocks and only talking about good performance? We don't just look forward: we look for tangible actions or successes with regards to recent environmental performance.

Lastly, we look for a governance structure that is designed to support the delivery of the company strategy or the green product or service. Those three things we generally find in the bonds that we've invested in that are not labeled as green, and we generally find that, when assessed for impact, those companies did pretty well.

EF: What are the key questions green bond investors should be asking of issuers at the roadshow stage?

GC: We have specific questions that we've put together since producing our Impact Report that apply to energy, buildings and transport that other investors might find useful. For example, investors in energy projects need to know whether capacity is additional, what the local grid capacity factor is, and the lifecycle emissions from construction and operation. In buildings, green buildings standards should be disclosed, and issuers must be transparent about the emissions involved in converting old buildings or constructing new ones. In electric vehicles, the induced emissions numbers are vital, as are assumptions about asset lifetime and the sourcing of battery minerals.

Investors need to be asking these sorts of questions at roadshows, and issuers need to be in a position to give detailed answers. Anything less will raise questions over whether your green bond is, in fact, green. ■

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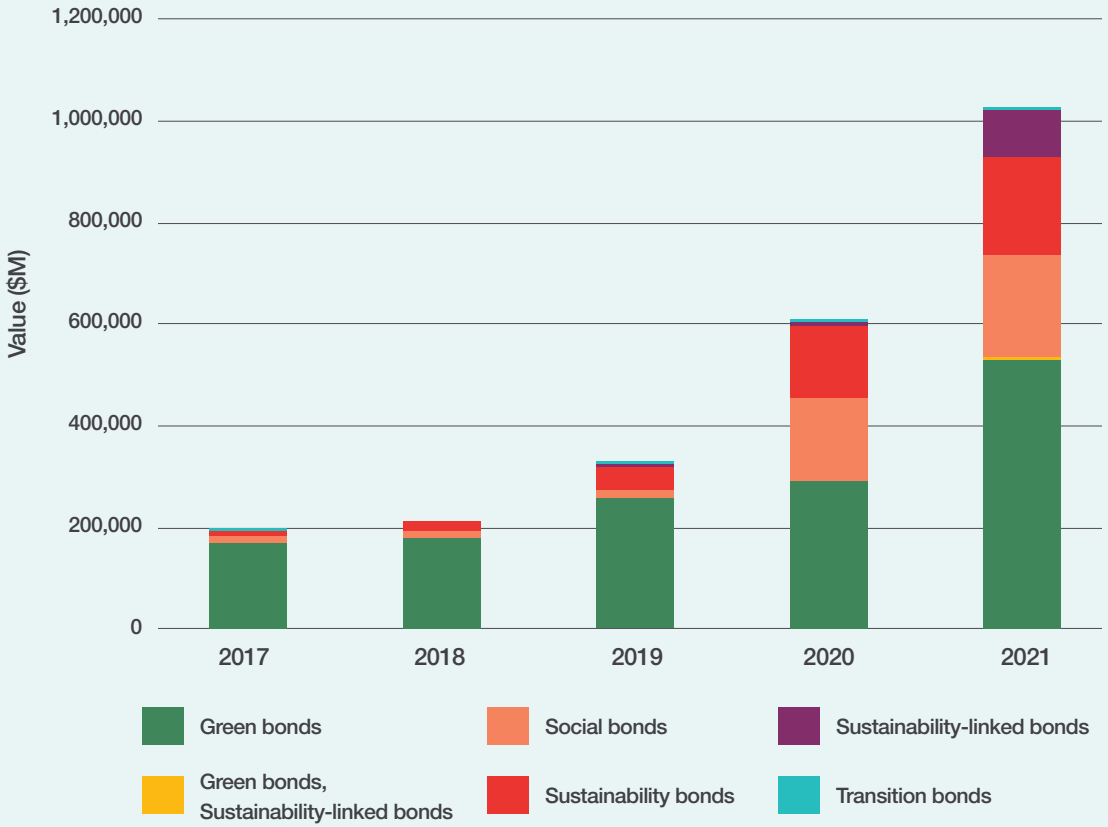
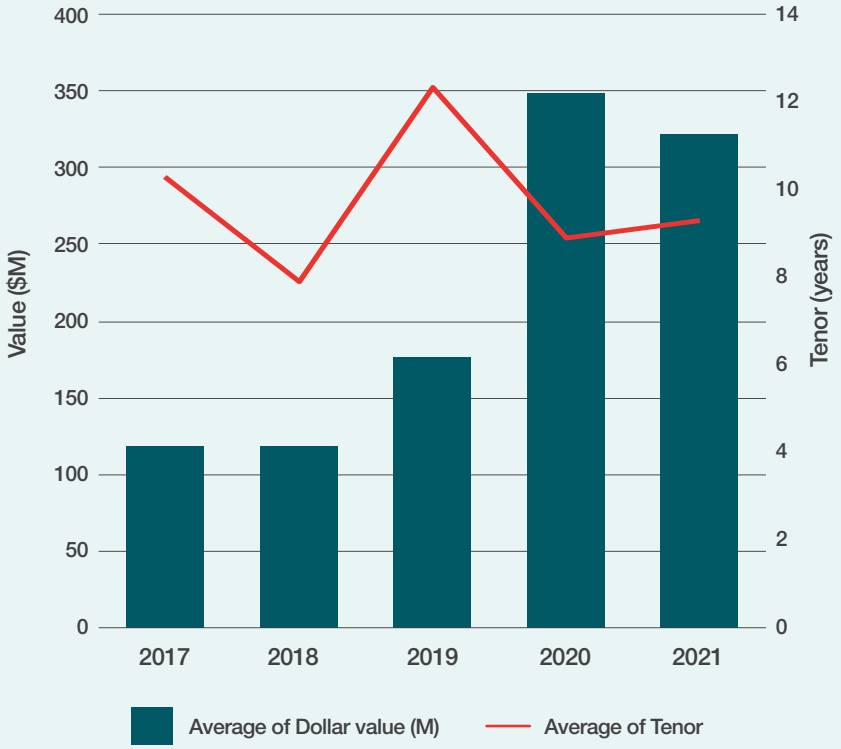
Annual issuance

The sustainable bond market grew rapidly in 2021, breaching $1 trillion in annual issuance for the first time ever. The green bond market grew significantly in 2021, almost doubling in annual issuance while the social and sustainability markets slowed in growth compared to the surge the labels enjoyed in 2020. The sustainability-linked bond label established itself as one of the main sustainable bond labels in 2021, with adoption picking up rapidly. The average tenor of sustainable bonds levelled out in 2021 while the average value dipped somewhat from its previous high in 2020.

Annual issuance of sustainable bonds

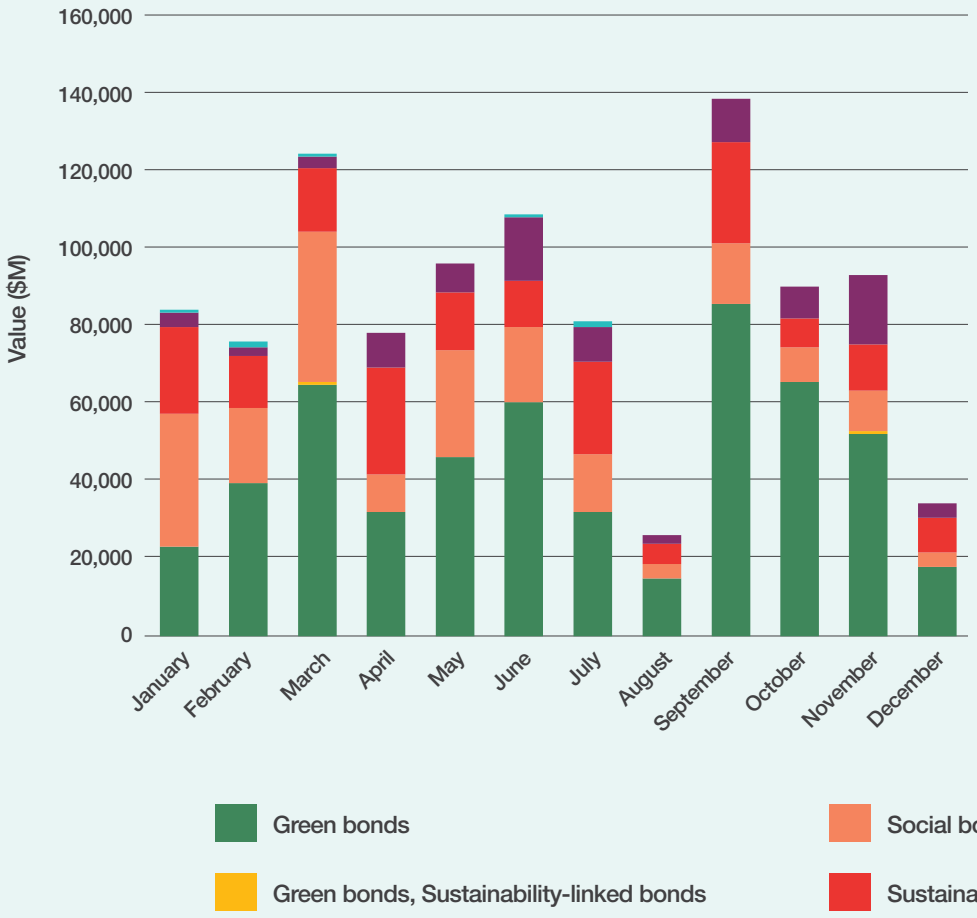


Average value vs tenor

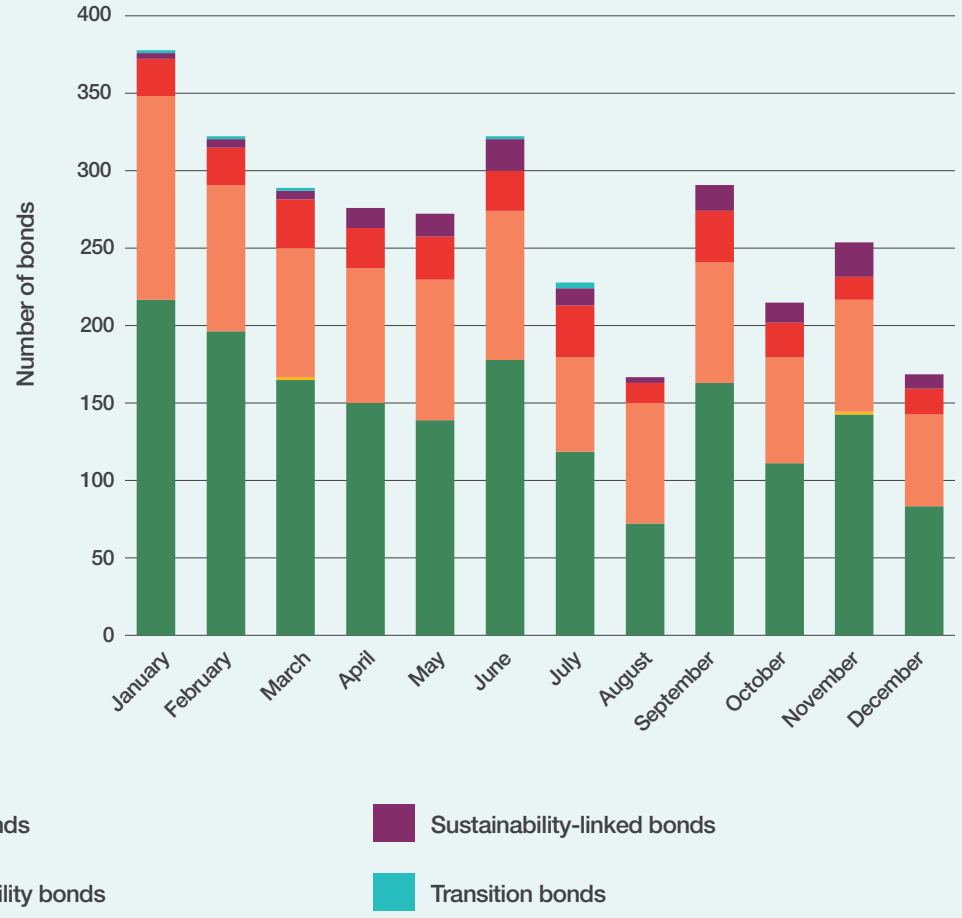


Monthly issuance

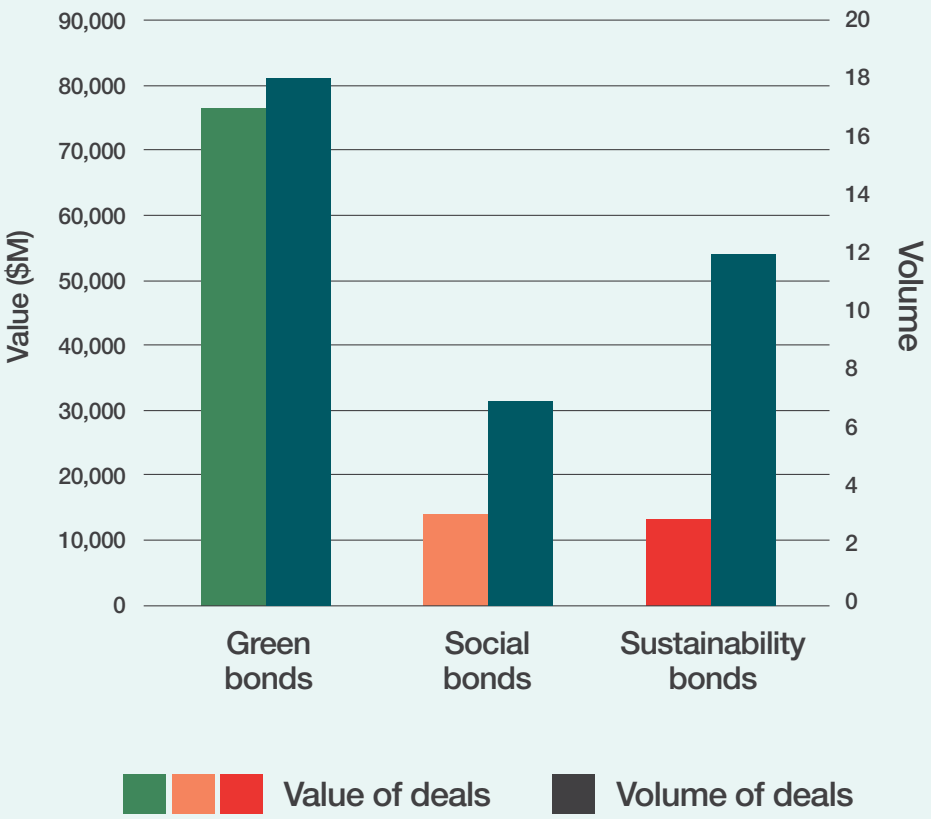
Monthly issuance value of green, social, sustainability and sustainability-linked bonds in 2021



Monthly volume of issuance of green, social, sustainability and sustainability-linked bonds in 2021



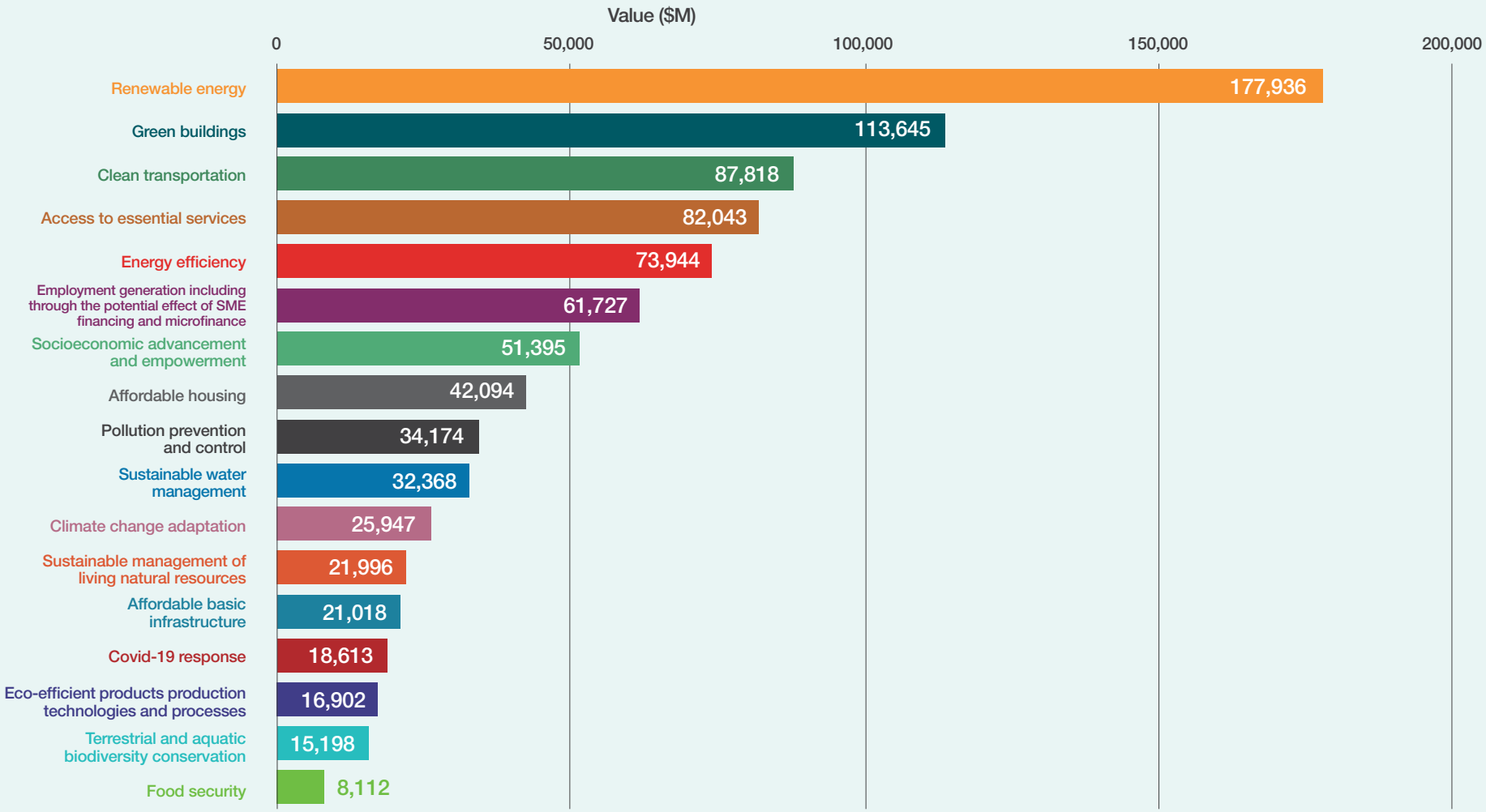
2021 breakdown of sovereign bonds



Largest sovereign bonds in 2021

Issuer	Value (M)	Currency	Value ($ M)	Bond label
United Kingdom	10,000	GBP	13,678	Green bond
Republic of Italy	8,500	EUR	10,238	Green bond
Republic of France	7,000	EUR	8,353	Green bond
United Kingdom	6,000	GBP	8,247	Green bond
Federal Republic of Germany	6,000	EUR	7,292	Green bond

Use of proceeds breakdown of bonds issued in 2021 by value



Methodology: the value of each bond is divided up by the amount of Use of Proceeds it covers and allocated equally amongst them.

Lead managers

Top 15 lead managers for sustainable bonds in 2021

Lead manager	Value ($M)
J.P.Morgan	67,975
BNP PARIBAS	58,750
BANK OF AMERICA	54,190
CRÉDIT AGRICOLE CORPORATE & INVESTMENT BANK	53,443
citi	52,746
HSBC	52,003
Deutsche Bank	44,250
Morgan Stanley	36,140
BARCLAYS	35,119
Goldman Sachs	33,287
SOCIETE GENERALE Corporate & Investment Banking	28,799
NatWest	25,544
NATIXIS BEYOND BANKING	24,122
NOMURA	22,706
TD	18,176

Methodology: the value of each bond is divided up by the amount of lead managers involved in the bond and allocated equally amongst them.

Top 5 lead managers issuing in EUR

Lead manager	Value ($M)
BNP PARIBAS	40,032
CRÉDIT AGRICOLE CORPORATE & INVESTMENT BANK	38,263
Deutsche Bank	26,687
HSBC	26,568
J.P.Morgan	26,415

Top 5 lead managers issuing in USD

Lead manager	Value ($M)
J.P.Morgan	35,233
citi	31,049
BANK OF AMERICA	26,385
HSBC	18,799
Morgan Stanley	18,290

Top 5 lead managers issuing in GBP

Lead manager	Value ($M)
BARCLAYS	7,455
NatWest	6,663
HSBC	4,642
J.P.Morgan	4,442
citi	3,795

Lead managers by bond type

Top 15 lead managers for green bond issuance in 2021

Lead manager	Value ($M)
JP Morgan	35,286
Citigroup	28,303
Credit Agricole CIB	27,364
BNP Paribas	27,224
Bank of America Merrill Lynch	24,941
Deutsche Bank	24,618
HSBC	22,159
Barclays	16,209
Goldman Sachs	13,798
Morgan Stanley	13,423
NatWest	12,526
Nomura	10,220
TD Securities	9,847
Société Générale	9,296
Santander	5,054

Top 15 lead managers for social bond issuance in 2021

Lead manager	Value ($M)
BNP Paribas	14,215
HSBC	12,901
JP Morgan	12,570
Credit Agricole CIB	11,594
Société Générale	11,504
Morgan Stanley	10,341
Deutsche Bank	10,189
Natixis	9,725
NatWest	9,539
Bank of America Merrill Lynch	9,260
Goldman Sachs	8,955
Nomura	8,150
Citigroup	8,008
Landesbank Baden-Wurttemberg	7,691
Barclays	7,579

Top 15 lead managers for sustainability bond issuance in 2021

Lead manager	Value ($M)
Bank of America Merrill Lynch	15,268
JP Morgan	13,164
HSBC	11,749
Citigroup	11,279
BNP Paribas	11,040
Credit Agricole CIB	9,426
Morgan Stanley	8,967
Barclays	8,398
Goldman Sachs	6,692
BMO Capital Markets	6,592
Wells Fargo	6,543
TD Securities	6,040
Deutsche Bank	5,254
RBC Capital Markets	5,160
Natixis	4,948

Top 15 lead managers for sustainability-linked bond issuance in 2021

Lead manager	Value ($M)
JP Morgan	7,280
BNP Paribas	6,437
HSBC	5,041
Citigroup	4,863
Credit Agricole CIB	4,847
Bank of America Merrill Lynch	4,624
Deutsche Bank	4,351
Goldman Sachs	3,945
Société Générale	3,602
Morgan Stanley	3,437
Santander	2,617
Barclays	2,597
Credit Suisse	2,538
MUFG Securities	2,485
Natixis	2,117

London Stock Exchange

Supporting companies on the road to net zero

Through its Green Economy Mark and Sustainable Bond Market, the London Stock Exchange has already been playing a key role in channelling capital to the green economy. It is now looking to extend that to the voluntary carbon market.

The London Stock Exchange is pivoting squarely towards the green economy. Its Green Economy Mark, launched in 2019, helps investors identify companies that make the majority of their revenues in green sectors. Its Sustainable Bond Market has helped issuers raise more than $140 billion in debt capital. And it is now planning an innovative initiative to direct funding to the voluntary carbon markets.

"Stock exchanges exist to bring together those who have capital with those who need capital in service of an objective," said Julia Hoggett, CEO of London Stock Exchange plc. "Over time, those objectives naturally change, companies change, the nature of their businesses change, and what generates growth changes.

"There is a fundamental role for the City in ESG and in supporting a just transition to net zero … and we have a great opportunity as the London Stock Exchange Group to take a full-court press to the problem."

Speaking at the end of last year to the Climate Biz podcast, Hoggett, who took the helm at the exchange early last year, set out three roles that the London Stock Exchange Group in general, and the London Stock Exchange in particular, have in working to support the transition.

The first is in supporting better ESG and climate disclosure for investors. Last October, the London Stock Exchange became the first bourse to issue climate reporting guidance based on the UN Sustainable Stock Exchanges' Model Guidance on Climate Disclosure, which is aligned with the Task Force for Climate Related Financial Disclosures (TCFD) recommendations.

Julia Hoggett, CEO of London Stock Exchange plc

Shrey Kohli, head of debt capital markets and funds, LSEG

Claire Dorrian, head of sustainable finance, capital markets, LSEG

Companies within LSEG offer a range of ESG data products and green finance indexes to help investors identify green investment opportunities. FTSE Russell's FTSE4Good Index, which recently celebrated its 20th anniversary, is one of the oldest ESG equity indexes. More recently, the company launched the FTSE TPI Climate Transition Index series. It uses climate data from the Transition Pathway Initiative (TPI) to account for risks and opportunities from the transition to a low-carbon economy. Last November, LSEG and TPI announced a plan to establish the TPI Global Climate Transition Centre at the London School of Economics to dramatically increase the universe of stocks assessed by the TPI from 400 to 10,000 and expand coverage from global equities into other asset classes such as fixed income.

The second is helping to direct financing to the green economy. Hoggett noted that, if the green economy was classified as a sector in its own right, it would be the fourth largest in terms of capital raising in the last three years. Since the London Stock Exchange launched its Green Economy Mark, which recognises

London-listed companies which generate more than half their revenues from green environmental products and services, it has been provided to 117 companies with a combined market capitalisation of £157 billion ($213 billion).

In fixed income, the London Stock Exchange's Sustainable Bond Market helped issuers raise more than £52 billion in 2021, with the total number of bonds listed on the platform rising to 342. "We saw more than three times the amount of capital raised on the Sustainable Bond Market compared with 2020," says Shrey Kohli, head of debt capital markets and funds at LSEG.

Landmark transactions last year included the listing of the UK's first Green Gilts, which raised £10 billion for the UK Treasury, and the issuance by the Bank of China of the first-ever sustainability re-linked bond, the coupon payments of which are linked to the ESG performance of a portfolio of underlying sustainability-linked loans (see Table).

The third role, Hoggett said, is helping the rest of the economy move towards net zero. "The only way we get to net zero and stay there is if the entirety of the economy moves on a global basis … we need to make a much more radical shift to what I describe as ESG as BAU [business as usual]," she said.

Hoggett's vision is, ultimately, for its ESG-orientated activities to effectively be absorbed within its wider businesses, as ESG and the net-zero transition are embedded within the global economy and financial system.

"Important as the disciplines are that we've created around the Green Economy Mark and the Sustainable Bond Market, we need to build a platform and a roadmap to deconstruct the very segmentation that we've created. We need to embed that analysis of climate impacts into every asset, and embed those disciplines into every investment decision, so that we're really thinking about a full-economy transition," she said.

As part of that effort, last year the London Stock Exchange began listing a new category of sustainable finance instrument, the climate transition bond, on a specifically designed segment of the Sustainable Bond Market. Those bonds, which are aligned with the International Capital Markets Association's Climate Transition Handbook, can be used by companies in carbon-intensive sectors to help fund credible net-zero transition strategies.

Recent landmark transactions on the Sustainable Bond Market

Issuer	Admission date	Terms	Why
Saudi National Bank Sukuk Limited	19/01/2022	$750m 5-year Sustainability Sukuk	First benchmark corporate sustainability sukuk from a Gulf Cooperation Council issuer
Bank of China Limited, London Branch	03/11/2021	$300m 3-year Sustainability Re-Linked bond	First structure that directly funds a portfolio of sustainability-linked loans with a link between the performance and payo ut of the underlying SLLs and the bond
Private Joint Stock Company National Power Company Ukrenergo	10/11/2021	$825m 5-year Green Sustainability Linked bond	First sustainable security from Ukraine
Republic of Korea	19/10/2021	€700m 5-year	First sovereign green or climate bond in euros from Asia
United Kingdom	20/9/2021	£10b 12-year	Largest sovereign green bond and largest order book at the time of issuance
Republic of Benin	23/7/2021	€500m 13.5-year	First sovereign green bond in international markets from Africa
Republic of Uzbekistan	21/7/2021	UZS2.5t 3-year	First sovereign green bond from Emerging Europe and Central Asia. First Green bond in Uzbekistan Soum
Pakistan Water and Power Development Authority	07/6/2021	$500m 10-year	First green bond from Pakistan
Ecobank Transnational Incorporated	18/6/2021	$350m 10NC5 Tier 2	First sustainability T2 from Africa (ex-South Africa)

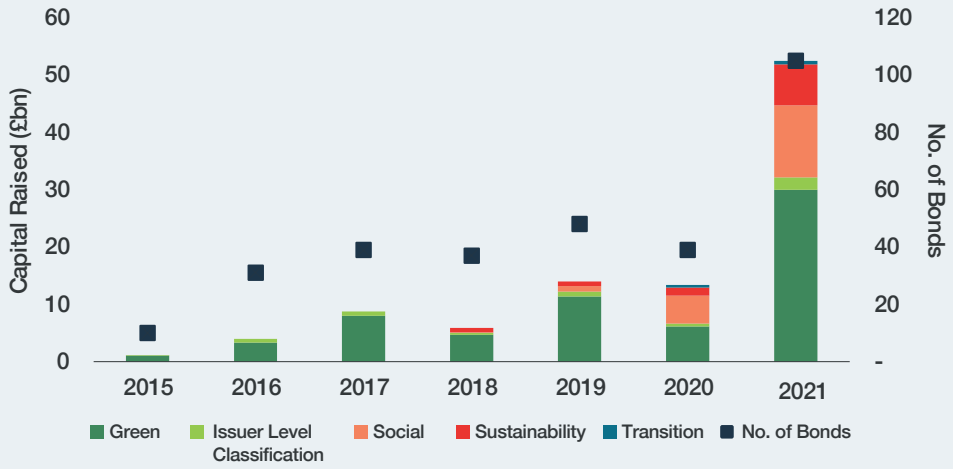
"We now have the building blocks within the Sustainable Bond Market to cater to the full range of innovations within sustainable debt financing," says Kohli. "We have labels for pure-play bonds, a climate-transition segment and a sustainability-linked bond segment. Together with our offering in the equity capital markets, we can enable a coherent sustainable finance strategy across the funding curve."

This focus on supporting the net-zero transition also involves the exchange stepping into a new arena – the voluntary carbon market. At the COP26 climate talks last November, amid a flurry of initiatives from LSEG and its partners, the exchange announced plans for a "Voluntary Carbon Markets Solution" that will help channel finance towards projects that help mitigate climate change.

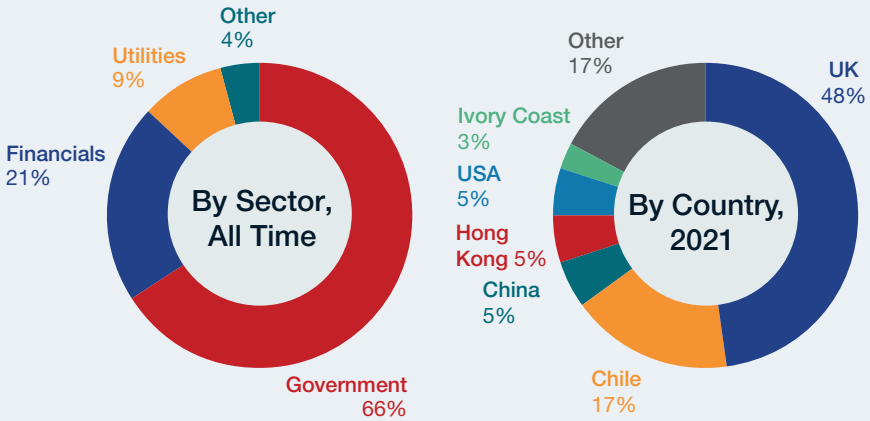
The voluntary carbon market is set to become a much more important part of the net-zero ecosystem because, as Hoggett observed, it is becoming much less voluntary. The market has "got the wrong name", she said. Given that companies are increasingly pledging to become net-zero emitters, they are effectively committing to some sort of carbon offsetting due to the challenges many large companies face to entirely decarbonise in the near term given the nascent nature of some technologies.

London Stock Exchange

Sustainable Bond Market issuance since 2015



Sustainable Bond Market breakdown*



Source: Bloomberg, London Stock Exchange, January 2022. Note: Based on social, sustainable and issuer-classified bond issuances on London Stock Exchange. *Based on amount raised

"The idea that this is voluntary, once they've made that commitment to their shareholders, is a misnomer," she said.

This imperative will create growing demand for carbon credits and for financing for the projects that create them, which is where the London Stock Exchange solution comes in, Hoggett said. Rather than providing a market for carbon credits, the exchange plans to set up a fund market, where the listed funds can either pay dividends to their investors in cash, or in specie – in this case, in carbon credits.

Crucially, listing funds rather than credits brings the investments within the UK's existing regulatory regime. "Because these will be listed funds, the disclosure standards fall within the scope of the Market Abuse regime, the transparency regime, the listing rules and everything else that we have in the UK," she said. "We don't need to wait for the regulator to bring voluntary carbon credits into the scope of the Market Abuse regime, because this basically brings them in immediately."

In addition, investing in funds will enable companies to access a diversified forward supply of carbon credits, and from projects in regions, sectors or technologies that are particularly relevant to them, she adds.

Putting the voluntary carbon market on to a transparent, high-profile marketplace will help to tackle some of the issues that it has faced regarding its credibility, Hoggett said. "I think we can address some of the brickbats around trust that the voluntary carbon markets have faced, because these are often quite small, bespoke OTC [over-the-counter] activities," she said. "We can address these because we're using the disciplines of the public markets.

"I hope that, by coming up with this solution, we're able to help transform the way the voluntary carbon markets work, and the amount of trust that is embedded in them as well."

LSEG's work on the voluntary carbon markets represents an important part of a holistic sustainable finance offering that links the exchange's customers with the emerging regulatory and policy landscape, explains Claire Dorrian, LSEG's head of sustainable finance, capital markets. With the government announcing that transition plans will ultimately become mandatory and with more companies committing to science-based net-zero strategies, investors will expect them to explain how they will deliver on those objectives.

"Seventy-five per cent of the FTSE 100 by market cap have committed to the Race to Zero," she notes, observing that many of them are likely to look to offset part of their emissions as well as raise finance to help them decarbonise their businesses. "There's a big mobilisation of resources that companies are looking at as they build out their transition plans … We are at a critical juncture."

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For more information, see: www.londonstockexchange.com

Sustainable bonds to exceed the trillion-dollar barrier in 2022 for second consecutive year

Last year saw solid growth in the sustainable debt markets, supported by issuance related to the pandemic recovery and growing corporate interest in financing sustainability strategies with labeled bonds. Moody's believes yet another year of healthy, double-digit growth could be on the horizon. *Environmental Finance* speaks to Moody's ESG Solutions' Matt Kuchtyak, Amaya London and Jeffrey Lee to learn more.

Environmental Finance: Following another year of strong growth for the market, what is your forecast for sustainable bond issuance this year? Could the trillion-dollar barrier be breached again?

Matt Kuchtyak: 2021 was indeed a record year for green, social, sustainability and sustainability-linked (GSSS) bond issuance. GSSS bonds accounted for an estimated over 11% of total global bond issuance in 2021, from less than 7% in 2020.

And so, we can expect yet another record-breaking year for GSSS bonds. We believe issuance is set to pass the trillion-dollar barrier for the second consecutive year – reaching US$1.35 trillion. Of course, we must remember that this represents growth moderation towards around 36% from the 64% growth achieved last year. Of this figure, predicted green bond issuance of $775 billion globally in 2022 would represent a strong, yet moderating, 48% growth over 2021 levels.

We believe the steady growth in global green bond issuance will continue into 2022 as an increasing number of issuers seek to finance climate mitigation and adaptation efforts and advance their net zero commitments, while more sovereign issuers expand their green bond programs. Meanwhile, comprising the rest of our issuance prediction are $150 billion of social bonds, $225 billion of sustainability bonds and $200 billion of sustainability-linked bonds.

Driving these volumes is the increasing number of issuers embedding sustainability strategies into their capital market plans. Healthy, double-digit expansion is our expectation despite the market maturing in established markets and headwinds for overall debt issuance in a potentially tightening monetary policy environment. As a result, GSSS bonds will continue to rise as a share of global bond issuance, potentially reaching 15% of the total.

EF: It seems green's position as the dominant label is under no threat for the time being. So, with physical climate hazards on the rise, can we expect a shift towards the financing of climate adaptation projects?

Jeffrey Lee: The past seven years were the seven warmest on record, with devastating impacts globally ranging from record-setting wildfires and heat waves to deadly floods and hurricanes. In the near term we will continue to experience extreme climate-driven events due to carbon already in the atmosphere. These risks point to an urgent need for investment in climate adaptation and resilience.

Matt Kuchtyak, Vice President, Outreach & Research, Moody's ESG Solutions

Jeffrey Lee, Vice President, Sustainable Finance, APAC, Moody's ESG Solutions

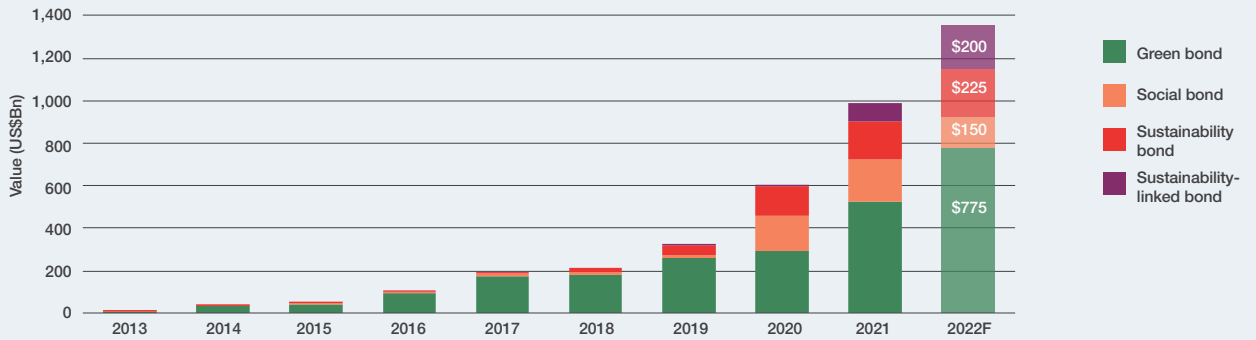
Amaya London, Sustainable Finance Research Manager, Moody's ESG Solutions

For example, based on Moody's ESG Solutions' Sovereign Climate Risk dataset, approximately $41 trillion of the world's GDP and over 2.4 billion people are projected to be highly exposed to heat stress by 2030-2040.

While decarbonizing the global economy will inevitably remain a primary focus for these entities given the urgent climate mitigation imperative, there is also a growing need to prepare economies and communities for increasing climate extremes. Indeed, the first part of the IPCC sixth assessment report underscores the reality that the physical effects of climate change are largely locked in over the next few decades, with the effects likely to be more severe and far-reaching than previously assumed.

To date, sustainable bond proceeds allocated to adaptation and resilience projects have been

Sustainable bond issuance to hit $1.35 trillion globally in 2022 for another record year



2022F represents Moody's 2022 issuance forecast. Historical data as of January 20. Sources: Moody's ESG Solutions and the Environmental Finance Bond Database

limited. In 2021, for example, only 3% of green bond proceeds were allocated to climate change adaptation projects, with most proceeds instead going to climate mitigation categories such as renewable energy, green buildings, clean transportation and energy efficiency. Elevated risk exposure brings the need to invest in resilience, which presents financing opportunities, suggesting that this issuance share will grow over time as the green bond market matures and diversifies. We expect sovereigns, in particular, to lead the charge, along with other public finance entities with a broader social mandate and at the forefront of combating the effects of climate change.

EF: Let's drill down to the burgeoning sustainability-linked market: how might volumes fare this year?

MK: Favored largely by non-financial corporates to date, we believe volumes for sustainability-linked bonds (SLBs) will continue their rapid rise. Volumes could more than double this year to $200 billion – from $90 billion globally in 2021 and a mere $9 billion in 2020.

The advent of SLBs has opened the sustainable debt markets to a broader array of issuers with limited eligible green and social projects for a benchmark use of proceeds bond, as well as issuers in early transition sectors – such as steel, cement, aviation and shipping – focused on achieving net zero strategies and responding to the economic and financial pressures of carbon transition risk.

However, investor scrutiny of SLB targets and net zero commitments is growing. Questions around the credibility of targets and the robustness of key performance indicators (KPIs) and sustainability performance targets (SPTs) embedded in SLBs has further increased as investors increasingly scrutinize these transactions to combat potential greenwashing. This may provide a headwind for the SLB market in 2022, representing a downside risk to our baseline expectations.

Corporates globally are also increasingly replacing old loan facilities with ones linked to sustainability targets that can typically trigger an increase or decrease in interest rates based on to what extent these targets are achieved. The linking of loan pricing to sustainability goals will continue as lenders aim to incentivize improvements in sustainability performance and borrowers seek to highlight their sustainability goals while lowering their borrowing costs. Sustainability-linked loan volumes surged to $189 billion in 2021, up 118% from 2020.[1]

EF: How do you see social bond volumes evolving as issuance linked to the COVID-19 recovery wanes?

Amaya London: It's evident that pandemic-driven issuance of social bonds has begun to recede. Of course, the need to finance COVID-19 pandemic-related response efforts drove the social bond issuance surge to 199 billion in 2021, up 19% from the $168 billion issued in 2020. After totaling $146 billion through the first half of the year, social bond volumes totaled just $53 billion in the second half of 2021, however, as pandemic-related financings began to decline. We believe social bond volumes will fall approximately 25% to $150 billion in 2022 due to the decline of pandemic-driven social bond issuance.

It's important to note that social bonds were heavily concentrated among issuers responding to the pandemic, as highlighted by 57% of global volumes in 2021 coming from just three issuers – the European Union and French public finance agencies Caisse d'Amortissement de la Dette Sociale (CADES) and UNEDIC.

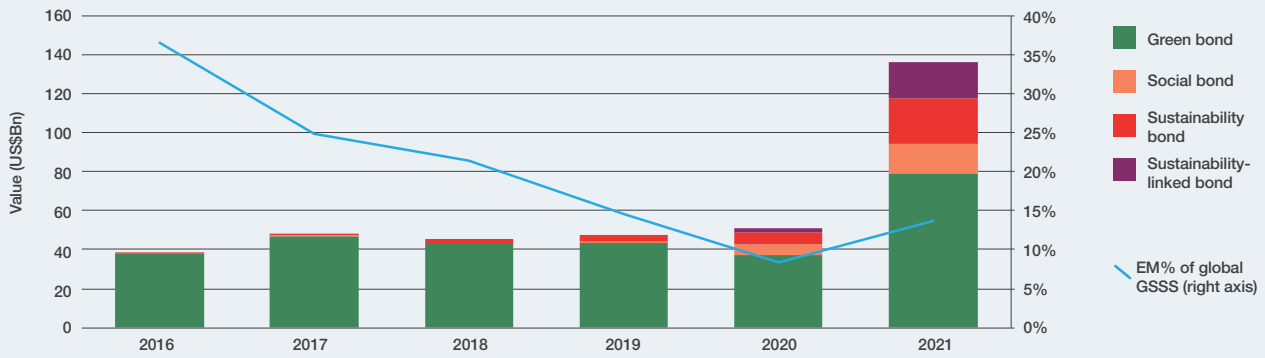
Nevertheless, social bonds will likely remain a market fixture. Social issues remain top of mind, with issuers focusing on a wide array of social issues, including equitable access to healthcare and housing. As such, social considerations will remain important for issuers and investors alike, contributing to not only social bond issuance, but also the more explicit consideration of social factors in other sustainable debt instruments. What's more, investor appetite to generate positive social impact will support increasing innovation in labeled social financing, including diversification of issuers, project types and bond structures.

Investors will also respond to evolving regulatory developments, such as the implementation of the Sustainable Finance Disclosure Regulation (SFDR) and the prospective creation of social taxonomies, which will necessitate better identification and measurement of social risk exposures and impacts. Issuers are also aiming to mitigate operational and reputational risks from structural social exposures, a key feature of the market that will persist in a post-pandemic world and support continued social bond issuance.

EF: How could the development of taxonomies support further market growth?

AL: Investors and other market participants are increasingly calling for clearer definitions on what constitutes credible investments as the reach and impact of the sustainable debt markets continue to grow. To this end, the formulation of sustainable

Emerging market sustainable bond issuance surged in 2021 following years of stagnation



Sources: Moody's ESG Solutions and the Environmental Finance Bond Database

finance taxonomies will play an increasingly important role in the reorientation of capital to sustainable activities.

To date, taxonomies have been instrumental in defining with greater granularity whether investments can be considered green or sustainable. The EU taxonomy, for example, will form the basis for labeling green investment funds, the classification of companies' economic activities as sustainable and the certification of green bonds issued under a proposed EU Green Bond Standard.

Nonetheless, future challenges could arise. The evolving nature of taxonomies poses one concern for investors, as does the potential fragmentation of taxonomies across different regions. Indeed, an increasing number of governments – such as Canada, Singapore and the UK – are creating their own taxonomies – thereby increasing the potential for varying definitions to arise.

Overall, it remains too early to tell exactly what impact taxonomy development across multiple jurisdictions will have on the current trajectory of sustainable bond issuance. While clearer definition of which activities are compatible with a sustainable future will likely ease the burden of investors in identifying compliant investment options, the uncertain nature of taxonomy usability may limit their uptake.

EF: Similar to the more established markets, do you foresee continued growth in emerging markets' sustainable debt issuance?

JL: It's certainly the case that sustainable bond volumes from emerging market (EM) issuers surged during 2021. We saw a notable uplift following five years of relative stagnation. GSSS bond issuance originating in China, which historically has been the primary driver of EM issuance, saw a noticeable uptick last year. Volumes from China rose to $63 billion in 2021, up from $19 billion during the previous year. We are seeing a steady diversification into other emerging markets, however. Latin American GSSS bond issuance, for example, jumped to $43 billion in 2021 from just $13 billion in 2020.

In turn, global EM GSSS bond issuance, excluding supranational issuance, totaled $136 billion for the year, more than double the previous record $51 billion issued in 2020. Green bond issuance by EM issuers comprised the bulk of this global figure ($79 billion). Among EM sustainable bonds, we expect green bonds will remain the largest contributor to issuance over the next few years – much in line with the sustainable bond market globally.

Notably, last year, SLBs emerged as an instrument of choice for many EM issuers. Issuance climbed to $19 billion in 2021 from just under $2 billion in 2020. The breakout in sustainability-linked bond issuance observed in 2021 will also likely continue given the challenges that some EM issuers face in having sufficient eligible environmental or social projects to support benchmark use-of-proceeds sustainable bonds. Social bonds and sustainability bonds, meanwhile, rose to $15 billion and $24 billion, respectively.

Certainly, COP26 has provided renewed momentum towards achieving the Paris Agreement commitment of mobilizing $100 billion in annual climate financing from developed to developing economies. Latest data suggest that this level of financing has so far failed to materialize, with developed countries having provided around $80 billion to developing countries in 2019.

Even if the $100 billion annual milestone is achieved, this would only represent a tiny fraction of investment needed to meet low-carbon infrastructure needs in developing economies. According to the IEA, 70% of the $4 trillion in investment required to reach net zero must flow into emerging markets and developing economies. EM sustainable debt markets can help bridge this funding gap, although investing in capacity building, creating robust investable pipelines, and de-risking projects via blended finance mechanisms will be critical enablers. Against this backdrop, a continuation of last year's robust expansion in EM sustainable bond issuance in 2022 and beyond looks assured. ■

To learn more about Moody's 2022 GSSS market predictions, please visit www.moodys.com/esg-insights

Figures and statistics have been sourced from Moody's ESG and the Environmental Finance Bond Database

Authors:

Matt Kuchtyak, Vice President, Outreach & Research, Moody's ESG Solutions

Jeffrey Lee, Vice President, Sustainable Finance, APAC, Moody's ESG Solutions

Amaya London, Sustainable Finance Research Manager, Moody's ESG Solutions

1 Sustainability-linked loan volumes are excluded from our forecasts for sustainable (GSSS) bond issuance.

The sustainable bond market in 2022 and beyond – transition is key!

The growing investor focus on the transformation to a net-zero economy is being increasingly reflected in the bond market, says Marcus Pratsch

Marcus Pratsch, head of sustainable bonds & finance

Since the birth of the green bond segment in 2007, the sustainable bond market, with its many colours and facets, has already made a positive contribution to support financing the global sustainability agenda. Without a doubt, green bonds were a good start for funding environmentally sustainable activities.

However, the race to reach net zero emissions by 2050 requires all sectors to make their contribution. Hence, many issuers in those sectors have to completely rethink their business models.

Some of them will find decarbonisation easy. Others face major challenges and still have to figure out the how and the when.

That is perfectly fine. Rome wasn't built in a day. It is not possible to become net zero overnight. The journey of a thousand miles begins with the first step.

Moving in the right direction will involve a transition period. Hence, banks, whose role is increasingly changing from a traditional financial intermediary to a sustainable finance intermediary, need to become a reliable partner for transition candidates who express their credible transformation ambitions through the fixed income market, for example.

It is a win-win-situation, as transition bears huge opportunities for bond investors identifying the "sustainable issuers of tomorrow".

Therefore, transition financing will become one of the key drivers of the sustainable bond market. But let's first take a look back at the past year.

In 2021 green bonds struck back

Without doubt, 2021 was another exciting year for the sustainable bond market, which just missed the $1 trillion mark.

After a conciliatory end to a Covid-19 plagued 2020, green bonds set new records in 2021. With a new issuance volume of almost $75 billion, September was the most successful month to date since the birth of the green bond segment.

Furthermore, a new giant has emerged in the market, as the European Union will raise up to 30% of the NextGenerationEU funds through the issuance of NextGenerationEU Green Bonds. With the maiden issue of €12 billion in October, the world's largest green bond to date saw the light of day.

Overall, the new issuance volume in the green bond segment amounted to $500 billion, and hence more than 85% above the previous year's level.

In addition, social bonds and sustainability bonds continued to enjoy tailwinds in 2021. While the new issuance volume of the former increased by slightly more than 30% to $185 billion, the latter showed the highest growth rate in the entire sustainable bond market, up more than 140% to $165 billion.

This underlines the trend of "green goes rainbow", reflecting the ongoing diversification in the sustainable bond market.

The segment of 'transition and target-linked financing', which includes transition bonds as well as target-linked bonds, also showed impressive growth of more than 120% to around $100 billion.

In our opinion, this segment will receive special attention in the future, as we can only successfully implement the global sustainability agenda if we "get everyone on board", i.e. also issuers from critical sectors with business activities whose journey on the transformation path will still be a longer one.

In 2022, the trillion dollar mark in the sustainable bond market will be exceeded

We expect all segments of the sustainable bond market to grow in 2022.

We forecast the new issuance volume in the green bond segment to increase by 50% to $750 billion. The segment is thus increasingly moving towards the $1 trillion mark, which we estimate will be exceeded in the course of 2023.

In the social bond segment and in the sustainability bond segment, we forecast a new issuance volume of $200 billion each, corresponding to growth of 8% and 21%, respectively.

Due to the increasing importance of transition financing, the segment of 'transition and target-linked financing', which includes transition bonds and target-linked bonds, is expected to grow the most. Here we forecast a 60% increase in new

> "Instead of divesting, more and more asset managers are entering into an active dialogue with critical industries on the subject of transformation"

issuance volume to $160 billion.

Overall, the sustainable bond market will therefore exceed the $1 trillion mark in the course of 2022, reaching a new issuance volume of around $1.3 trillion.

Use-of-proceeds transition bonds – loved and hated at the same time

The global fixed income market has a key role to play in financing the transformation of the real economy. With an estimated volume of more than $100 trillion, it holds enormous potential to support the transition to a sustainable future.

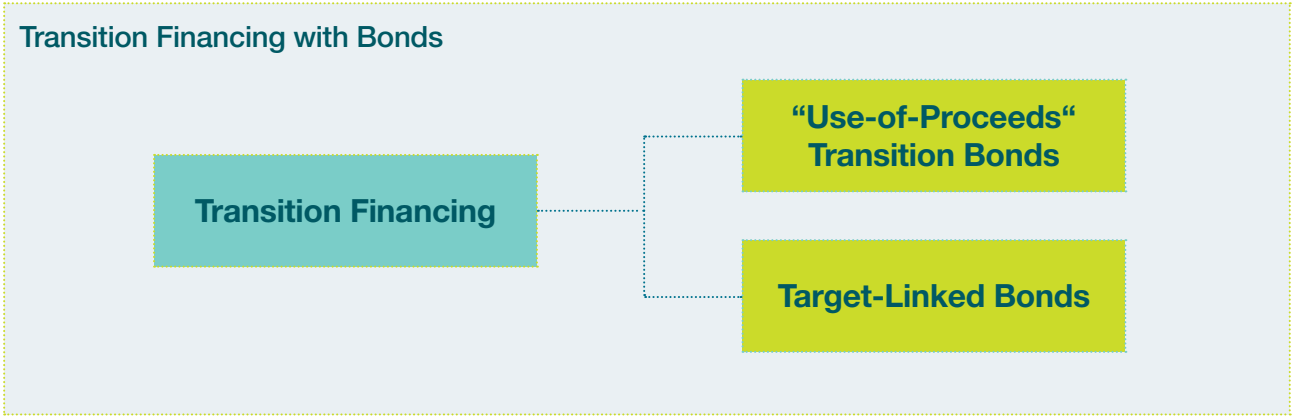
Yet transition is one of the most controversial topics when it comes to sustainable financing in the bond market.

This is illustrated by the example of so-called transition bonds. Transition bonds are a relatively new fixed income instrument that joins the ranks of use-of-proceeds sustainable bonds. They are designed to enable issuers from less sustainable sectors to finance a gradual shift to a more sustainable business model. These include carbon-intensive industries such as oil and gas, iron and steel, chemicals, aviation and shipping. Proceeds from the issuance of transition bonds could be used, for example, to finance transformation technologies that enable the transition to a more sustainable business model.

Opponents of transition bonds question the authenticity of such instruments. They see them as softening the market for sustainable bonds. The accusation of "greenwashing" is often raised, i.e. an attempt by the issuer to gain a "green image" through the transaction without having systematically anchored corresponding strategic measures in the operational business.

Proponents of transition bonds, on the other hand, argue that the transformation of our economy cannot succeed through "black and white" thinking such as sector-specific exclusions with the intention of completely restricting external capital flows.

Clearly labelling a bond as a "transition bond" creates transparency for investors and clearly differentiates it from green bonds.



We must leave no one behind

The global real economy is currently undergoing a fundamental transformation process in light of changing demands due to environmental and social challenges as well as digitalisation and globalisation. Massive investments are needed to make business models, production methods and processes fit for the future and thus take advantage of the opportunities offered by sustainable development.

The need for transition financing with regard to a successful implementation of the global sustainability agenda is therefore undisputed. In doing so, it is necessary to put an end to the classic "black and white" thinking.

We cannot achieve a decarbonised and more sustainable world by focusing exclusively on economic activities, business models and sectors that are already "dark green". We can have a much greater positive impact on the global sustainability agenda by helping to make "brown" economic activities, business models, and industries "light brown" or "light green," rather than painting already "dark green" activities, models, and sectors one shade greener.

Against this backdrop, no one who can demonstrate a feasible and transparent transformation path should be excluded from sustainable financing.

The financial sector, in its new role as a sustainable finance intermediary, has a key role to play in supporting this transformation process. It should act as a reliable financing partner to also support critical actors and industries in a sustainable and credible transformation.

In terms of sustainable structural change, it should help to preserve, strengthen and expand strategic expertise and value creation. It should also help to secure the competitive position of many companies in the long term. Finally yet importantly, the financial sector must accompany the "future champions" on their way to sustainable market leadership.

Target-linked bonds: innovative instrument for credible transition financing

Numerous innovations have contributed to the success story of the sustainable bond market in recent years. For example,

target-linked structures have been extremely popular for some time. In 2021, they already accounted for around 10% of the new issuance volume in the global sustainable bond market.

Many investors see them as a suitable instrument for transition financing. Unlike the use-of-proceeds transition bonds mentioned above, they focus on the transformation of the issuer as a whole.

Target-linked bonds are forward-looking and performance-oriented financial instruments in which issuers explicitly commit (also in the bond documentation) to future improvements in sustainability criteria within a predefined timeframe. Sustainability development is measured using predefined key performance indicators (KPIs) and evaluated against sustainability performance targets (SPTs).

The financing costs of target-linked bonds are linked to the (non-)achievement of these sustainability targets. If the issuer fails to meet the targets, financing becomes more expensive.

As the use of proceeds of target-linked bonds are not earmarked and can therefore also be used for general corporate financing, they are also suitable for less asset-intensive issuers who do not have the necessary volume for a use-of-proceeds transition bond.

For credible transition financing using target-linked bonds, it is important to choose KPIs that are relevant, measurable and comparable, central and essential to the issuer's transformation process. They should also have a high strategic importance for the issuer's future operations.

In addition, the SPTs should be in line with the issuer's transformation strategy and be ambitious, i.e., go beyond a "business-as-usual scenario".

"Transform instead of divest": a new credo of many asset managers

Investors are playing an increasingly important role in financing the transformation of the real economy. They are gradually becoming companions to companies that are transforming credibly. There is therefore a new credo among many asset managers: "Transform instead of divest".

In the past, a large number of sustainable investors focused on strategies such as exclusions or best-in-class approaches. Those companies that did not fit into the grid were sold.

Today, investors are increasingly interested in the transformation potential of the real economy. Identifying the "sustainable companies of tomorrow" is becoming more and more important.

In this context, it is worth noting that transformation is not limited exclusively to environmental aspects, but also includes an economic, a social and a governance dimension.

Instead of divesting, more and more asset managers are entering into an active dialogue with critical industries on the subject of transformation.

In the spirit of active ownership, for example, they are increasingly using their voting rights and influence at companies' annual general meetings to make them more sustainable. As owners, they thus actively exert influence on the future orientation of the real economy.

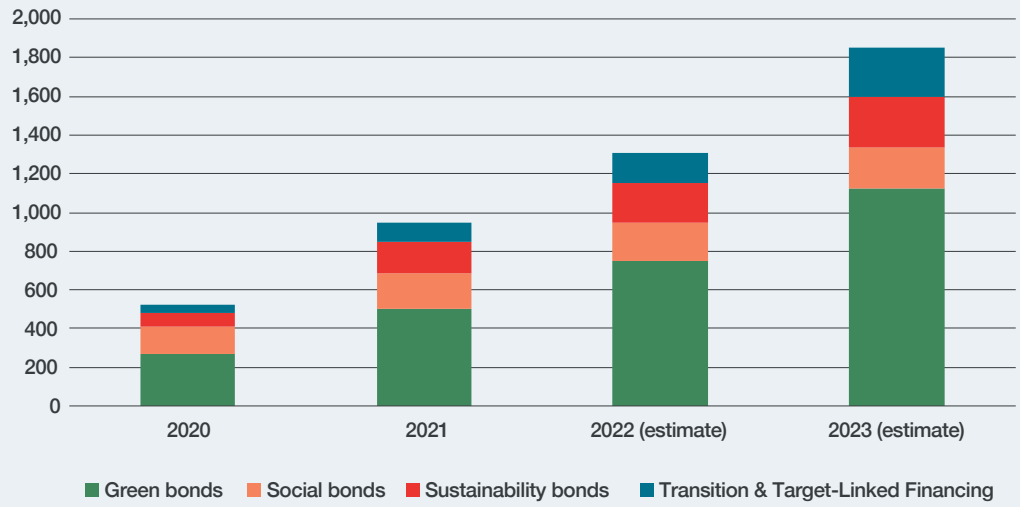
The option to sell always remains – but only as ultimo ratio if, for example, a company abandons the promised, credible transformation path.

An increasing number of fixed income investors is also discovering – in their role as key stakeholders – the possibility of engagement with promising transformation candidates. While they do not have voting rights, they can enter into an active dialogue with the management of the companies being transformed, either on their own or through joint collaboration with other investors.

Through this active engagement, they can encourage companies to be more transparent in their disclosure of ESG factors, better manage material sustainability risks, and follow a proper and credible transformation path. ■

Marcus Pratsch is head of sustainable bonds and finance at DZ BANK AG.

Development of the total Sustainable Bond market (and sub-segments) 2020-2023e (USD bn)



Source: CBI, DZ BANK (2022)

Currencies

In 2021 EUR and USD maintained their positions as the top currencies that sustainable bonds are issued in however both decreases in their share of the sustainable bond market. 2021 saw GBP take the number 3 spot, growing their share of the market to 5.45% from 3.03% in 2020 and displacing JPY which is now the fifth most popular currency to issue in behind CNY which has risen to the fourth most issued currency in the sustainable bond market. Currencies making their debut in the sustainable bond market include JMD, BDT, UZB, GEL and UAH.


EUR: 47.09%


USD: 34.95%


GBP: 5.45%


CNY: 3.96%


JPY: 2.29%


CAD: 1.43%


AUD: 1.28%


SEK: 1.12%


NOK: 0.61%


CHF: 0.38%


TWD: 0.31%


KRW: 0.14%


MXN: 0.14%


ZAR: 0.12%


HKD: 0.12%


SGD: 0.11%


NZD: 0.09%


THB: 0.09%


PLN: 0.06%


RON: 0.05%


HUF: 0.03%


BRL: 0.03%


RUB: 0.03%


COP: 0.03%


MOP: 0.02%


UZB: 0.02%


TRY: 0.01%


PHP: 0.01%


IDR: 0.01%


INR: 0.01%


CLP: 0.01%


BDT: 0.01%

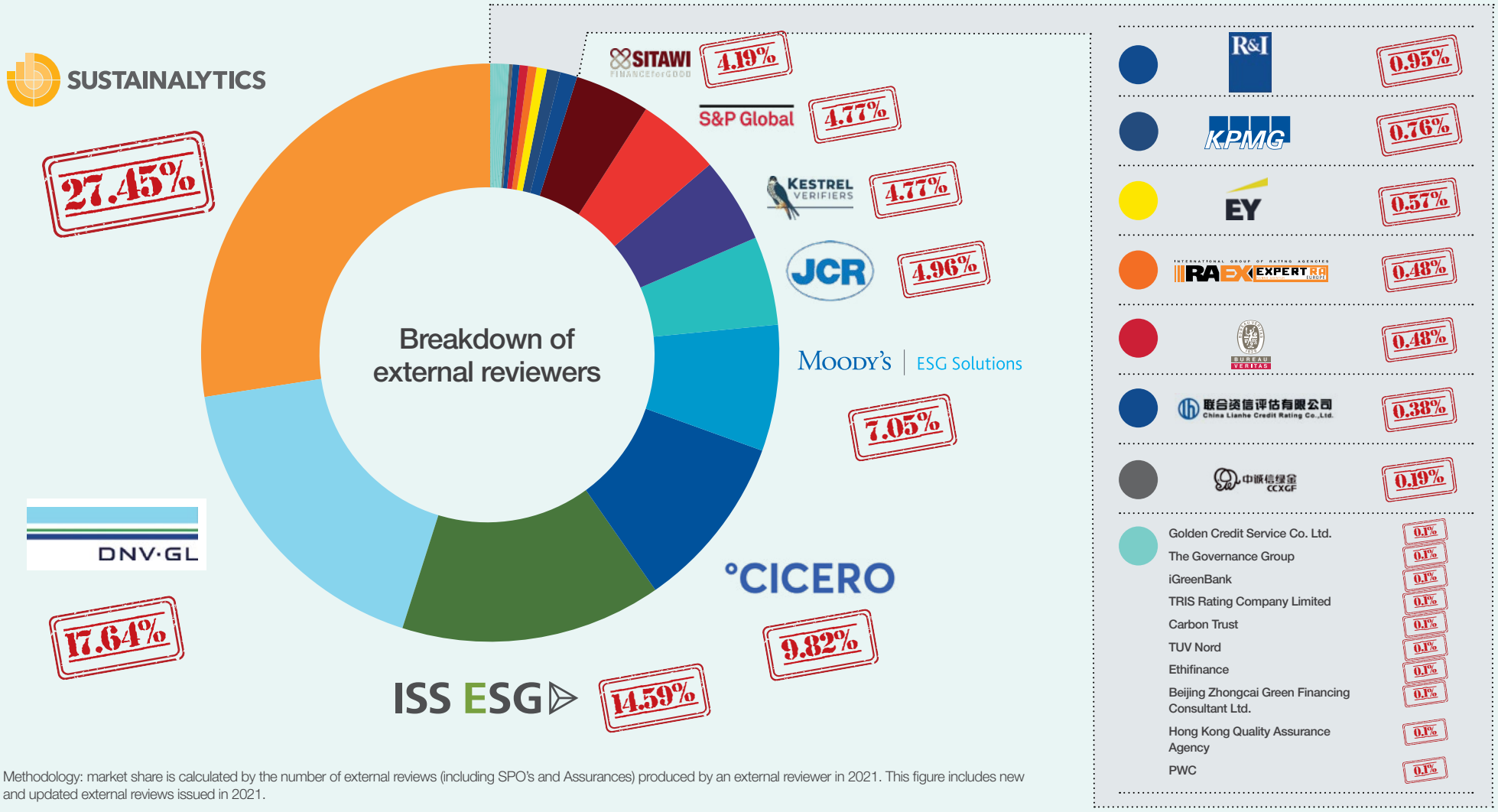

UAH: 0.01%

XOF: 0.01%


JMD: 0.01%


GEL: 0.01%

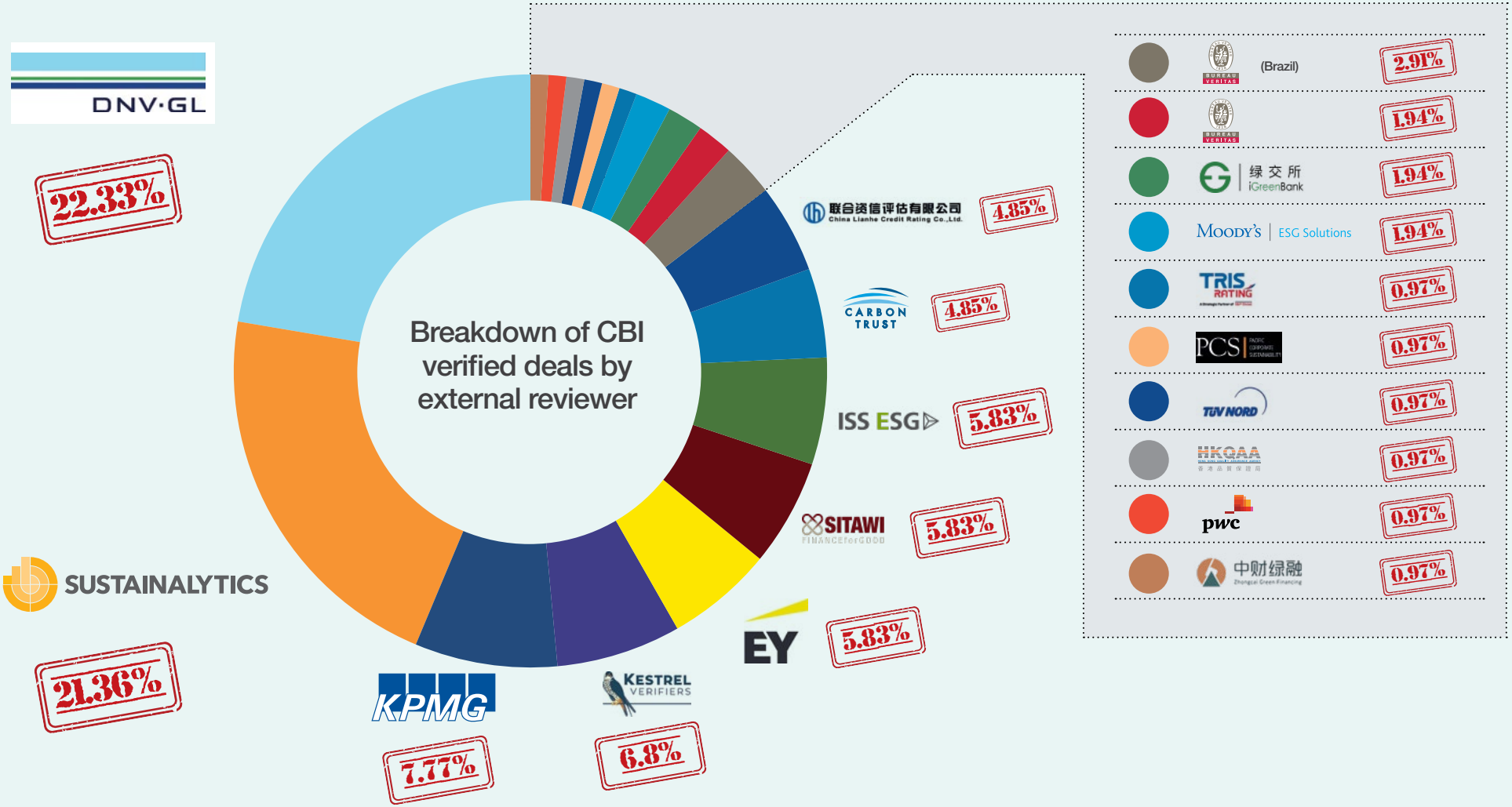
External reviewer share of the green, social and sustainability bond markets 2021 (by number of issuers).



Methodology: market share is calculated by the number of external reviews (including SPO's and Assurances) produced by an external reviewer in 2021. This figure includes new and updated external reviews issued in 2021.

External reviewer share of CBI verified deals

Breakdown of CBI verified deals by external reviewer.



Methodology: External verifier coverage of CBI deals has been calculated by number of deals covered by each external verifier.

Breakdown of bonds aligned with the SDGs in 2021

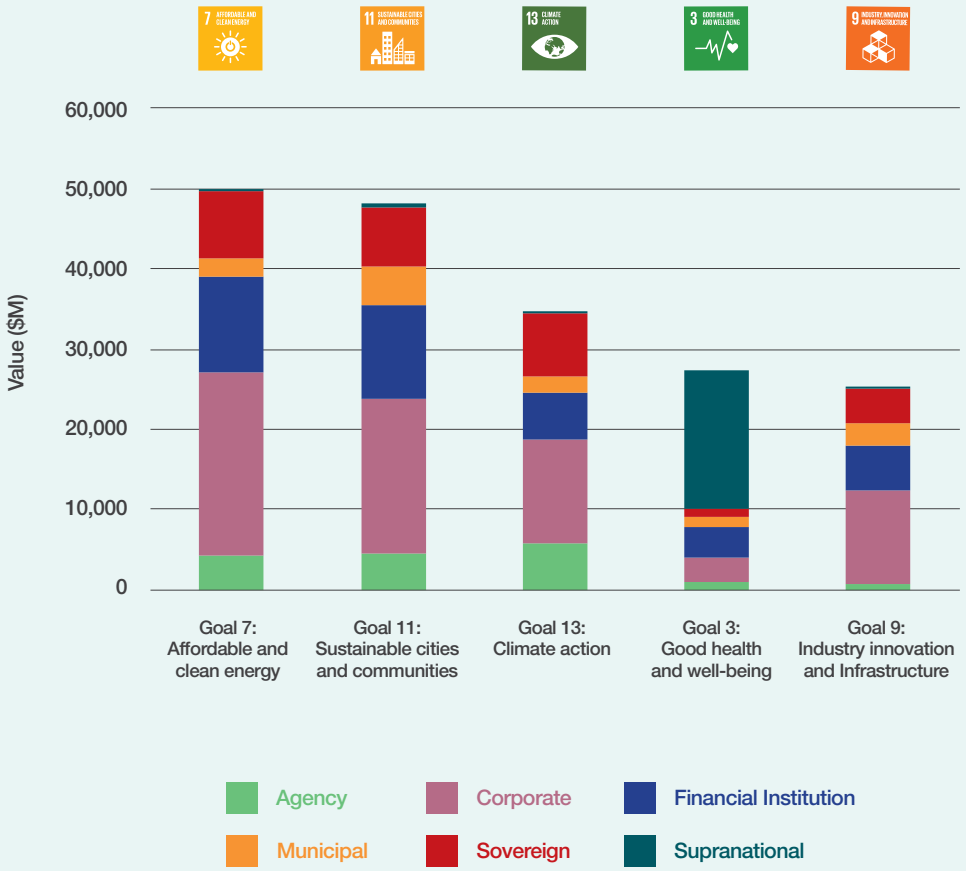
The most funded UN Sustainable Development Goals (SDGs) in 2021 were dominated by SDGs associated with green projects. The top 3 most funded SDGs in 2021 - which included Goal 7: Affordable and clean energy, Goal 11: Sustainable cities and communities and Goal 13: Climate action – accounted for 46% of SDGs funded and all of which are associated with green projects.

Conversely the most funded SDG for social projects in 2020 – Goal 3: Good health and well-being – fell to the fourth most funded SDG in 2021 from a share of 16.34% to 9.55%. This fall in share of funding is largely due to the 2020 response to the Covid-19 pandemic, in which Supranationals issued bonds aligned with SDG 3 to fund their response to the pandemic. The four least funded SDGs remained the same in 2021 as in 2020 and include Goal 2: No hunger, Goal 5: Gender equality, Goal 17: Partnerships for the goals and Goal 16: Peace, justice and strong institutions.

Methodology: The value of each bond is divided up by the amount of SDGs it covers and allocated equally amongst them.

SDG Breakdown

Sector breakdown by issuer type of the top 5 largest SDGs in 2021



Top 5 lead managers in bonds aligned with SDG 7

Lead manager	Value ($M)
J.P.Morgan	20,166
BNP PARIBAS	16,018
citi	13,607
BANK OF AMERICA	13,247
HSBC	12,407

Top 5 lead managers in bonds aligned with SDG 11

Lead manager	Value ($M)
J.P.Morgan	18,334
BNP PARIBAS	16,521
CRÉDIT AGRICOLE CORPORATE & INVESTMENT BANK	12,823
Deutsche Bank	11,962
HSBC	11,669

Top 5 lead managers in bonds aligned with SDG 13

Lead manager	Value ($M)
J.P.Morgan	12,307
BNP PARIBAS	11,960
CRÉDIT AGRICOLE CORPORATE & INVESTMENT BANK	10,460
HSBC	8,998
Deutsche Bank	8,617

Top 5 lead managers in bonds aligned with SDG 3

Lead manager	Value ($M)
BARCLAYS	19,330
Goldman Sachs	18,955
Deutsche Bank	18,031
COMMERZBANK	17,922
LBBW	17,394

Top 5 lead managers in bonds aligned with SDG 9

Lead manager	Value ($M)
BNP PARIBAS	9,112
citi	8,637
J.P.Morgan	8,011
HSBC	7,019
Deutsche Bank	6,555

European Investment Bank The EU bank

Championing the logic of the EU's Sustainability Taxonomy and Green Bond Standard

The European Investment Bank has been progressively aligning the practice of its Climate and Sustainability Awareness Bonds with the EU's efforts to standardise the market. Aldo Romani shares the key takeaways

Environmental Finance: What is the importance of the EU taxonomy for sustainable activities?

Aldo Romani: The EU taxonomy should help to make things more understandable to issuers and investors, to clarify with more precision what they are talking about when they talk about sustainable finance, and to facilitate the comparison of their choices and strategies.

For this purpose, the taxonomy regulation itself is more important than the actual first iterations of the taxonomy. That's because the taxonomy regulation introduces a framework that is logical, and that makes it more difficult for players to dress up what they do with fine words, helping investors to ask the right questions. For that reason, it is bound to drive forward sustainable finance.

The core message I would like to convey is that even if the taxonomy is not yet fully in place – and there are endless debates on the proposals – there is no need to wait for the final version of the taxonomy to act.

For us at the European Investment Bank (EIB), the first priority is early alignment with the logic of the taxonomy.

On this basis, issuers and investors can already start collecting relevant information and structure it in a way that makes it clearer and more comparable. The taxonomy itself is likely to change anyway – it will go through a recalibration process over time, with the help of the markets.

There are three core principles to think about: concentrate on the most relevant aspects of potential contribution to sustainability objectives, make sure the screening criteria are easy to use, and put in place the conditions for a reliable verification of their compliance. What does not live up to these requirements will not work in the market.

EF: The green bond market has so far opted for a non-prescriptive approach under the Green Bond Principles (GBPs), and many people would say it has been a success. Is it the right tactic to move away from that, to a more prescriptive approach under the EU taxonomy/ Green Bond Standard?

AR: EU legislation is not moving away from the GBP-approach. It is, rather, making it more effective. Creating the conditions for the market to work better – that is what DG FISMA has been aiming to achieve at the European Commission from the very start.

The market has worked hard to promote the GBPs and establish common rules of game that are an expression of broader consensus. This phase of self-development has unfolded successfully and achieved its primary objectives. An official definition of core evaluation criteria is now needed to make those rules of game more directly relevant in an operational perspective.

At the EIB, we have advocated since the end of 2015 the necessity for a "common language", a shared core classification that allows for different approaches to sustainability but makes them more objectively comparable. The IFI Framework on green bond impact reporting harmonisation that Dominika Rosolowska and I coordinated at the time was a market-driven initiative that set the scene for further convergence of definitions and impact assessment methodologies. The framework was awarded Green bond market initiative of the year by *Environmental Finance*[1].

Aldo Romani, Head of Sustainability Funding

Notably, a limited set of more precise criteria permits to focus on core information, which will be collected and reported more systematically as a result of the taxonomy. In the end, it is a simplification exercise that is bound to put markets in the driving chair – enabling funding officers like me to make more directly understandable to investors how the funds are expected to contribute to sustainability.

It is the first time that the same framework and criteria can be used for both the lending and the funding activities of the Bank.

EF: Is the taxonomy/GBS too binary?

AR: The notion that something is in or out is instrumental to the clarification of the status quo for the further promotion of sustainability via efficient investment decisions. It is part of an incentive mechanism.

If green bonds can shed light on the portion of an issuer's activities that can be reliably presented as green and verified as such by reference to the taxonomy, there is a greater incentive for the issuer to clarify in what sense the rest of its activities can be qualified as sustainable – or not.

On this basis, investors can ask: "What is the strategy going forward? Can progress on the way to more sustainability be confirmed by factual evidence (e.g. via a growing share of green bonds in the total funding programme)?" There is a knock-on effect.

Despite the challenges, the effort to produce a rulebook is extremely useful – it commits to more clarity and accountability. In light of the growing relevance of sustainability in the competition for funds, that's a leap forward for the way the whole market operates.

Sustainability is relevant not only for sustainable investors, but more generally for investors that understand the impact of transition risk on the future value of their assets and need reliable information thereon.

External reviewers are already starting to assess the data needed under the taxonomy regulation. This will gradually enhance the comparability of their analyses, which WWF and EIB have been advocating jointly since 2017[2]. We are going in a direction where market players will increasingly use the taxonomy to form a factual opinion that does not need to rely on second parties' authority.

At the same time, the analysis of taxonomy-compliance will provide a more solid anchor for the definition and relative assessment of tailor-made standards reflecting the preferences of individual investor communities. For example, there could be green bonds that are in alignment with the taxonomy plus additional criteria, such as excluding nuclear.

In this way, the reliable clarification that comes through financial products benchmarked against the EU taxonomy can be seen as the start of a broader transformation process directed by more efficient pricing of investment alternatives.

CAB and SAB: comparison with GBP/SBP and EU Green Bond Standard proposal

	Green/Social Bond Principles	TEG Proposal for EU Green Bond Standard	EIB CAB/SAB
Green projects	• Alignment with the GBP/SBP objectives/project categories	• Alignment with the EU Sustainability Taxonomy (EUST)	• EUST Transition Plan (5.3 CBR) • CAB/SAB documentation already aligned (since 09/2018) • Gradual extension of CAB/SAB eligibilities
Green bond framework	• Description of issuer's approach regarding process for project evaluation and selection and management of proceeds	• Disclosure of issuer's alignment with: the EU taxonomy; overall green bond strategy; project selection; methodologies and processes for allocation and impact reporting	• CAB Framework since 2016 • SAB Framework since 2020 *(including both allocation and impact reports)*
Reporting	• Allocation and Impact reporting recommended	• Allocation and Impact reporting mandatory	
Verification	• Appointment of an external reviewer recommended	• Issuers shall appoint an accredited external verifier • Verification applies: (i) to the Green Bond Framework and at least (ii) to the Allocation Reporting	KPMG's Reasonable Assurance (ISAE 3000) on CAB/SAB Framework covering framework, allocation and impact reports

EF: How is the EIB aligning with the nascent EU GBS (which is based on the EU taxonomy)?

AR: At the EIB, our objective is to have at least 50% of new green finance per year by 2025. In the Climate Bank Roadmap 2021-2025, the Bank has committed to aligning its tracking methodology for green finance with the framework established by the EU taxonomy regulation.

Climate and Sustainability Awareness Bonds (CAB and SAB) documentation has been tuned to evolving EU legislation on sustainable finance since 2018. In the capital markets, the CAB and SAB Frameworks[3] are thus becoming a litmus test for the progressive alignment of the classification of EIB's lending activities with the EU taxonomy regulation, starting with the technical screening criteria for substantial contribution (TSCSC).

Last year, for the first time, we published in the CAB and the SAB Frameworks the full set of TSCSC used in the CAB/SAB eligible areas in 2020. There is a higher degree of transparency, and, as mentioned, accountability.

It is a two-step process, in which the Projects Directorate first applies the EU taxonomy (or its logic, pending the taxonomy) to the classification in the project areas; it then makes such areas eligible for CAB/SAB allocation and the associated reasonable assurance by an external auditor, presently KPMG. In 2020, for example, it was decided to add low-carbon transport and technologies to the already existing CAB eligibilities (renewable energy and energy efficiency).

At the same time, this disclosure included a comparison of the existing TSCSC for renewable energy and energy efficiency with the criteria of the EU's Technical Experts' Group on sustainable finance (TEG). Such comparison led to the decision to remove non-TEG aligned activities from the CAB-allocations in 2021.

For 2022, the objective is to secure full alignment of the CAB criteria for substantial contribution with those of the EU taxonomy delegated act that came into force in January.

In the meantime, CAB/SAB issuance has gone from 7% to 23% of our total bond issuance programme (See chart).

EF: What are the challenges of implementing the EU GBS?

AR: Some areas are not yet covered by the EU taxonomy – what do you do with those? The new Do-No-Significant-Harm (DNSH) – and Minimum Safeguards (MS)-criteria require additional information vis-à-vis existing practices of project evaluation – how to treat projects with substantial contribution for which such information may not be collected retroactively? Existing and already allocated green bonds may need reopening for the maintenance of a liquid pricing reference in the primary market – how do you label them if the eligibility criteria have changed, and under what conditions?

These aspects are relevant for issuers and policymakers alike. I personally believe that some continuity should be ensured to facilitate the smooth development of the market during the transition to the new regulatory regime.

In the areas that are not yet covered, the mere logic of the taxonomy regulation would help explain why you feel they are eligible, stimulating a debate that could involve second party opinion providers and research centres. Evidence of the use of public environmental and social standards addressing core DNSH-issues could suffice to include already existing projects until the majority of allocation is to new fully DNSH-compliant projects. Taps of existing issues could be considered EUGBS-compliant if their proceeds are allocated according to the new criteria.

These are structural questions that are currently under debate.

EF: How important will the green bond standard be to the development of the green bond market?

AR: It's a very important touchstone. Whether the market will be marked from the beginning by widespread adoption of this label, I don't know – quite a lot depends on details that are still under discussion. I am convinced there will be progressive alignment with it over time.

Whether some actors like it or not, this is an area where investor attention is growing, inter alia because the taxonomy regulation is the pillar of EU legislation on disclosures (CSRD, SFDR).

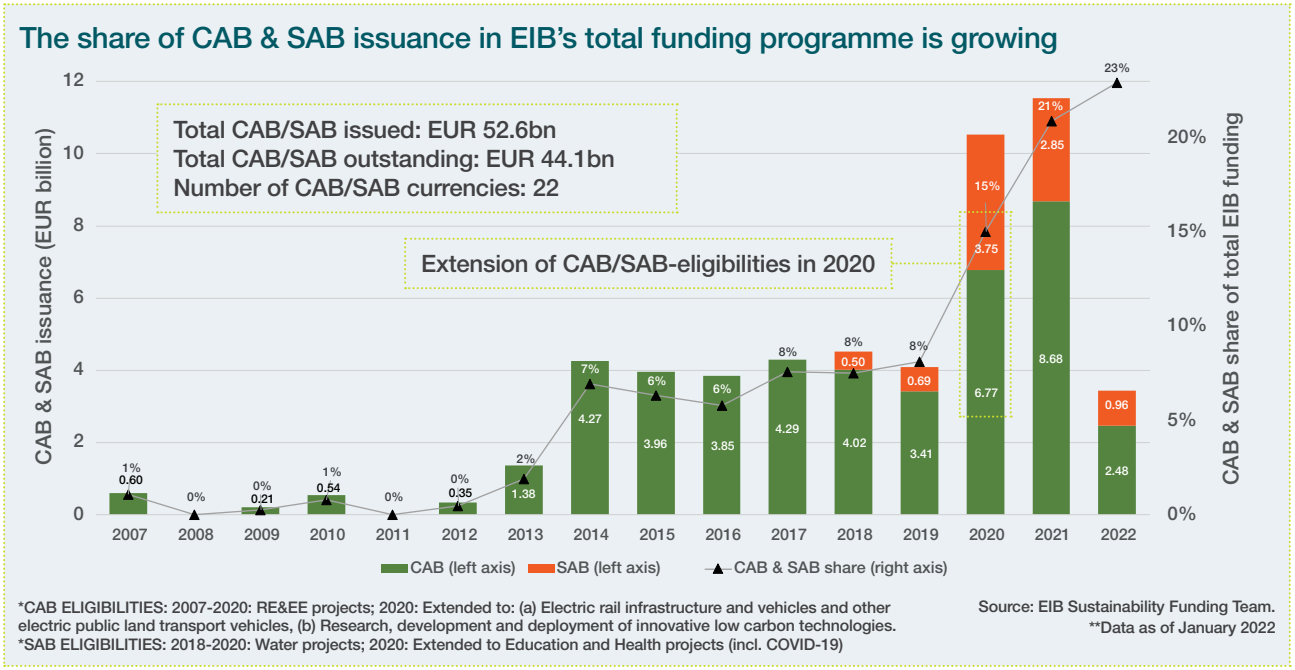
It's not possible to just hide behind a statement or a beautiful CSR document. It is becoming increasingly important to provide material evidence about your sustainable economic activities and this needs to happen in a consistent and comparable manner, i.e. by reference to externalised criteria.

The debate on DNSH is important, because if it's decided that there must be full alignment with the new requirements and it is confirmed that the required information is not available on existing projects, it will take time before new fully compliant projects come to represent the bulk of allocations.

In any case, I think the importance of this standard lies not only in the number of bonds that are 100% aligned with the taxonomy from the start. What is essential is the progressive tuning of all market participants to its logic.

It's possible to take this as an opportunity to improve the quality of information for a more effective partnership between finance and the real economy in favour of sustainability.

The market and society will benefit from the EU GBS beyond its direct use in the short term. ■



Aldo Romani is Head of Sustainability Funding in the Capital Markets Department at the European Investment Bank.

1. See: A.Romani and D.Rosolowska, *An analysis of the IFI framework on green bond impact reporting harmonization*, *Environmental Finance*, 8/07/2016.
2. See: WWF, EIB and Institute for Climate Economics, Green bonds – A practitioner's round-table to guide the development of effective and credible frameworks for external reviews", 9/6/2017. In: EIB and China Green Finance Committee, The need for a common language in Green Finance. Towards a standard-neutral taxonomy for the environmental use of proceeds, 11/11/2017, Annex IV.
3. https://www.eib.org/attachments/fi/eib-cab-framework-2020.pdf
https://www.eib.org/attachments/fi/eib-sab-framework-2020.pdf

The next chapter for the ESG bond market

After dramatic growth in the ESG bond market in 2021, BBVA sees issuers further embedding ESG into their financing strategies and grappling with an evolving regulatory context. Angel Tejada, Michael Gaynor and Álvaro Sánchez talk to Environmental Finance

Environmental Finance: What do you see as behind strong growth in the sustainable debt markets in 2021?

Michael Gaynor: The principal driver of growth in the market last year was COVID, much as it was in 2020. We were somewhat surprised that the volume of COVID-related issuance on the social side of the market continued to persist as strongly as it did, given that, among the investor base, a lot of attention continues to be on the green side of things.

Similarly, there was continued popularity among issuers for sustainability bonds that can be issued for either green or social purposes. For the issuer, this provides an awful lot of flexibility in terms of how they can use the proceeds. However, from an investor standpoint, especially for a dedicated green investor, it can muddy the waters somewhat.

Meanwhile, the volume of issuance of sustainability bonds from non-financial corporates was a positive surprise on the primary side of things. There aren't many sectors, outside the banks and SSAs [sovereigns, supranationals and agencies], that can issue pure social financing vehicles. Issuing sustainability bonds gives corporates the flexibility to allocate proceeds towards hitting their SDGs [Sustainable Development Goals] and more of their underlying corporate targets.

Álvaro Sánchez: From the corporate side, 2021 was the year that sustainability-linked bonds [SLBs] really took off. That's given space to a lot of companies that may not have been perceived as green to enter the market and issue in this sort of format, where the bond is linked to overall corporate sustainability performance, rather than to a specific green or social purpose.

> "Issuing sustainability bonds gives corporates the flexibility to allocate proceeds towards hitting their SDGs"

EF: How are issuers approaching the market?

Angel Tejada: Issuers today are very interested in integrating sustainability into their strategy, including their funding strategy. ESG is becoming a topic of interest for the CFO and the CEO, and they are trying to understand what ESG financing solution provides the best option. This will depend on the jurisdiction, the industry they are in and, of course, where they are in terms of the transition to a more sustainable world.

We are certainly seeing dynamics that can justify issuing ESG bonds from a funding perspective, but the willingness to integrate ESG targets with financing and strategy, and to look at it in an integrated way, can also help to engage other stakeholders regarding the issuer's sustainability agenda.

Issuers are also very concerned with avoiding accusations of greenwashing. Issuers and investors are becoming more open to engaging together to discuss potential queries and to work with advisors such as BBVA to provide some guidance to the market as a whole. There is broad understanding of the need for the highest standards of integrity in the market, whether from voluntary guidelines or, in future, from regulation, if we are to build a robust market based on best practice.

EF: What about investor preferences? How are they evolving?

MG: We have seen another leap forward in terms of

Angel Tejada, global head of green and sustainable bonds

Michael Gaynor, senior analyst – European financials fixed income strategy

Álvaro Sánchez, senior analyst – credit corporates and ESG strategist

investor sophistication. The emergence of SLBs as a popular instrument has had a lot to do with it: they helped to catalyse a lot of integration in how more traditional use-of-proceeds green bonds fit into wider corporate strategy. Investors have begun to question what green bonds were actually doing for issuers at the corporate level: were they meaningfully helping to finance corporate decarbonisation, or materially improve another ESG-related metric, or were they, in some cases, just enabling business as usual?

SLBs as an asset class have really piqued the interest of investors because there's a very direct story there in terms of their contribution to overall corporate sustainability. There has been a read-across to use-of-proceeds bonds, in that they want to see that these dedicated financing vehicles are also having that kind of 'second derivative' impact as well.

We're also starting to see investors look to integrate green bond investing with other ESG strategies. For example, an investor may have an exclusionary strategy that blacklists sectors or issuers but, if an issuer is using green bonds to finance a particular activity, that might offer a strong argument to negotiate around that blacklist. So, we're seeing the traditional separation of ESG strategies in the credit space begin to break down, and changing into one holistic, very sophisticated approach.

EF: You mentioned the dramatic growth in the sustainability-linked bond market. What developments are you seeing there?

AT: Many of the conversations we are having with investors and issuers are around the relationship between standardisation and innovation. For example, most SLBs are focused on step-ups, where the issuer pays a higher coupon if it misses its sustainability performance target. But there is

the potential for step-downs that incentivise issuers to set and achieve more ambitious targets. That innovation is going to emerge, sooner or later.

But I think we may well see these kinds of innovations starting in the public sector. Given the limited number of sovereign issuers, their credibility, the large amount of information available about their sustainability policies and the liquidity of that part of the market, investors will be better able to engage with innovation from those issuers. If, on the other hand, we see too much innovation in the corporate space, from smaller, less well-known issuers, I fear that the due diligence expected of investors would be too great.

EF: BBVA was Green Structuring Advisor and Lead Manager for the Kingdom of Spain's first green bond, a €5 billion, 20-year bond, which was placed last September. How did that process go?

AT: It was a long and intense process, as the Kingdom of Spain wanted to build a very rigorous, robust framework, developed through an inter-ministerial working group, ensuring that it was very well prepared ahead of the verification process. For sovereign issuers, this is always a complex project but, in the case of the Kingdom of Spain, they successfully managed to achieve their objectives with excellent coordination and agility. According to the second party opinion provider Vigeo Eiris [VE], Spain's Green Bond Framework meets the highest possible standards and got the highest rating ever given to a European sovereign by VE. Ultimately, the framework was not that difficult for the Kingdom of Spain to put together because it has an ambitious climate framework (with clear climate and environmental policies) that will help the country build a carbon-neutral and resilient economy. Having such an environmental ambition is always one of the most important elements for any green bond issuer.

It's definitely a fantastic development, meaning that Spain now has the possibility, on an ongoing basis, to issue green bonds in future that will lead the green recovery process.

EF: What impacts did COP26 have on the ESG finance markets and do you anticipate continuing positive effects?

AT: Yes, I think COP26 is continuing to have a lot of effects in the ESG bond market. It has proved to be a major step forward in encouraging companies and countries to think about science-based scenarios and methodologies to define and understand their decarbonisation trajectories. Also, for sovereigns, the way they will report on their nationally determined contributions could have very interesting implications for the ESG bond market.

Compared with previous COPs, it was awesome to see at COP26 the engagement of the private sector in working towards methodologies and commitments to reach the 2050 emissions goals.

We expect to see more companies publishing commitments linked to 1.5°C, and more investors demanding this greater ambition. We expect that companies will aim to leverage efforts towards more aggressive commitments, and to issue sustainability-linked bonds or green bonds to finance the capex involved. We also expect the competition to accelerate regarding how companies are going to decarbonise and transition their business towards the net-zero global economy.

EF: Are you concerned that extra burdens imposed by the EU Taxonomy and the forthcoming EU Green Bond Standard will make it harder for issuers to come to market?

AT: Existing issuers of ESG bonds are trying to understand how the EU Taxonomy and the Green Bond Standard will affect them. Some of them are modifying some of the wording in their green bond frameworks to add more content and to ensure their alignment with the EU's forthcoming rules, as well as their alignment with the recent recommendations from ICMA [the International Capital Markets Association].

However, many companies in Europe that are involved in the ESG bond market are already responding to the EU Sustainable Finance Regulation, the EU Non-Financial Disclosure Directive and, from January next year, will have to comply with the Corporate Sustainability Reporting Directive; they are required to report non-financial information and the alignment of their investments and revenues with the EU Taxonomy. Here, it is helpful to have these definitions around green activities and what activities should be funded to enable the decarbonisation of the economy.

In this regard, the EU Taxonomy is likely to be a positive in terms of the future issuance of green bonds. Discussions that are ongoing internally among issuers to understand the debates around the Taxonomy, and the eligibility of assets within their portfolios, will benefit the structuring process for potential use-of-proceeds green bonds. We are going to find better-prepared issuers.

Meanwhile, the market already has clear guidance, recommendations and standardisation from ICMA that provides issuers and investors with best-practice guidelines. For that reason, I don't see the Taxonomy or the Green Bond Standard having a huge impact this year.

EF: Finally, what's next for BBVA in 2022?

AT: For BBVA, our objective is to become a sustainability partner for our clients, to help advise them on how they can best integrate sustainability into their business processes. Specifically, we are allocating resources to ensure that we can offer a sustainable alternative for every financial product we offer – a commitment we achieved in Spain last year.

In the ESG bond market, we are working to get closer to issuers and investors; we think it is particularly important to foster engagement between the two sides of the market. There has not been enough focus in the past on the conversations between them to ensure that, for example, appropriate structures are in place so they can be incorporated into socially responsible investment mandates, bond indexes or can be purchased by any type of institutional investor.

Finally, BBVA will continue to be an active ESG bond issuer to reinforce one of our key strategic priorities: "Helping our clients transition towards a sustainable future". ■

Angel Tejada is global head of green and sustainable bonds at BBVA, Michael Gaynor is senior analyst – European financials fixed income strategy, and Álvaro Sánchez is senior analyst – credit corporates and ESG strategist .

For more information, see: www.bbvacib.com

Berlin Hyp

Berlin Hyp: linking sustainability financing and strategy

Berlin Hyp has put sustainable finance at the core of delivering its broader corporate sustainability strategy. Bodo Winkler-Viti explains

Environmental Finance: Increasingly, investors in sustainability-linked financial products want to see alignment between financing and the issuer's overall strategy. As an active issuer of sustainability-linked debt, how does Berlin Hyp's financing relate to strategy?

Bodo Winkler-Viti,Head of Funding & Investor Relations, Treasury

Bodo Winkler-Viti (BWV): Berlin Hyp is a mono-line institution. We have only one core business, providing finance for commercial real estate. The real estate sector as a whole is responsible for around one-third of the carbon emissions within the EU. All the participants in the real estate market, including financial institutions like us, play a crucial role in reaching the goal of the Paris Agreement through increasing the energy efficiency of buildings.

Here, the European real estate sector has some structural challenges: 75% of all buildings in Europe are energy inefficient and the annual renovation rate is only somewhere between 1% and 2%. That demonstrates why it is so important to provide green financial products and to help transform the sector, because on the one hand the sector is so crucial and on the other provides so many opportunities.

Meanwhile, Berlin Hyp refinances itself exclusively in the capital markets, initially with green use-of-proceeds bonds but, last year, we became the first bank to issue a sustainability-linked bond, related to the carbon intensity reduction rate of our overall loan portfolio.

EF: What are the bank's overall sustainability targets, and how did you decide on them?

BWV: In 2020, the bank published its sustainability agenda defining an overarching goal of our ESG Strategy, which is a commitment to the Paris Agreement and, linked to that, reaching climate neutrality within our lending portfolio no later than 2050. The ESG Target Vision, which we launched in 2021, goes further and takes governance and social issues into account as well.

The ESG Target Vision defines several KPIs [key performance indicators]. For our loan portfolio, we have set a target of one third of loans to be to energy efficient buildings by 2025. We have also defined that, by the end of 2023, we want to have full transparency in our loan book regarding the energy efficiency and carbon emissions of every building we finance. That will enable us to thereafter precisely calculate physical and transitional climate risk using real rather than assumed data.

EF: What role is green finance playing in delivering that strategy?

BWV: We aim for 40% of our capital market funding mix to consist of sustainable refinancing products by the end of 2025 – that is, green bonds, sustainability-linked bonds and, potentially in the future, also social bonds.

When we issued our first Green Pfandbrief in 2015, our Green Finance Portfolio was very small. However, it was so positively received by the market and was such a success that our board of directors decided we should issue more of them, which meant that we needed more underlying assets, and that we should set real goals to incentivise new green business. In 2016, we began offering price discounts for loans for energy-efficient green buildings and we were able to increase the size of that part of the portfolio by more than 1,000%.

Meanwhile, in 2019 we made the 'Green Pfanbriefe' brand available to the Association of German Pfandbrief Banks, to allow it to create a common definition and minimum standards for the entire market. It's been good to see a dynamically growing green covered bonds market develop internationally across a large number of jurisdictions.

Last year, the issuance of ESG covered bonds accounted for a double-digit percentage of the overall covered bond market for the first time. Inspiring others makes us proud and sharing our expertise with other market participants helps us reach our overarching ESG goals.

EF: How is your business shifting in response to sustainability pressures? What levers do you have to encourage your customers to improve their performance?

BWV: Building owners are increasingly accepting their responsibility to act on climate change and improve energy efficiency. Meanwhile, we have several levers to further encourage them. First, as a bank, we can use pricing. We incentivise green finance, showing our clients that it is economically attractive to invest in green buildings, or even EU Taxonomy-aligned buildings or construction activities, rather than non-green ones.

A second lever is a new product, an incentivised loan product where we offer clients relatively low-cost finance to fund renovations: our Transformationskredit (transformation loan). Energy-related refurbishments financed by it can be EU Taxonomy-aligned but they don't necessarily have to lead to a primary energy demand reduction of more than 30%.

The third lever is from the broader regulatory environment. In some countries, we are already seeing measures relating to real estate that are intended to be beneficial to governments' overall environmental goals. For instance, in the Netherlands, which is one of our biggest markets, it is no longer permitted to sell either a commercial or residential building, or part of a building, which has an EPC [Energy Performance Certificate] label below 'C'.

Meanwhile, we are being encouraged by regulators to provide financing to support increased energy efficiency, for example with new rules on green asset ratios. There is a very clear shift in the market.

EF: The bank has recently revised its Green Bond Framework to take into account the EU Taxonomy. Can you explain the thinking there?

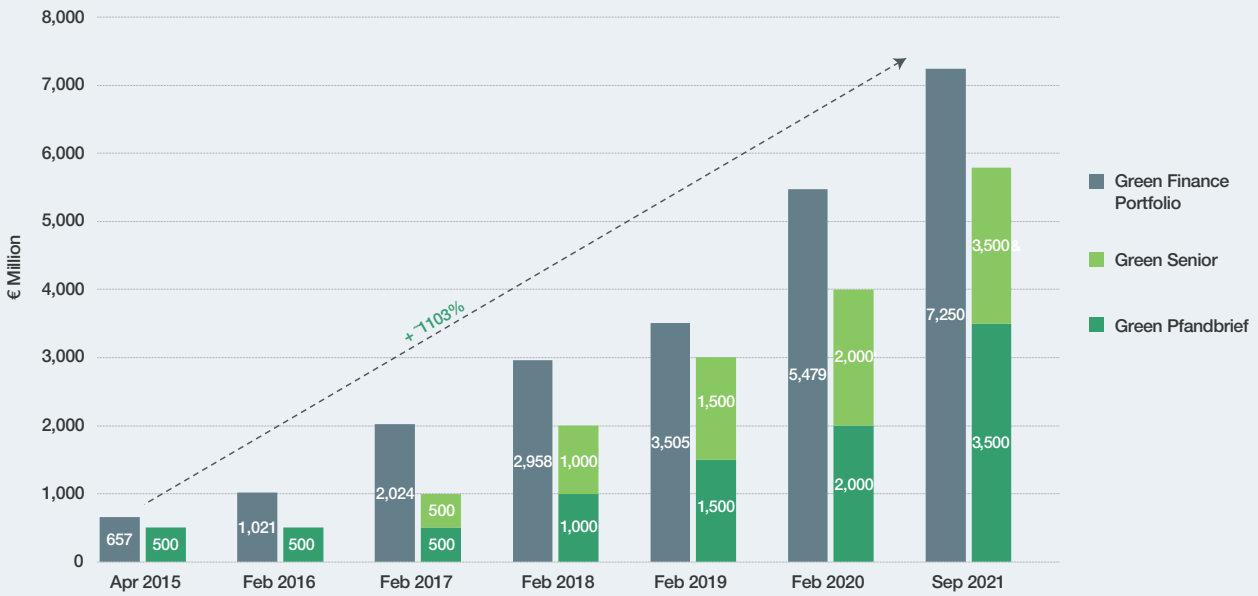
BWV: Our view is that the EU Taxonomy is very helpful, in providing the market with common definitions and standardisation. Internally, we refer to it as a new common language for the entire European market. Historically, we at Berlin Hyp have been strongly focused on energy efficiency. However, the taxonomy goes far beyond that. It's not only about energy efficiency – it also includes 'do no significant harm' criteria, which provide a more holistic picture of the business. The complexity makes this new language not so easy to learn.

We have become one of the first banks to align our lending activities with the EU Taxonomy's requirements for buildings and construction activities. Our new Green Bond Framework now provides for two different green loan products. One focuses on energy efficiency and is in line with Berlin Hyp's existing approach. The other one is an innovation which is fully aligned with the EU Taxonomy's buildings climate change mitigation criteria.

For example, in line with the Taxonomy, new buildings must either have a Class A EPC or be in the top 15% of building stock in terms of primary energy demand, while renovations must lead to a decrease in energy use by at least 30%. They must also meet 'do no significant harm' criteria relating to water use, the circular economy, pollution prevention and biodiversity protection, and of course climate change adaptation.

We will offer these loans alongside each other during a transition period until the end of 2025 because, by then, the whole market should have learned to speak the new language of the EU Taxonomy. We want to start this journey early in order to give everybody time to prepare. And we want to make this journey together with our customers and our capital market investors.

Green finance portfolio



Source: Berlin Hyp (2022)

EF: What was behind the bank's decision to enter the sustainability-linked bond market?

BWV: The sustainability agenda that the bank issued in 2020 set out our commitment to climate neutrality in our lending business, but it does not require that each and every asset be eligible for green bond issuance. However, within this commitment, there is, in our view, a strong corporate-level KPI, namely our target of reducing portfolio-level carbon-intensity by 40% between 2020 and 2030, in line with the Federal Republic of Germany's target for the building sector.

For us, issuing sustainability-linked bonds against this target was an obvious way to show not only the capital markets but also the wider public and other groups of stakeholders that this is a way to look at the bank holistically.

EF: How was your first SLB received by the market?

BWV: When we issued our first SLB, only corporates were active issuers in the market, so we gave investors the chance to invest in a different credit from a new sector. The bond itself was a big success economically. It was 10-year senior preferred and priced at mid-swap plus 35 basis points. That was the second-tightest pricing for that tenor and seniority at that point. It turned out very well for us.

Now comes the interesting part: we are 10 months on from issuance, which means we are preparing our first end-of-year reporting to show whether we're on the pathway to reaching our Sustainability Performance Target for the first year. At the moment, we're still collecting input data, but the data we collected for our interim calculation, in the middle of 2021, looked promising.

EF: Your Green Bond Framework talks about the importance of diversifying your investor base. Can you quantify the extent to which green bonds, Green Pfandbriefe and SLBs have helped you do so?

BWV: As discussed, we 100% refinance in the capital markets. Berlin Hyp is 150 years old and it is a household name in the German market. But when we look to raise money abroad, we are a relatively small bank, with just €35 billion of assets. Larger international investors have to undertake deep analysis before they can allocate investment limits to a new name, and they have told us in the past that, while they consider us an attractive credit, they could not justify that research given our limited fundraising in the conventional capital markets.

However, once we became a regular issuer in the green bond market, that changed. Given how many green mandates these investors have to fill, they became very keen to get hold of our green bonds, and therefore were motivated to undertake that analysis. That not only strengthened our investor base in relation to green bonds, but also when we issue conventional bonds, because once those investment limits are in place, portfolio managers can also use them for their conventional mandates. Therefore, within the last seven years, we added almost 200 investors to our investor base.

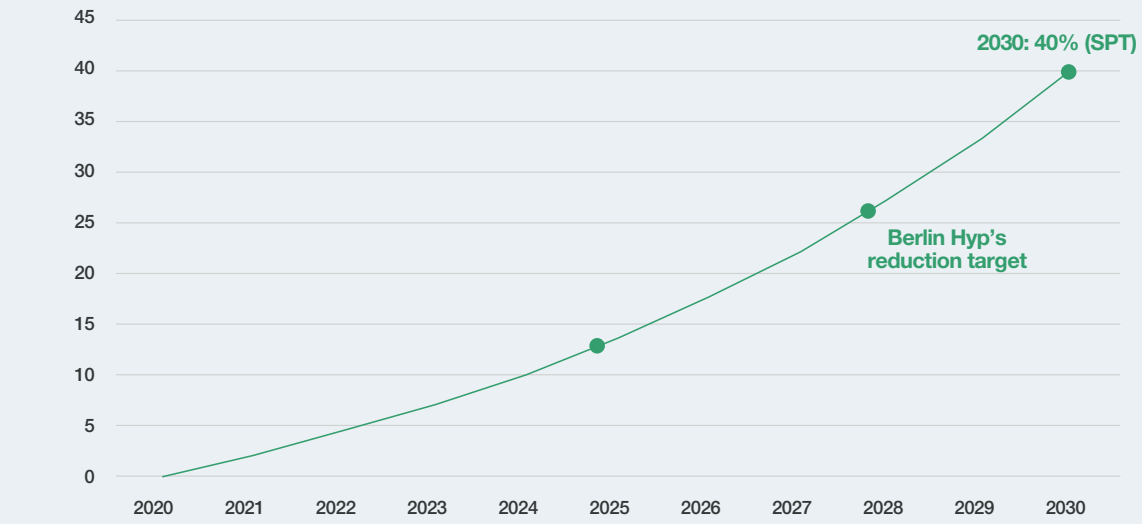
EF: What are the next steps for Berlin Hyp's green financing programme?

BWV: For a relatively small bank, we have already achieved a great deal in terms of green finance. In terms of our target of raising 40% of funding from green financing by 2025, we are already at 28%. We have plans underway for new and interesting products but, at Berlin Hyp, we prefer to do the work first and then come to the market, rather than the other way round – watch this space! ■

Bodo Winkler-Viti is Head of Funding & Investor Relations, Treasury, at Berlin Hyp. E-mail: bodo.winkler@berlinhyp.de

For more information on Berlin Hyp's sustainability strategy, see www.berlinhyp.de/en/sustainability/mission

Carbon intensity reduction



Source: Berlin Hyp (2021)

$100 billion of impact: inside Fannie Mae's green bond programme

Fannie Mae has issued more than $100 billion in green bonds backed by mortgage loans that deliver environmental and social impact to the US housing market. Laurel Davis and Lisa Bozzelli talk to *Environmental Finance* about Fannie Mae's green bond programme and how it fits into the firm's broader corporate ESG strategy.

Environmental Finance: Over the past 10 years, Fannie Mae has become the world's largest issuer of green bonds. However, readers outside of the US may be unfamiliar with the company. Can you briefly describe what Fannie Mae was created to do?

Laurel Davis: Fannie Mae is a purpose-driven company, originally chartered by the US Congress to deliver liquidity, affordability and stability to the US residential mortgage market. Our role is to facilitate the flow of global capital into the housing market by issuing guaranteed mortgage-backed securities. Our guarantee to investors of timely payment of principal and interest helps lenders offer affordable mortgage loans, like the 30-year, fixed-rate mortgage, to low- and moderate-income homebuyers, and the 10-year, call-protected fixed-rate loan to multifamily borrowers to promote access to affordable, quality rental housing. Through the first nine months of 2021, we provided $1.1 trillion in liquidity to the market.

Part of this liquidity is raised from the green bond market. Specifically, we issue Multifamily Green Mortgage-Backed Securities [MBS], secured by one green mortgage loan collateralised by one property, Green Guaranteed Multifamily Structures [Fannie Mae GeMS], a resecuritised pool of Multifamily Green MBS and, since 2020, Single-Family Green MBS, pools of single-family mortgage loans backed by newly constructed single-family homes that are certified to independent rigorous energy requirements.

Laurel Davis, head of ESG

Lisa Bozzelli, senior director, multifamily capital markets

EF: Your green bond programme is a component of Fannie Mae's broader ESG strategy. How does your ESG strategy build on your mission?

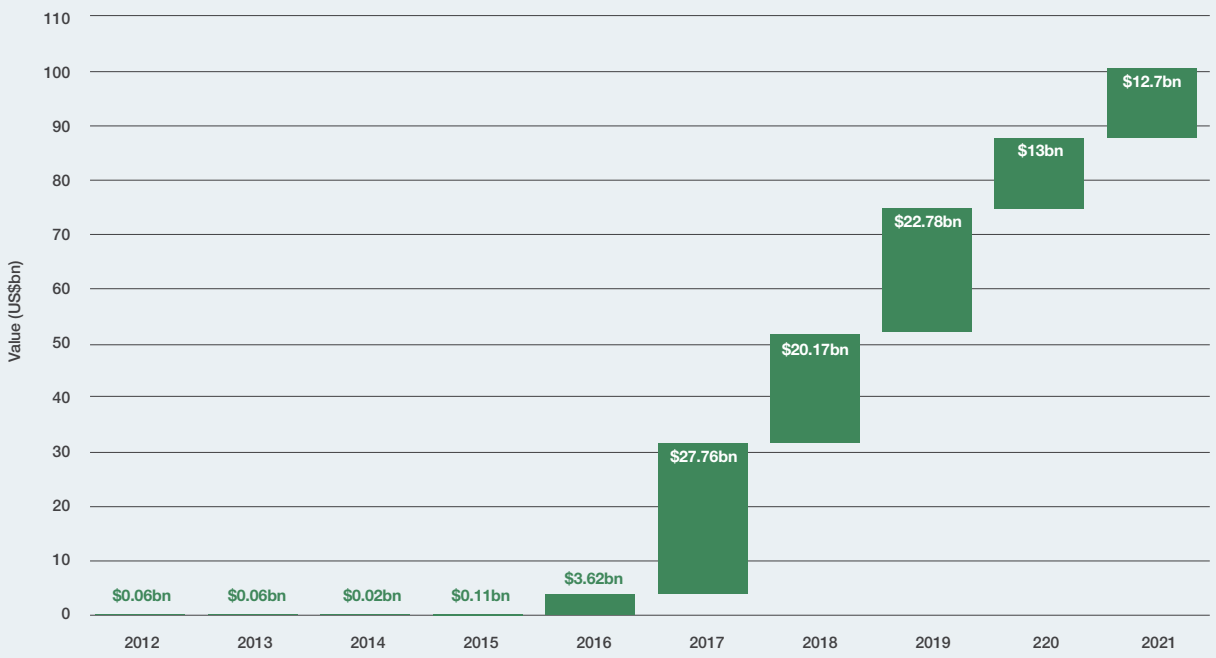
LD: Sustainable and affordable housing is the foundation of economic well-being for individuals and families. Our mission is to facilitate equitable and sustainable access to homeownership and quality, affordable rental housing across America. That mission directly drives our ESG strategy, which is focused on how we can create even greater positive environmental and social impact through the core elements of our business.

The environmental elements of our ESG strategy focus on climate risk, climate resilience and energy efficiency, the latter of which is reflected in the core of our green bond programme. The social elements include a focus on affordable housing, on promoting housing stability for both homeowners and renters, and making the housing system more equitable. Our mission also informs how we think about governance, and we place a particular focus on strong risk management to maintain safety and soundness so that we can support the borrowers and renters who are the ultimate beneficiaries of the liquidity we facilitate in the markets.

We formulate our ESG strategy through input from key stakeholders and we pay close attention to global market standards; for example, we published our Sustainable Bond Framework, which was independently assessed as aligning to the ICMA [International Capital Markets Association] Green Bond and Social Bond principles.

Fannie Mae®

The journey to $100 billion in Fannie Mae Multifamily Green Bonds



Source: Fannie Mae Multifamily issuance data through November 30, 2021

EF: Given your mission, what actions is Fannie Mae taking as it relates to social objectives in US housing?

LD: A primary social focus for us is leveraging our unique position in the US housing ecosystem to make housing finance more equitable overall, with a particular focus on groups that have been underserved in the past. We've taken a data-driven approach to tackle the obstacles that have been contributing to the 30-point gap in homeownership rates between Black and White households. For example, one of the biggest obstacles to qualify for a mortgage loan is insufficient credit history. Last year, we made a groundbreaking update to our automated mortgage underwriting system allowing lenders for the first time to consider positive recurring rent payment history when assessing a borrower's eligibility for a mortgage. This update expands eligibility for homeownership to qualified renters who may have limited credit history, but a strong history of on-time rent payments. In addition, we continue to work to understand and minimise racial bias in the home appraisal process by leveraging our database of roughly 54 million appraisals to support research and analysis.

We're also addressing housing inequity and the homeownership gap by expanding access to reliable knowledge of housing and housing finance through our free online homeownership education course, HomeView.

EF: Delivering transparency to investors and other industry stakeholders is increasingly important. Could you speak to the expanded ESG reporting and disclosures Fannie Mae has provided in recent years?

LD: Increasing transparency around our ESG efforts is a high priority. We added a new section on ESG matters to our 2020 Form-10K report, and in 2021 we published our first SASB [Sustainability Accounting Standards Board] report. We also undertook updates to our website to make our ESG information more accessible. As we look ahead, we'll continue to expand the scope of our voluntary disclosures while aligning to global frameworks and standards.

Lisa Bozzelli: On the securities side, we leverage multiple platforms including Single-Family and Multifamily MBS disclosure websites to communicate green and social-related data. In addition, investors can access the estimated projected environmental impact per green bond in a downloadable Excel format on our Green Bonds webpage. We also partner with data providers, like Bloomberg, to display green bond flags to enable investors to quickly determine if a bond aligns with our Green Bond Frameworks.

We've expanded transparency through our social disclosures as well. For example, we added additional area-median income [AMI] data fields for Multifamily MBS to give investors a better idea of what type of affordable housing their investment supports, and for Single-Family MBS, we introduced Special Eligibility Program disclosures to identify loans financed through one of our affordable lending programmes.

EF: In the green, social and sustainable bond market, the securitised products sector lags corporate and sovereign issuance. Why do you think this market has been slower to develop?

LB: The green bond market started in Europe post financial crisis in a regulatory climate that favoured corporate and Supra issuances or issuer-linked securitisations, like covered bonds, over asset-backed securitisations. In addition, the nature of a securitisation model requires the accumulation of several smaller financial instruments to make the larger tradeable security. For a green bond programme like ours, for example, that means that we must work with a large number of apartment building owners and single-family builders and lenders to develop green homes that meet our criteria, which takes time. The asset-backed securitisation [ABS] execution, however, does provide diverse investment opportunities for the green and social investor with its ability to tranche by maturity and credit characteristics. It also typically allows for a cheaper cost of capital for individual borrowers and enables lenders to recycle their capital back into the market. Although it may have had a late start, the ABS market in the US and in Europe is finding its place in the green, social and sustainable bond market.

EF: Meanwhile, Fannie Mae has issued over $100 billion in green bonds over the past decade. How has investor reception evolved?

LB: In the early days, there was not a lot of interest among our traditional investors in exploring green or social bonds specifically. We were able to attract investors who were new to Fannie Mae multifamily securities, but who were looking for investment opportunities that met their sustainable frameworks. Over the last two years, awareness of US investors in both green and social investments has grown exponentially. Our traditional investors are in various stages of developing their own ESG programmes and frameworks determining what they want from sustainable securities. It's become a much more dynamic discussion as investors are thinking about ESG in the context of their overall risk analysis as well as impact.

EF: What about pricing? Are you seeing investors prepared to pay a premium to hold Fannie Mae green and social bonds?

LB: There are many factors that go into the pricing of an MBS beyond the green or social nature of the investment. Isolating a premium is complicated because each MBS is backed by one or multiple loans on one or multiple properties. Anything from the term of the loan to the location and property type will influence the pricing. Whether the MBS provides green or social impact is just one of several defining characteristics. In multifamily, when we pool individual MBS into a larger diversified resecuritisation, we see strong participation from ESG-designated investors who tend to be a little 'stickier' so, as deal spreads tighten, these investors are less likely to drop their orders.

EF: You began issuing Multifamily Social Bonds in January 2021. Can you tell us more about this offering and how it fits into your corporate social objectives?

LB: As Laurel mentioned earlier, we're working to expand access to affordable homeownership and rental housing. While Fannie Mae has long issued MBS that support affordable housing, through our multifamily social bond programme we offer bonds that align with our Sustainable Bond Framework, which demonstrates our commitment to global social bond principles. Through the end of 2021, we issued $11.4 billion in multifamily social bonds. These bonds include loans on restricted affordable housing properties, which are properties with a regulatory agreement requiring certain rent and income restrictions for tenants. Our multifamily social bonds also include manufactured housing communities, which address the need for housing of low- and moderate-income families.

As property affordability data become more available, investors will be able to target their support to these types of properties that may meet their social investment criteria.

EF: What are some of the challenges and opportunities for Fannie Mae as it continues its ESG journey?

LB: Getting transparent, homogenous data to the market is a key focus for us, but it does not come without challenges.

On the single-family side, we need to be mindful that releasing certain types of geographic data or borrower characteristic data requested by investors may increase the risk of compromising an underlying borrower's privacy. On the multifamily green finance side, the lack of raw building data from utility companies makes it very difficult to compare building energy performance or to demonstrate post-renovation improvements. We continue to explore opportunities to increase the impact of our programme. For example, our single-family green business is exploring opportunities in the retrofit market, which presents its own unique challenges related to data collection.

LD: In terms of our broader ESG strategy, we recognise that the size and scale of the issues we are trying to address means that these aren't problems we can solve on our own. For example, when we talk about creating more climate-resilient housing stock, it will take initiatives across the government and the housing industry to address the transition risk involved, and what to do about the borrowers and renters in those impacted communities. Likewise, our work on racial equity will require partnerships to address some of the most persistent barriers to homeownership.

However, on the opportunity side, we can use our unique position in the US housing market and our convening power to help drive greater outcomes in this space. One example is our Future Housing Leaders Program, which we developed a few years ago to help create a pipeline of diverse talent for the housing industry. By working with companies across the industry, it places candidates in internships and early career opportunities that help the industry's workforce better represent the population that it serves. Our capacity to do well as a company is tied to our work to drive positive outcomes for families and communities and we look forward to continuing our ESG journey. ■

Laurel Davis is head of ESG, and Lisa Bozzelli is senior director, multifamily capital markets, at Fannie Mae in Washington, D.C.

Contact us:
https://capitalmarkets.fanniemae.com/form/main-contact-form

Website:
https://capitalmarkets.fanniemae.com/sustainable-bonds

UniCredit

A holistic approach to ESG finance

As sustainability concerns rise up the agenda, issuers and investors alike need to take a holistic approach to ESG financing, says UniCredit's Antonio Keglevich

Environmental Finance: What are your expectations for volumes in the sustainable bond market in 2022?
Antonio Keglevich: We're anticipating strong continued growth. After totalling $904 billion in 2021, we are forecasting that the ESG bond market will break the $1 trillion barrier this year, reaching $1.3 trillion in global primary issuance. Within that, our analysts are forecasting that green bond supply will reach $560 billion, that sustainability bonds will almost double, to €300 billion, and the issuance of sustainability linked bonds [SLBs] will more than double, to $250 billion. The one area of the market that we expect to shrink is social bond issuance, which we expect to fall to €190 billion, as issuance of COVID-19 bonds declines.

EF: What does this increased supply imply for the premium that investors are prepared to pay for sustainable bonds?
AK: Increases in supply are leading some market participants and commentators to speculate that the 'greenium' that ESG bonds command will decline or disappear in the months to come. We disagree. Despite this substantial increased supply, we expect the greenium to persist. This is for the simple reason that we are expecting demand to grow more rapidly than supply.

An important driver for this is the EU's Sustainable Finance Disclosure Regulation [SFDR], which will encourage demand among asset managers for greater volumes of eligible sustainable investments. We believe that particularly strong investor demand for funds with the darker green 'Article 9' classification under the SFDR will help drive demand for ESG bonds.

Antonio Keglevich, Global Head of Sustainable Finance Advisory

In addition, we see the growth in ESG bond ETFs [exchange-traded funds] as an accelerant. These funds grew more than 800% in the two years to end-October, and now account for around €16 billion in assets. Because these often track indexes, they tend to have little or no opportunity to trade greenness for yield, which will push up the greenium.

EF: How is the approach of your corporate clients to the sustainable finance market evolving?
AK: There are dramatic changes underway in terms of client expectations. We are now entering a phase where it's not a question of simply having the right ESG-related finance solution, but rather ensuring that the company can go into the market with the right ESG narrative.

What we are seeing is growing demand from clients who are asking us for a more holistically driven ESG advisory service; not so much from the large-caps with their own sustainability departments, but from the German Mittelstand, Italian SMEs, mid-sized companies from across Central and Eastern Europe. They are looking to understand what's going on from a European regulatory point of view, and to better understand the evolving demands of investors regarding sustainability.

Our Sustainable Finance Advisory offer goes from a targeted ESG solution to a comprehensive advisory package.

Some commentators speculate that the 'greenium' that ESG bonds command will decline or disappear in the months to come. We disagree.

We can help with the client's ESG finance strategy, providing peer benchmarking of their approach to ESG, investor engagement and mock ESG ratings exercises, including targeted advice of what they can address to deliver an immediate improvement in their ESG rating. Within our team, we have three people who have joined us from ESG rating agencies. It's really important to be able to leverage that external perspective.

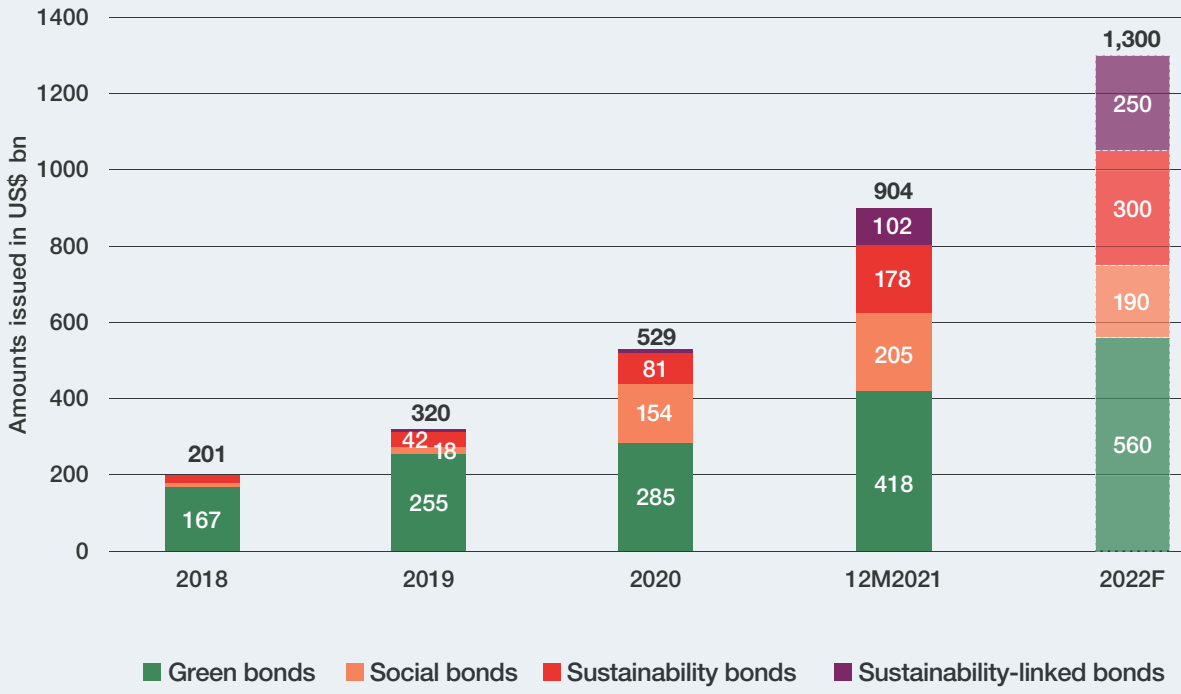
Finally, we translate all that into ESG financing instruments, structuring ESG finance frameworks, selecting the right product, managing the Q&A process and preparing them to approach the market with the right ESG investor presentation. It is very much a holistic view of the role of ESG financing.

EF: Does that suggest a more joined-up approach between debt and equity capital markets, from the issuer's perspective?

AK: This has been the direction of travel for a few years now, dating back to the emergence of the sustainability-linked bond market. That was triggered by companies who were intrigued by the green bond concept but didn't have explicitly green assets. They began to ask about the potential of the market from a strategic sustainability point of view. That's where we realised that we had to decouple the market from a purely product-based approach to become more product-agnostic.

We are seeing the growing relevance of ESG in the equity business, with a lot of potential beyond the classic 'green IPO' from pure-play environmentally orientated companies. Increasingly, part of the IPO offering involves the issuer setting out its ESG narrative: it is no longer just about outlining a strategy and a multi-year business plan, but about presenting the company's sustainability concept. This topic has become of societal relevance – if companies don't address it, they will need to explain why.

ESG bond issuance to break the trillion-dollar barrier



Source: Climate Bonds Initiative (CBI), Bloomberg, UniCredit Research

EF: What about on the investor side? How are they engaging with the market?

AK: Overall, the sustainable finance community is becoming more interlinked. To provide an example, we are currently preparing the green bond framework for a client. The client is being engaged by ESG investors who are offering their experience and views to act as a sort of sparring partner, providing input on the appropriate use of proceeds and the

sort of activities they would be interested in financing. This is great. This will enable our client to prepare a framework that is, to a large extent, already mirrored against the expectations of investors who have a very clear idea of what such a framework should include.

EF: What would you point to in terms of landmark transactions you were involved in 2021?

AK: One transaction that particularly stands out was the sustainability-linked bond that we helped [Italian oil & gas company] ENI to issue last year, which was the first such bond from the oil and gas sector. As well as supporting the issuance, we helped the company to set up its sustainability-linked financing framework.

What ENI is doing is linking its financial strategy to its sustainability strategy. Together with the client, we defined the relevant KPIs to include in the framework and from which it can choose when it issues a bond. The ESG KPIs used for the inaugural bond addressed two main areas: the company's upstream net carbon footprint, covering Scopes 1 and 2; and the company's installed renewable energy capacity. They were very clear targets, which ENI did a terrific job in explaining to the market.

The transaction was extremely successful. We ended up with a highly over-subscribed book for a €1 billion transaction. We interpreted this as a very strong signal of acceptance from the market. So, in many aspects, it was really a landmark deal.

EF: UniCredit also came to the market with its own green bond last year. How did that process go?

AK: Our goal was to set up a holistic Sustainability Bond Framework which allows us to issue in both green and social formats across all Group entities. We have several different issuing entities within UniCredit, including the main Italian, German and Austrian units, as well as local issuers across our other European banks.

Since establishing the framework, we've already issued four transactions – a green senior secured bond and a social bond out of Italy; a green Pfandbrief out of Germany; and another green covered bond out of Hungary. The framework, which is in line with the 2021 version of the Green and Social Bond Principles and the Sustainability Bond Guidelines of ICMA, is being used extensively across the Group, showing our strong commitment to sustainability and the strategic importance of ESG for our business.

> It is important to have coherence among different pieces of ESG regulation in the EU, and at least some level of international harmonisation

EF: Where do you see opportunities for growth?

AK: Transition is the key topic. The market is well advanced in picking the low-hanging fruit – the easy-to-define use-of-proceeds areas such as renewable energy and energy efficiency. Now, it will be all about what carbon-intensive industries can offer. The big question will be their ability to meet the standards which are currently being discussed.

EF: Is the EU Taxonomy process helping or hindering there?

AK: The potential breakup of Europe when it comes to the treatment of nuclear and natural gas within the Taxonomy is concerning. We may have individual European countries saying that, if the Taxonomy is passed as it is with nuclear and natural gas, then they will define their own taxonomies. Similarly, there is the possibility that the EU Green Bond Standard, which makes reference to the Taxonomy, could exclude investments in nuclear and gas as currently discussed by lawmakers in the European Parliament. Our view is, we must take further steps towards the creation of a harmonised market.

In this context, it is important to have coherence among different pieces of ESG regulation in the EU, and at least some level of international harmonisation.

As to the transition, we are also closely following the work of the European Commission's experts on extending the Taxonomy beyond green. A classification system which would take into account different levels of performance, a sort of 'traffic light system', could bring further clarity to the market. At the same time, there is also a risk that the Taxonomy will become overly complex or that, by creating a list of 'significantly harmful activities', it could steer capital away from transition efforts.

EF: UniCredit has made a commitment to achieve ESG volumes of €150 billion over the next three years. How does the bank plan to achieve that, and what role will Sustainable Finance Advisory play?

AK: Sustainability is a key lever of the new UniCredit Unlocked strategic plan the bank presented in December 2021, with several ambitious ESG targets for 2022-2024. This includes a target of €150 billion in new cumulative ESG volumes across environmental lending, ESG investment products, sustainable bonds and social lending.

We have established an ESG advisory model for corporates and individuals, are financing innovation for environmental transition and we are partnering with key players to enrich and improve ESG offerings across sectors.

Sustainable Finance Advisory supports clients in their transition to a more sustainable economy. We constantly strive to increase customer engagement on ESG-related topics and facilitate clients' access to Europe's sustainable financing markets, combining sustainability expertise with capital markets capabilities. This is complemented by an enhanced and comprehensive ESG advisory approach supporting our clients on their ESG journey. ■

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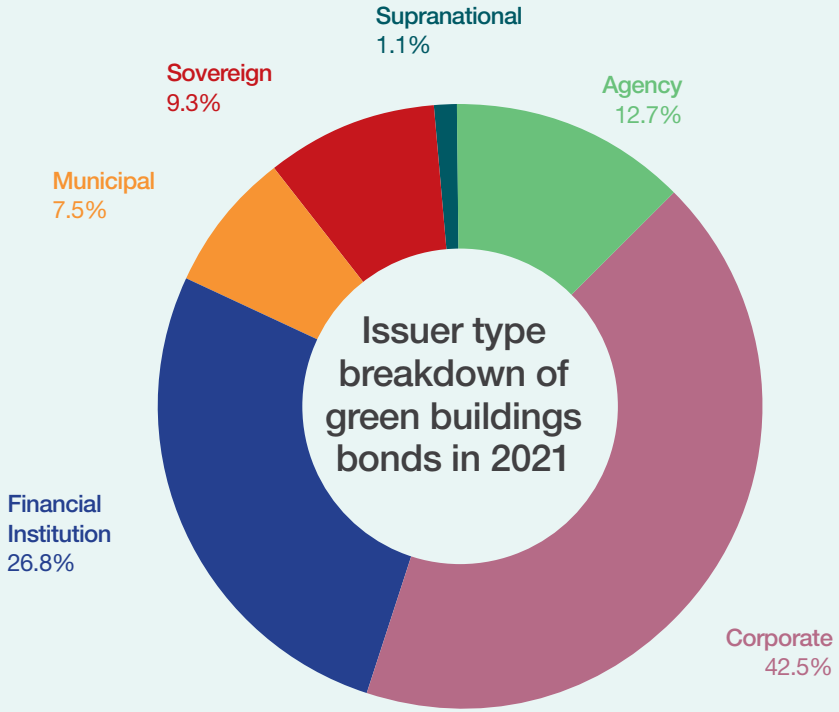
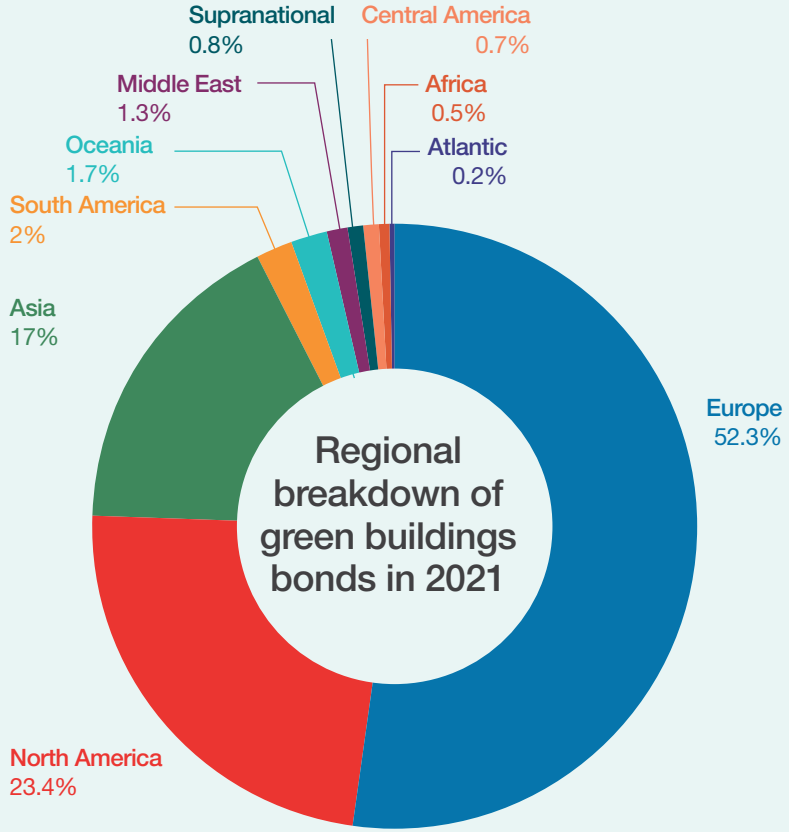
For more information, see: www.unicreditgroup.eu/en

Green buildings

Green buildings is the second most funded Use of Proceeds in the sustainable bond market, accounting for just under 13% of stated Use of Proceeds with a value of $113.6 billion in 2021 on the basis of deals allocated equally amongst Use of Proceeds where more than one Use of Proceeds is cited. The largest issuers of green buildings bonds in 2021 include corporates at 42.5% of the market, financial institutions at 26.8% and agencies at 12.7%. Real estate sector companies make up a significant portion of corporate issuance while agencies are primarily held up by two issuers: Fannie Mae and KfW. Regional issuance is dominated by the three largest regions: Europe, North America and Asia. Together these regions account for over 92% of the market.

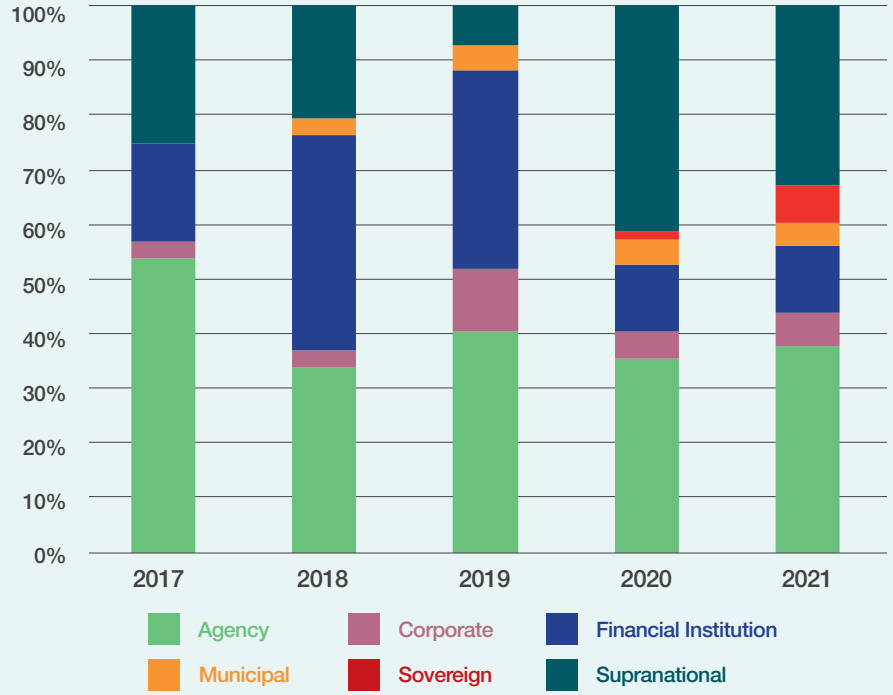
* "Green buildings bonds" includes any sustainable bond that includes green buildings in its Use of Proceeds.



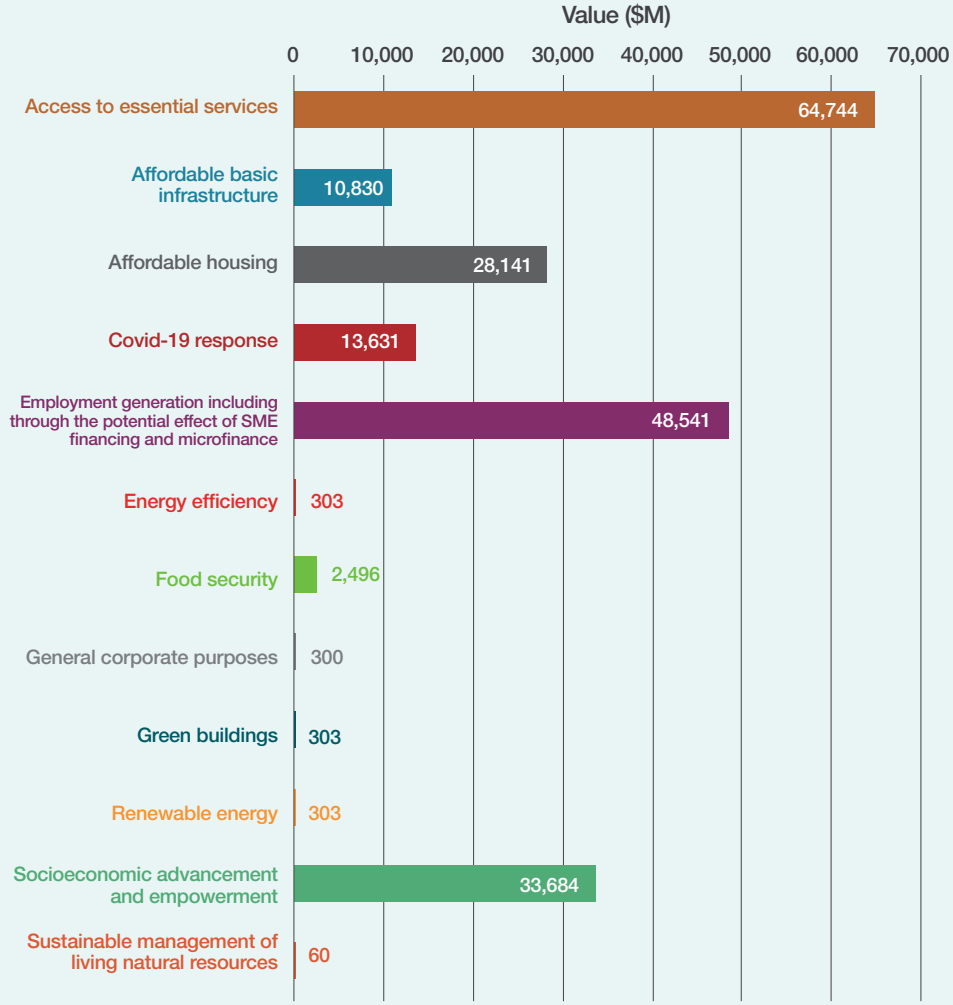


Despite the 2020 surge in Covid-19 response bonds slowing significantly in 2021, social bond issuance increased by over 22% in 2021 to $205 billion up from $168 billion in 2020. Issuance was up for every issuer type, except for supranationals which even then only saw a decrease in issuance of 2% in 2021. The largest increase by far was from Sovereigns, which saw a 343% increase in social bond issuance thanks in large part to the Republic of Chile's social bond programme. In terms of Use of Proceeds access to essential services remains one of the most funded categories for social bonds while employment generation and socio-economic advancement and empowerment also continue to be priorities.

Annual composition of social bond issuer type by value

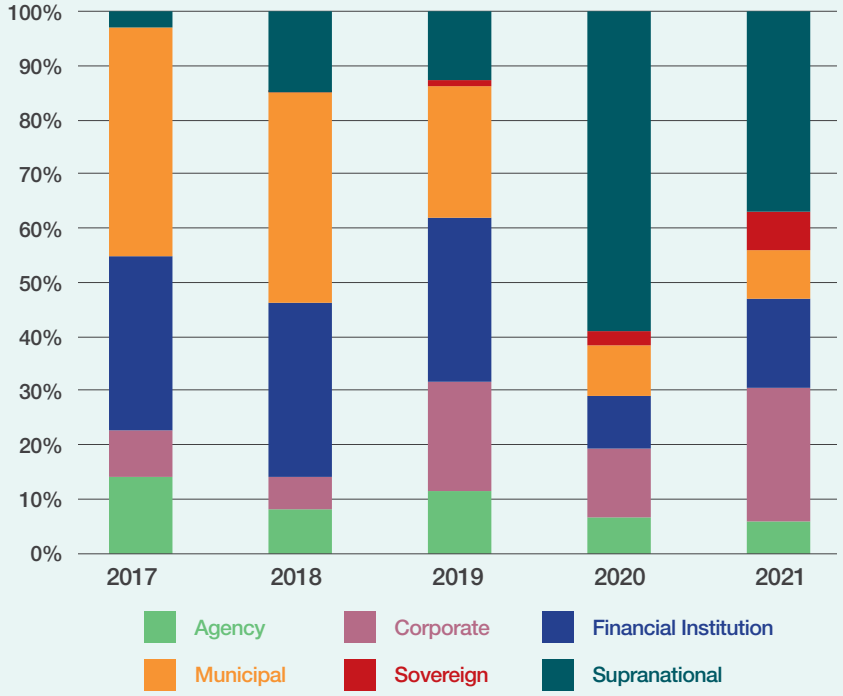


Use of proceeds breakdown of social bonds issued in 2021 by value

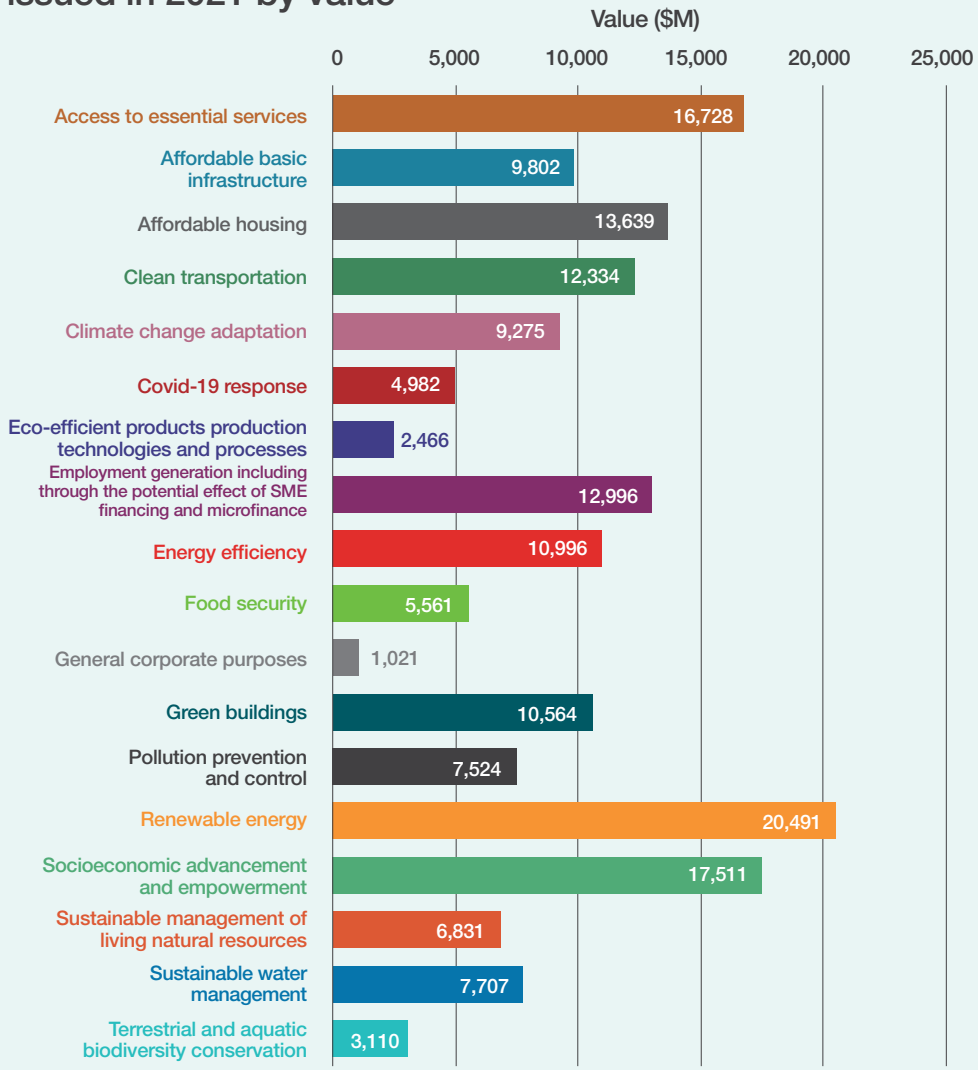


Sustainability bond issuance saw an increase of over 39% in 2021, outpacing social bond issuance over the year. Like with social bonds, sustainability bonds saw a surge in 2020 in response to the coronavirus pandemic, primarily driven by Supranational bond issuance, and as with social bonds Supranational issuance fell albeit more significantly with a 13% decrease in 2021. Growth in the label has been driven primarily by Sovereign issuance with a 264% increase followed by corporates and financial institutions which increased by 174% and 125% respectively. The most funded sustainability bond Use of Proceeds was renewable energy and the next two most funded categories overlapping with social bonds which were socio-economic advancement and empowerment and access to essential services.

Annual composition of sustainability bond issuer type by value

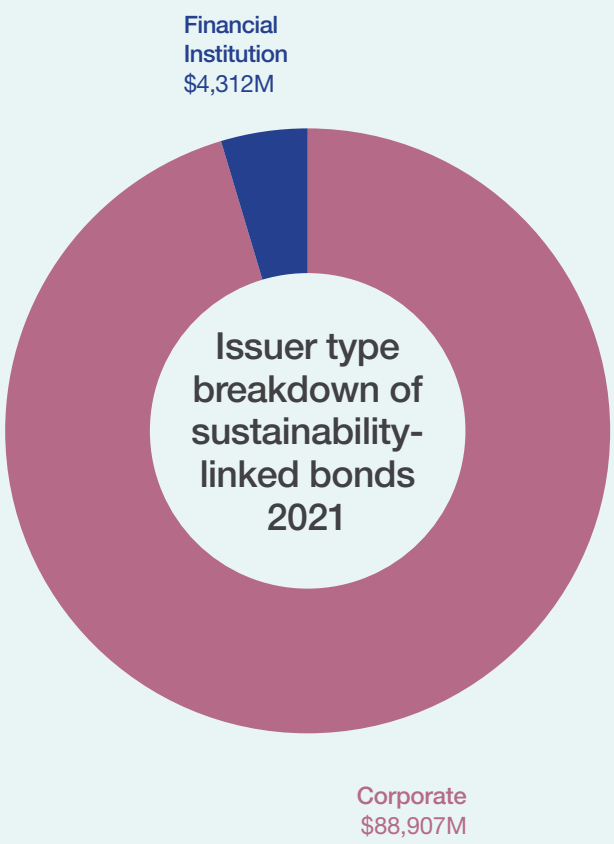


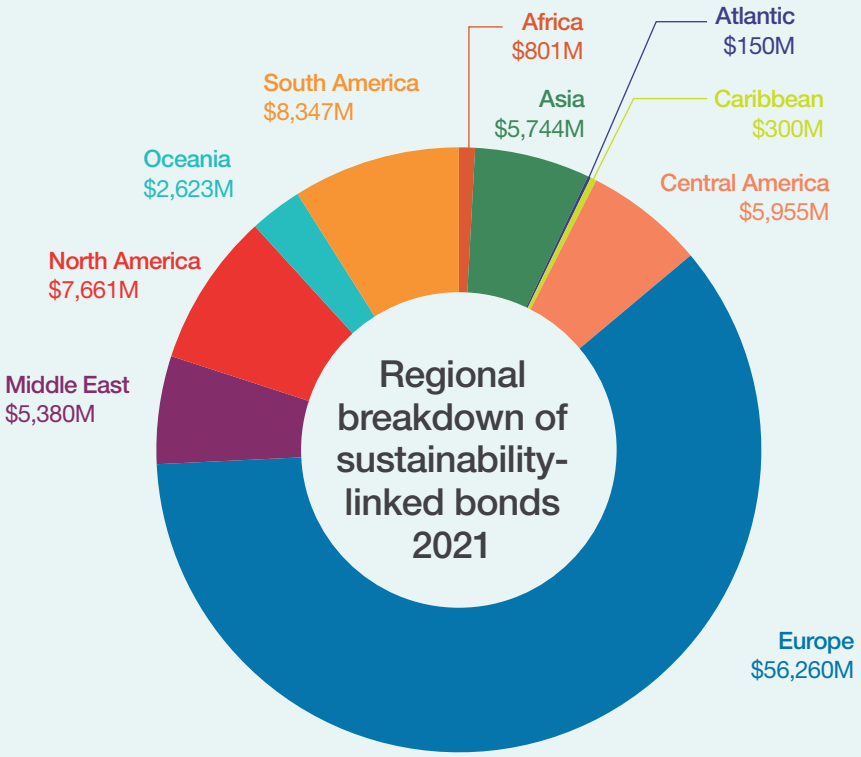
Use of proceeds breakdown of sustainability bonds issued in 2021 by value



Sustainability-linked bonds

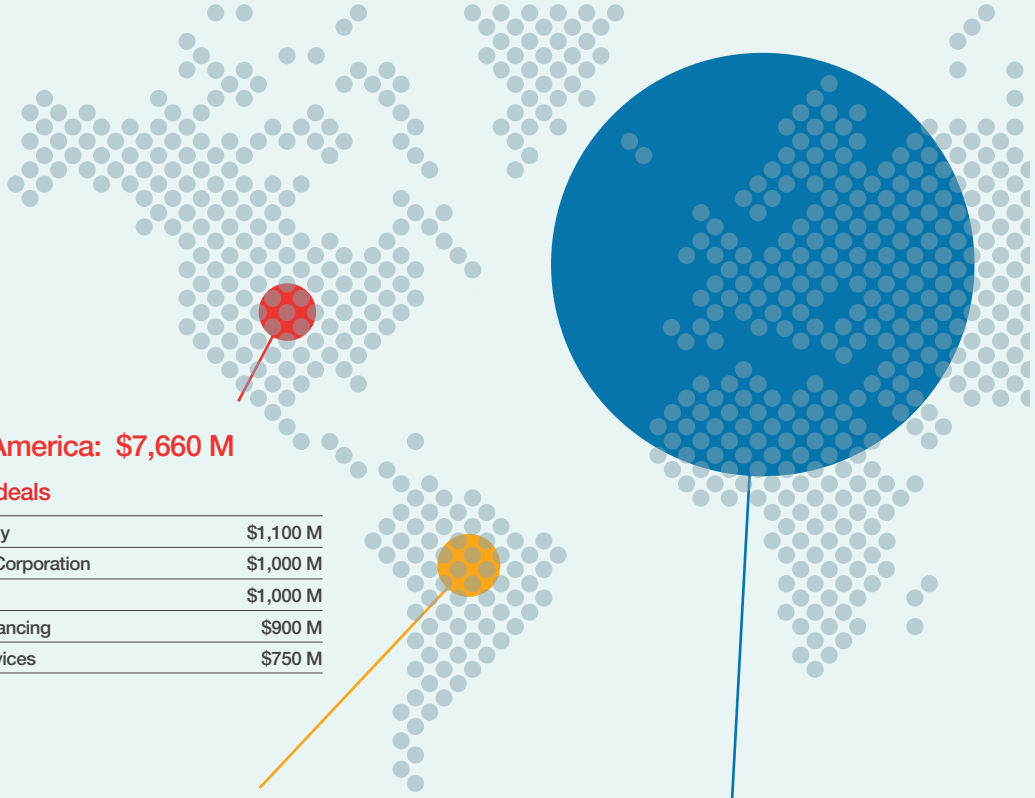
Sustainability-linked bonds have seen a massive rise in the three years since their inaugural issuance by Enel as the sustainable bond market has quickly adopted the new bond label. Issuance has mostly come from corporates with a small number of financial institutions issuing their own sustainability-linked bonds, while taking a geographical view sees most sustainability-linked bonds coming out of Europe in 2021, with the region accounting for over 60% of issuance. Sustainability-linked bonds have also done significantly better than transition bonds since their inception, where transition bond issuance has remained relatively flat.





Sustainability-linked bonds

Largest sustainability-linked deals by largest regions for 2021



North America: $7,660 M

Largest deals

NRG Energy	$1,100 M
Newmont Corporation	$1,000 M
Enbridge	$1,000 M
Level 3 Financing	$900 M
Analog Devices	$750 M

South America: $8,347 M

Largest deals

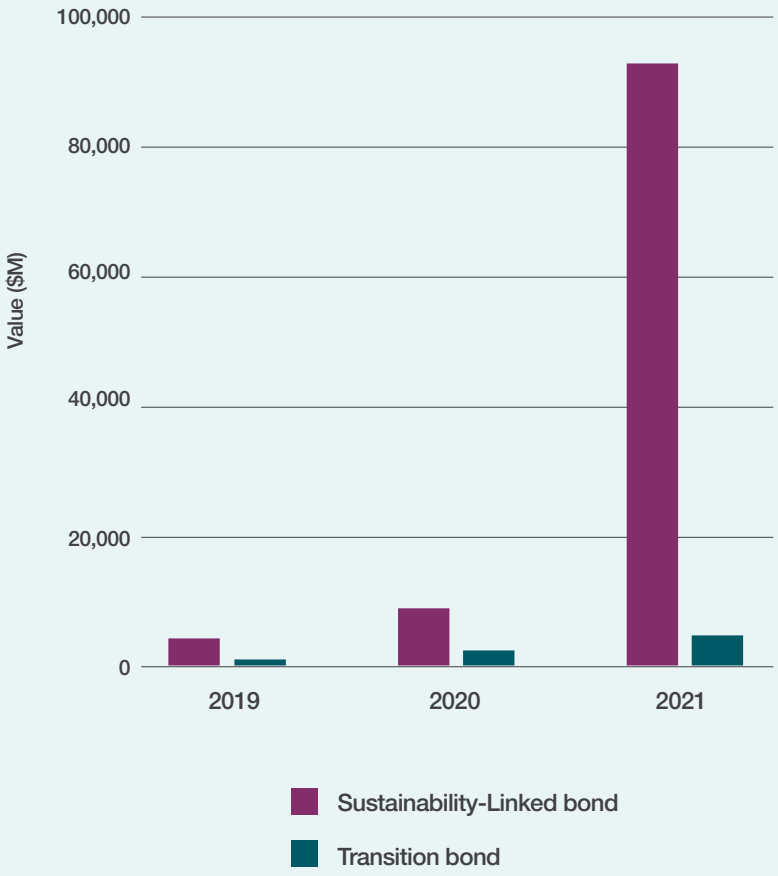
Suzano	$1,000 M
JBS	$1,00 M
Natura & Co	$1,00 M
Pilgrim's Pride	$1,00 M
B3	$700 M

Europe: $56,259 M

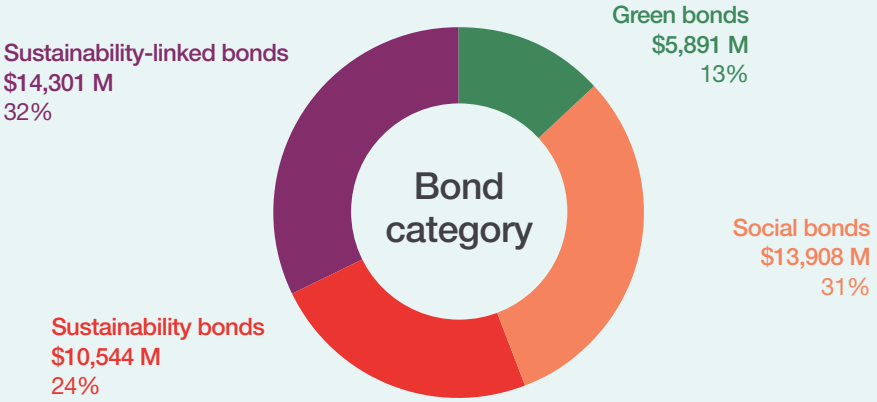
Largest deals

Enel	EUR3,500 M ($4,101 M)
Enel	$4,000 M
Enel	EUR3,250 M ($3,957 M)
ASTM	EUR3,000 M ($3,394 M)
Repsol	EUR1,250 M ($1,491 M)

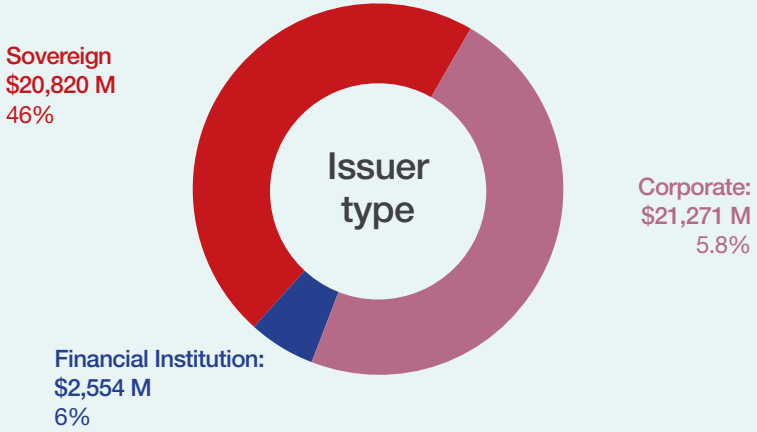
Annual issuance of sustainability-linked bonds vs transition bonds



Breakdown of Latin American bond categories in 2021



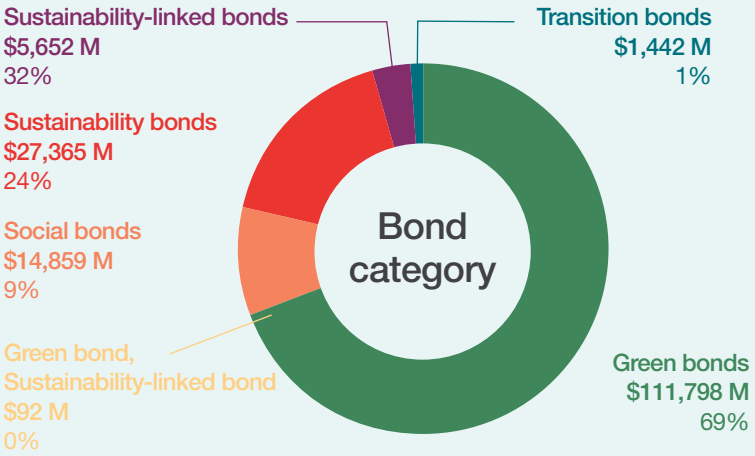
Breakdown of Latin American green, social and sustainability bond issuer types in 2021



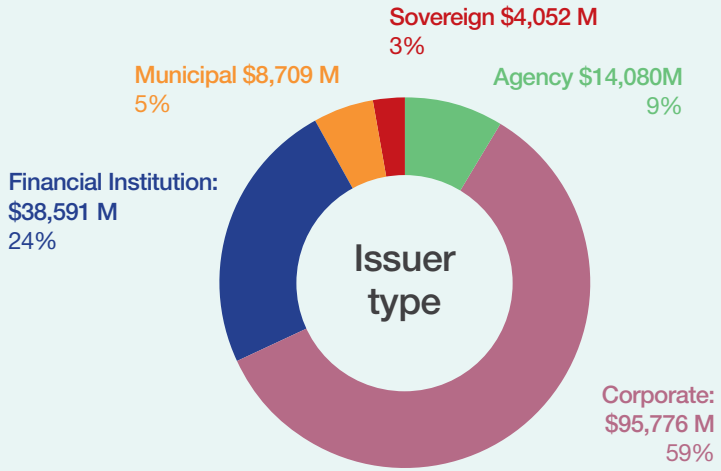
Top 10 lead managers in Latin America

Lead manager	Value ($M)
J.P.Morgan	7,794
BNP PARIBAS	4,789
citi	4,789
Goldman Sachs	3,946
BANK OF AMERICA	3,763
Santander	3,188
Morgan Stanley	2,977
SCOTIA CAPITAL Partners	2,129
CRÉDIT AGRICOLE CORPORATE & INVESTMENT BANK	1,927
HSBC	1,854

Breakdown of Asian bond categories in 2021



Breakdown of Asian green, social and sustainability bond issuer types in 2021



Top 10 lead managers in Asia

Lead manager	Value ($M)
HSBC	10,386
NOMURA	9,324
J.P.Morgan	8,303
citi	8,283
BNP PARIBAS	6,731
CRÉDIT AGRICOLE CORPORATE & INVESTMENT BANK	5,296
MIZUHO	5,066
Standard Chartered	4,943
BANK OF AMERICA	4,903
ICBC	4,275

Distribution of values

Graph demonstrating the distribution of values of individual bonds issued in 2021 by bond category. Each bond is designated a grouping based on where its value falls in the range (e.g. group 1 are bonds valued up to $100 million and group 15 are bonds valued at $10 billion or more.)

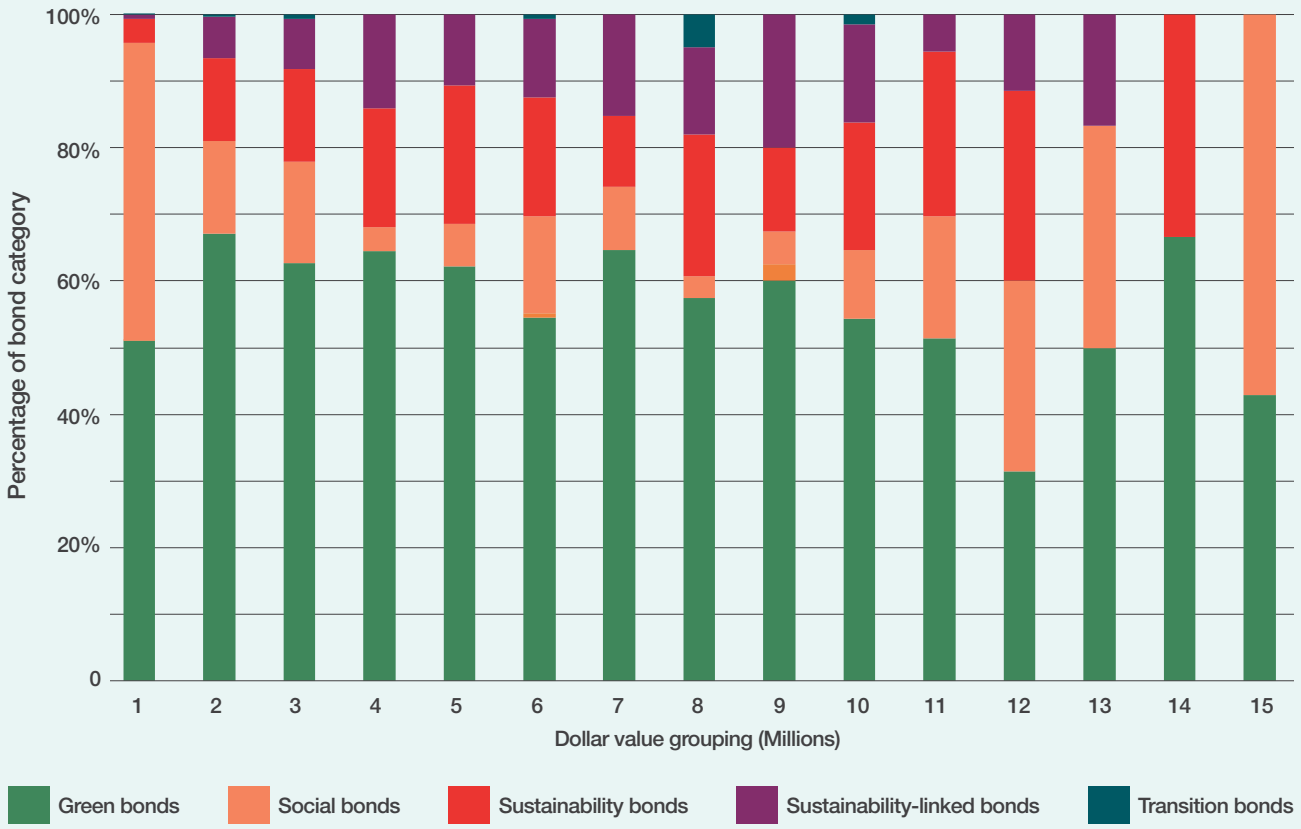
The share of green bonds fluctuates from group 1 to 15, but green bonds dominate issuance in nearly every group, with around 50% of the bonds being green except in groups 12 and 15. Although the percentage of green bonds in Group 12 is less than 50%, it is still the largest bond label in comparison to the other labels while for Group 15 the largest label is social bonds which is largely a result of the EU's social bond issuance.

As for the social bonds, their percentage flutuates ands appears to decrease at first and then gradually increase. This has resulted in their strong dominance in the low and high tier issuances versus the mid tier issuances.

The percentages of Sustainability and Sustainability linked bonds fluctuate as the value ranges increase, but they appear to be mostly mid tier issaunces.

There are only a few Transition bonds and bonds that are both green and sustainable but these bonds are mostly mid-sized issuances.

Dollar value grouping by bond category in 2021



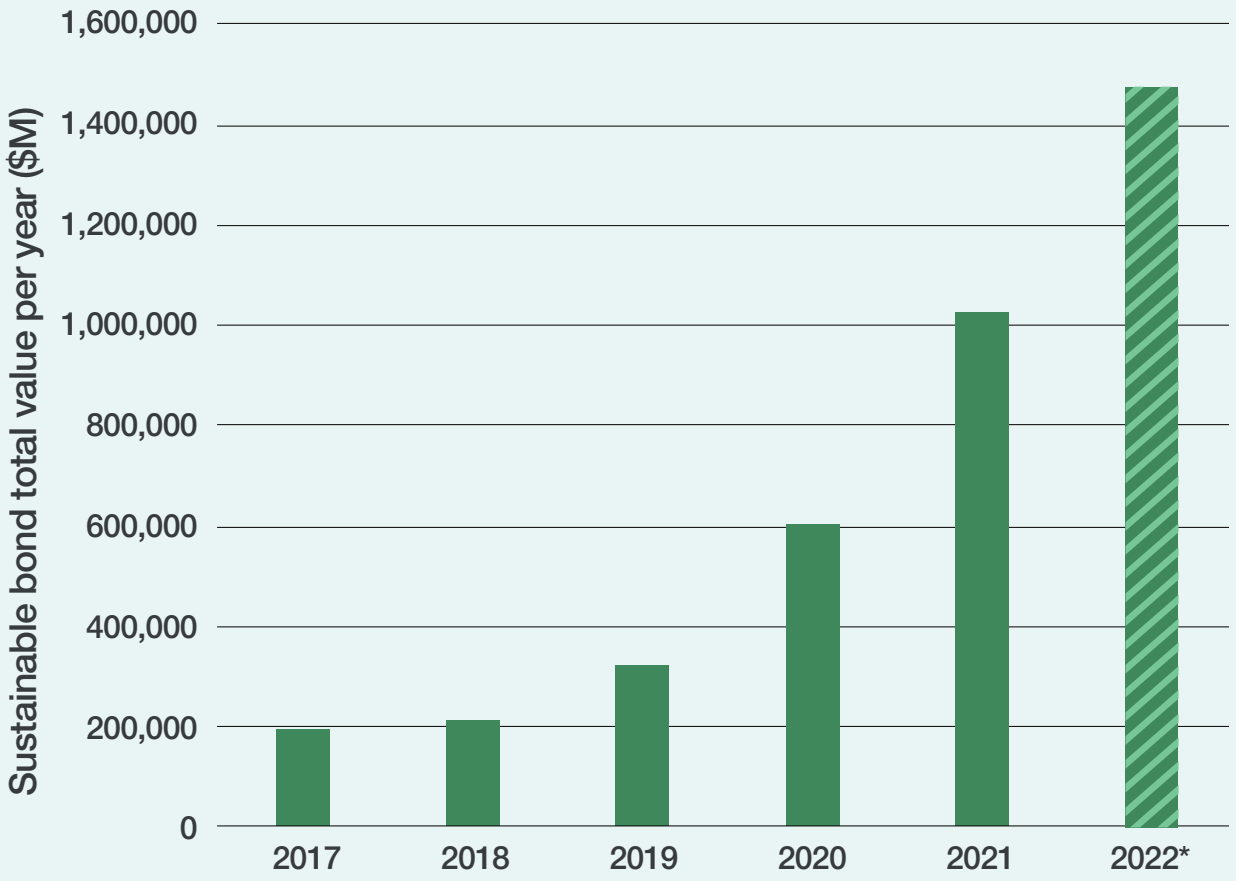
Bond value ($ M)	Group
0–99	1
100–199	2
200–299	3
300–399	4

Bond value ($ M)	Group
400–499	5
500–599	6
600 - 699	7
700 - 799	8

Bond value ($ M)	Group
800 - 899	9
900 - 999	10
1000 - 2499	11
2500 - 4999	12

Bond value ($ M)	Group
5000 - 7499	13
7500 - 9999	14
10000+	15

Market predictions for 2022 in the sustainable bond market



Environmental Finance prediction

Predictions for the sustainable bond market in 2022:

SEB	$1.475 trillion
Environmental Finance	$1.475 trillion
HSBC	$1.42 trillion
Moody's	$1.35 trillion
ING	$1.3 trillion
Crédit Agricole Corporate & Investment Bank	$1.176 trillion
NN investment partners	$1.1 trillion
Climate Bonds Initiative	$1 trillion* * Green bonds only

Environmental Finance Data

Just added:
KPIs for sustainability-linked bonds

The most comprehensive source of information on green, social, sustainability bonds and loans.

NEW WEBSITE LAUNCHED

Resource Library

Discover our updated resource library – with search and filter functions for all bond, issuer and lead manager resources including impact reports, final terms, external reviews, and frameworks

Interactive

Explore our interactive home page with responsive charts and tables

Functionality

Enjoy our improved export functionality with a custom data column selection

Data

Utilise our new data points – including, EU taxonomy alignment and transition bond label

To request a demo, please contact us at subs@efdata.org