ESG

Transformation of the Fixed Income Market

2022

Sustainable Finance Series

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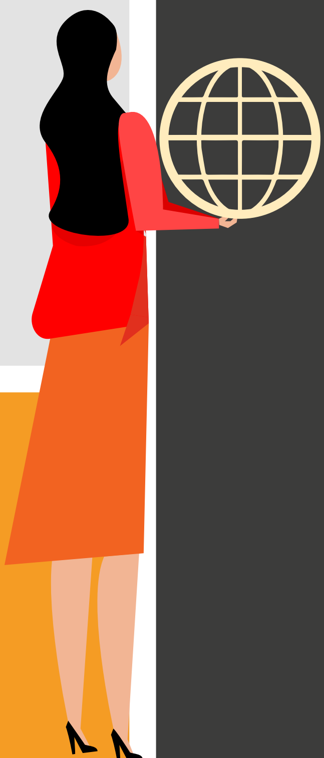
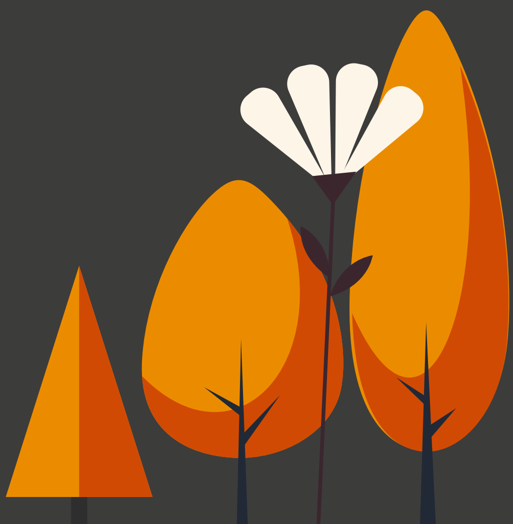




Executive Summary

A major acceleration on GSS bond issuance

Since the European Investment Bank issued the first green bond in 2007, the Green, Social, and Sustainability (GSS) bond[1] market has moved from a niche activity dominated by supranationals into mainstream finance. Between 2015 and 2021, GSS bond issuance skyrocketed from less than EUR 30bn in 2015 to close to EUR 500bn – increasing close to seven-fold in just the last three years alone, in large part driven by Covid-related health expenditures funded by social bond issuance.

A normalisation of pandemic-related health expenditures is unlikely to slow the growth of the GSS bond market, reflecting massive growth in public and private expenditures on climate mitigation and adaptation and other environmental protection objectives that can be funded by GSS bond issuance. Drawing on a survey of investors, asset managers and current and potential issuers, as well as on our analysis of regulatory and market developments, PwC forecasts European GSS bond issuance to reach between EUR 1.4tn and EUR 1.6tn by 2026 – accounting for close to 50% of total European bond new issuance in a high-growth scenario. This reflects the following drivers:

1 Investor demand for GSS bond issuance is unlikely to be a constraint on further rapid growth in the market. 67% of our surveyed issuers have experienced higher oversubscription for GSS bonds than their plain vanilla counterparts, and 88% of our surveyed investors say they will further increase their allocation to GSS bonds in the next 24 months. Sustainability – and particularly environmental - considerations have moved from being an "nice to have" option to becoming crucial to an increasing proportion of investors, reflecting new regulatory requirements and changing societal expectations – particularly in Europe.

The main barriers to further growth from investor's demand identified in our survey – a lack of liquidity in secondary markets and fears of "green-washing" due to inconsistent standards around the use of GSS proceeds and weak reporting - are likely to be addressed by additional market growth, increasing standardisation and tightening regulation, particularly through the new European Green Bond Standard. With GSS bonds securing a risk/return balance similar to that of conventional bonds, while also fulfilling rising ESG preferences, investor appetite for this instrument will continue to carry the market to new records.

2 While issuance will remain the binding constraint on the growth of the market, our analysis suggests a major acceleration in issuance by new and existing players in both the public and private sectors, drawn by reputational benefits and access to a broad and committed investor base. In fact, the main challenge will remain the identification of a pool of compliant assets that can be eligible for GSS bond issuance, and the expertise needed to go through the issuance process.

Within the public sector, which has up until now dominated GSS issuance, we have projected continued rapid growth in European supranational issuance, largely based on announced EU and EIB plans regarding GSS bond issuance up to 2026.[2] We have also looked at the expenditure composition of the national EU member state budgets, estimating the potential percentage taxonomy- or sustainability- aligned expenditures, and derived from this a trajectory for sovereign GSS bond issuance. Altogether, this analysis suggests further steady growth in public sector GSS issuance in the coming years which will reach EUR 712bn by 2026 – up from EUR 266bn in 2021.

On the private sector side, 84% of our surveyed issuers say they plan to increase their GSS issuance in the next 24 months. Indeed, we expect private sector issuance – particularly from the non-financial corporate sector – to gain importance, increasing its share of total GSS bond new issuance in Europe from 46.5% in 2021 to 49.1% in 2026.[3] GSS bonds may be particularly attractive to CFOs as a transition financing tool as they are well designed to attract external financing for the specific purpose of sustainable or transition projects in organisations that also have non-sustainable business activities.

1. GSS bonds use of proceeds must be used to finance or refinance in part or in full new and/or existing green/social/sustainability projects which must meet certain environmental or social objectives.
2. These plans include: EU Next Gen, Multinational Financial Framework, Sure Programme and EIB expected % of GSS bond issuance
3. Detailed methodology for the forecasts can be found in the "Forecast Assumption" section page 19

Exhibit 1: European GSS bonds new issuance volume (EUR bn)

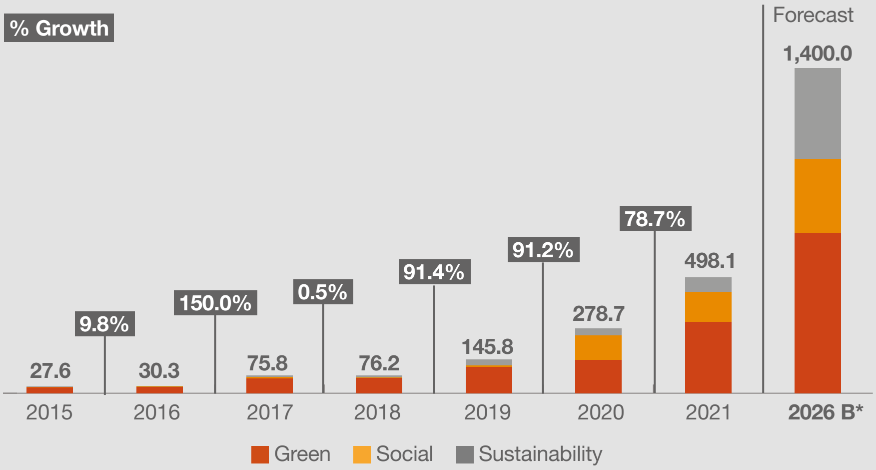
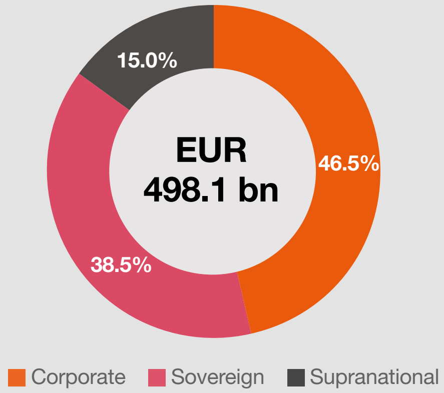


Exhibit 2: European GSS bonds new issuance volume by type of entity (2021)



Note: *B stands for the baseline scenario
Sources: PwC Market Research Centre, Eikon

Other developments that we expect to see in the GSS market that are worth noting include:

Despite a great run from Social and Sustainability bonds, Green bonds will continue driving the market.

Energy, Building and Transport to guide the EU sustainability transformation.

As Covid-19 fades away, medium to small bonds are expected to gain back some market share.

Currency diversification will continue to decrease as the Euro increases its dominance.

Sustainable securitised products show signs of promising development, even though the amount of compliant underlying assets can pose a limit to this growth.

Sustainability linked bonds (SLBs) claim their seat at the big table after a staggering first half of 2021. That being said, SLBs remain significantly different from GSS “use of proceeds” bonds as they are not earmarked for specific projects underpinned by recognised sustainability standards, but are instead linked to corporate wide sustainability targets on which the coupons are set. There remains to be seen how EU and international regulatory developments will affect the development of this product.

It's critical for any bond issuer to consider GSS as a new way of financing

Notwithstanding the growing potential advantages of GSS financing (both reputational and financial), our survey shows that many potential GSS issuers and their CFOs remain highly challenged by a lack of understanding of the GSS bond market.

The danger is that – as sustainability goes mainstream – further delay may increasingly lead to an ever narrower universe of potential investors for the issuer. To this end, we have developed a 5-point plan that – if applied together and tailored to an organisation's specific needs – will ensure a smooth and successful transition; enabling issuers to leverage this financing vehicle to finance sustainable transformations of their business models and operations.

1

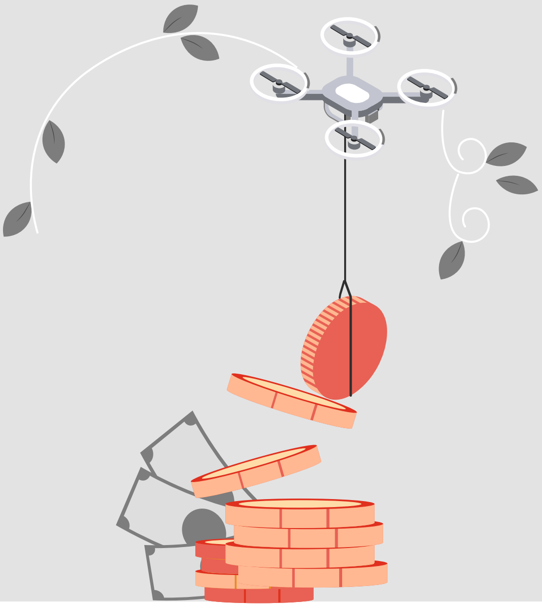
FIND A STRATEGIC FIT

Before embarking on their ESG journeys, issuers must first define what 'sustainability' means to their organisations, and the extent to which they wish to entrench it within their organisational philosophy, business operations, financing strategies and business structure. A successful GSS issuance strategy requires a board-level decision to the role they wish to play not only within their respective industry, but society overall. Developing and elucidating a coherent corporate sustainability strategy is likely to allow the entity a consistent use of proceeds, thus helping create a credible story for capital markets.

2

SELECT YOUR INSTRUMENT

Once an entity has decided to which extent they wish to embed sustainability within their organisational and operational DNA, they must then select which type of sustainable bond to issue (Green, Social, Sustainability, Sustainability-linked, etc.). The selection process varies largely from issuer to issuer, and is largely determined by their specific needs, objectives and capabilities – taking into consideration pre and post issuance processes. Issuers should pay attention to the local regulatory standards (e.g. EU Taxonomy or China's Green Bond Endorsed Project Catalogue). Where country or region-wide guidance is not available, issuers should look to sustainability-related market guidelines, such as the Climate Bonds Taxonomy and the environmental and social project categories listed in ICMA's Bond Principles. This best practice will prepare European market players for the upcoming, voluntary EU Green Bond Standard, which will require green bonds with the 'European green bond label' to allocate 100% of funds raised to EU Taxonomy-aligned activities.



3

IDENTIFY TAXONOMY-ALIGNED (AND/OR) SUSTAINABILITY PROJECTS

Once the type of bond is selected, players must then determine suitable projects that are aligned with both their long-term goals, current financial situation, and existing regulation. In fact, a first difficulty relates to the regulation: the stringency of the Taxonomy limits the potential pool of assets that can be suitable for GSS bond issuance, and some of the elements have not been finalised yet. A second issue relates to the internal processes required to go from the selection of assets to the GSS bond issuance itself. This requires a combination of technical expertise to ensure the alignment of proceeds, and time resources needed to handle such assurance process. However, for companies with multiple economic activities, among which non-sustainable ones, the issuance of GSS bonds to finance sustainable activities or to transition to more sustainable activities will be one of the finance management instruments of CFOs in the near future.

4

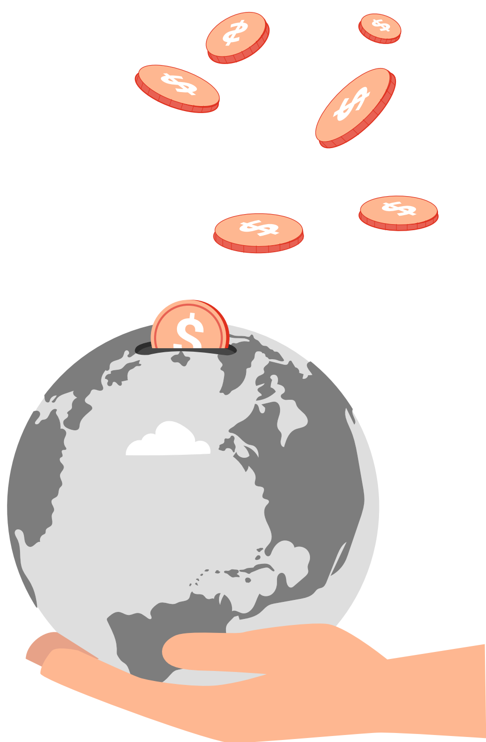
DEVELOP INTERNAL KNOW-HOW

Once issuers have found their strategic fits and ensured the Taxonomy-alignment of their projects, they can begin transforming internal processes. Based on the extent to which the organisation is willing to adapt its funding strategy, issuers must find their own balance between seeking partnerships with external players and developing internal capabilities. The upskilling process – necessary for an efficient and scalable GSS bond issuance process – should be regularly examined in order to keep adapting an issuer's bond issuance to the required standards.

5

BUILD TRUST

Trust encompasses the data challenge, risk monitoring and transparency requirements associated with GSS bond issuance. All of which can result in an improved brand management strategy where the issuance of GSS bonds can enhance issuers reputation, build a constructive relationship with stakeholders, and create long term value.



1 GSS – The Greening of the Fixed Income Market

1.1. A spectacular growth driven by Europe

Environmental and social challenges are increasingly impacting the course of the global political agenda, with an unprecedented asset and sentiment shift within global financial markets leading to an industry-wide rebalancing of priorities. Consequently, ESG and sustainable finance have moved from being an option to becoming crucial to meeting the needs of sustainability-conscious investors, increased regulatory requirements, and changing societal expectations – particularly in the EU. The all-encompassing ESG wave has left no stone unturned in Europe's financial landscape, urging the entire investment community to rethink the role it can play in bringing change and securing a prosperous and equitable future. With ESG transforming every facet of the financial sector, the fixed-income industry has not been immune to the development of sustainable products.

Since their conception in 2007 with the first green bond issued by the EIB, the GSS bond market has evolved at an incredible pace; as the financial landscape grew increasingly cognisant of the fact that, with a few tweaks, the fixed income markets represented a great mechanism to steer capital towards sustainable projects. In 2015, the European GSS bond market new issuance volume stood at less than EUR 30bn (1.1% of the total European bonds new issuance volume). In 2021 – only six years later – the sustainable bonds market realm has changed radically. With the diversification of the market and the increasing popularity of other sustainable bonds – in particular social and sustainability bonds – total GSS bond new issuance in Europe has reached close to EUR 500bn in 2021, representing 13.7% of the total European bond new issuance volume.

Green, Social and Sustainability (GSS) bonds are the three main sustainable financing instruments. They are "use of proceeds" bonds where proceeds are allocated towards financing or refinancing environment and/or social projects. Further innovation in the market in the form of a wide range of smaller products tailored to investors' specific needs – ranging from sustainability-linked bonds (SLBs), blue bonds and green ABSs – is further pushing the market to new limits. However, SLBs remain significantly different from GSS "use of proceeds" bonds as they are not earmarked for specific projects underpinned by recognised sustainability standards, but are instead linked to corporate wide sustainability targets on which the coupons are set. As such SLBs cannot automatically be – under the current regulation- regarded as fully fledged sustainable fixed income instrument.

This impressive growth in GSS bonds new issuance has also been largely driven by strong economic stimulus from sovereign and supranational entities as a response to the Covid-19 pandemic. Nevertheless, new issuance had already rose by 91.4% between 2018 and 2019, showing that the transformation of the fixed-income market was well underway even before the pandemic. Predominantly taking advantage of this opportunity are European-domiciled players[4] who accounted for about 50% of the total new issuance in 2021. Indeed, the EU's ambitious sustainability policy goals, rapidly evolving regulatory landscape and ever-increasing investor demand for sustainable finance products have created a perfect environment which facilitates the issuance of GSS bonds.

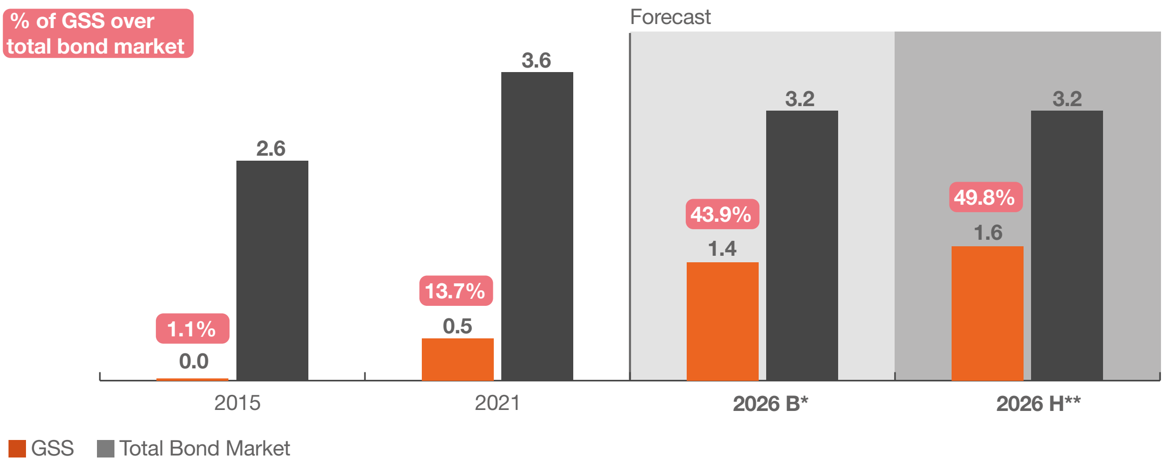
While this growth is by no means unimpressive, PwC believes the European GSS bond market is still in the nascent stages of its transformation. Indeed, as the global psyche increasingly shifts in favour of sustainability, and as the GSS bond market grows increasingly sophisticated, we expect to see a strongly catalysed uptake of GSS bonds among issuers and investors alike. As frictional costs are removed, and issuers awaken to the opportunities inherent to the Green Bonds space, we forecast GSS bond issuance to reach between EUR 1.4tn and EUR 1.6tn by 2026 – accounting for close to 50% of total bond issuance in Europe in a best-case scenario keeping in mind the difficulty in identifying a pool of eligible assets, and the expertise needed to go through the issuance process.

Our base-case scenario is likely to materialise if we see a continuation of current market trends, assuming that regulation will create further incentives for issuing GSS bonds while it will remain somewhat difficult for corporates to completely revamp their financing strategies and underlying economic activities. Furthermore, some companies might struggle to comply with the Taxonomy Regulation which will therefore disincentivize some players from participating in the GSS bond market.

4. The scope of this paper is the total EU bond market, including the UK

In a high-case scenario, we assume that the GSS bonds market will continue to grow significantly, reaching EUR 1.6tn of new bonds issuance by 2026. However, the materialisation of this scenario is conditional on the large-scale adoption of the EU Green Bond Standard (EU GBS) by corporate issuers, driven by mounting pressure to transition entire or significant portions of their value creation and economic activities to EU Taxonomy alignment. The public sector's contribution would also be substantial, with the EU supranational bond segment to be structurally driven by the EU Next Generation Green Bonds proportion (EUR 250 bn by end-2026) and public entities doing their maximum to match their financing needs with sustainable projects and expenditures.

Exhibit 3: European bonds market new issuance volume (EUR tn)



Note: * B stands for baseline scenario,
** H stands for High case scenario.

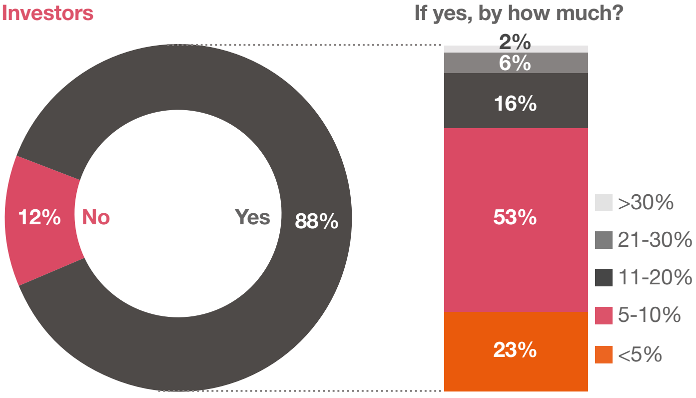
Sources: PwC Market Research Centre, Eikon

1.2. Investors' demand will continue to grow

The European fixed-income industry is in the midst of a seismic shift in investor behaviour, with institutional investors attributing unprecedented levels of focus and urgency to sustainability and social issues and adapting their investment philosophies accordingly. This soaring investor demand for GSS bonds has definitely been a major factor behind the extraordinary growth experienced by the market. In fact, one must look no further than the high levels of demand experienced by issuers, with 67% of them facing higher levels of oversubscription for GSS bonds when compared to their plain vanilla counterparts – only 1% of respondents experienced lower levels of oversubscription.

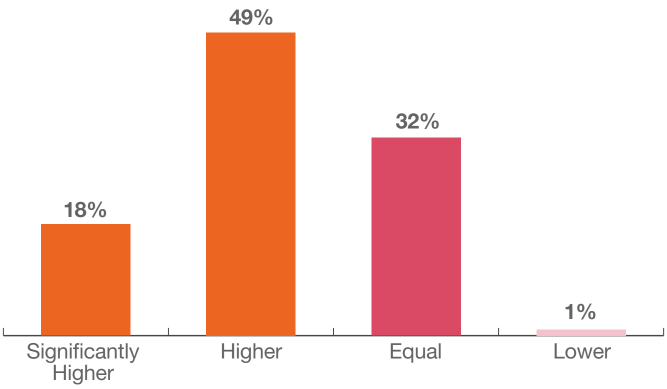
Moving forward, we do not expect investors demand to slow down. According to our survey 88% of investors are planning to increase their allocations towards GSS bonds or green securitised products in the next 24 months – with 3 out of 4 investors targeting allocation increases of over 5%. Shifting societal values, changes in the regulatory environment and the ability of GSS bonds to deliver a risk/return similar to that of conventional bonds are mainly to blame for this.

Exhibit 4: Are you planning to increase your allocation to GSS bonds or green securitised products in the next 24 months? (Investors)



Sources: PwC Market Research Centre, Eikon

Exhibit 5: Based on your experience, compared to plain vanilla bonds, oversubscription for GSS bonds has been… (Issuers)



The gravity of climate change has put the discussion around environmental sustainability at the centre of the debate. The world's largest survey of public opinion on climate change – UNDP's Peoples' Climate Vote – illustrates the urgency being attributed to climate issues, with as much as 64% of global respondents viewing climate change as a true global emergency. Sustainability concerns are particularly entrenched in Europe, with 72% of European respondents in the same survey believing that climate change is a global emergency. In this context, companies, governments, and supranational institutions are being increasingly pressured to minimise their environmental and social footprints.

This change in societal values has led industry players to develop a set of new policies and regulations that will address the shift in societal psyche while alleviating and mitigating sustainability risks. In this sense, Europe has taken a leading role by implementing some of the most forward-looking initiatives aimed at embedding sustainability considerations at the core of the global economy and its financial ecosystem.

The EU has also been urging industry players to take sustainability considerations into account, with the creation of several initiatives such as the EU taxonomy or the Sustainable Finance Disclosure Regulation (SFDR). While the EU Taxonomy is a voluntary guideline, it provides companies, investors, and financial market participants with a list of economic activities which can be considered to be environmentally sustainable. This creates security for investors by protecting them from possible greenwashing activities and helps companies to become more climate-friendly. Furthermore, the SFDR provides greater transparency on the degree of sustainability of financial products making it easier for end-investors to understand how ESG and sustainability factors are taken into account.

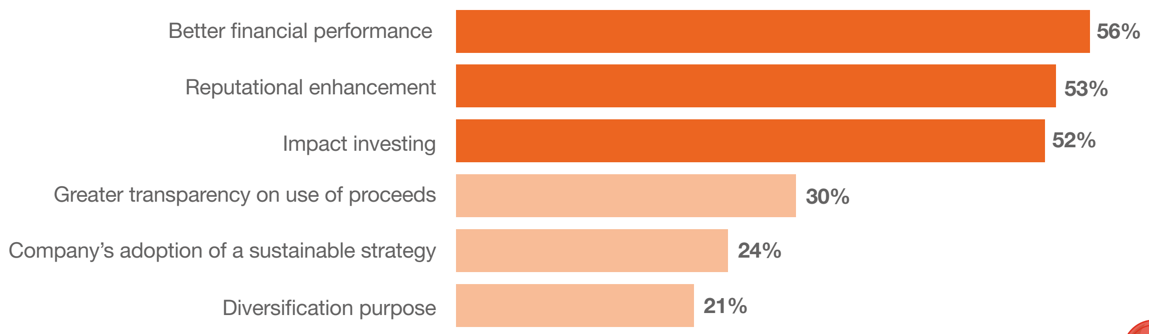
EU policymakers to lead the change in the **transition towards a more sustainable economy**

Policy / Initiative	Key Points	Impact on Bond Market
EU Green Deal	A climate-resilient, sustainable growth plan for the EU that will be financed using **one-third of the EUR 2.1 trillion of investments** from the NextGenerationEU (NGEU) Recovery Plan and the EU's seven-year budget (Multiannual Financial Framework).	The EU plans to issue **30% of NGEU as green bonds** (EUR 250 billion in current prices). This will **boost the size of the green bond market** and provide a wide range of investors with access to safe and sizeable green debt instruments.
Renewed Sustainable Finance Strategy	Built upon the EU Action Plan, this new strategy sets out **four new priorities** (transition finance, inclusiveness, financial sector resilience and contribution, and global ambition) **to meet the evolving needs of the EU financial system in alignment with the European Green Deal.**	In the context of this strategy, a **proposal for the EU GBS will soon be adopted** by co-legislators. A report on a **social taxonomy** that will underpin social finance instruments is being drafted. Work is also underway to extend **standards and labels to transition and sustainability-linked bonds.**
Capital Markets Union	The capital markets union aims to **promote the role of market-based financing** in **supporting the green and digital transitions of the EU economy.**	**Key actions that support Sustainable Bonds** include making companies more visible to cross-border investors, supporting access to public markets and encouraging institutional investors towards long-term investments. GSS bonds are quickly emerging as an **alternative to bank financing**, with the lower cost of capital enabling entities to invest in sustainable projects more efficiently.

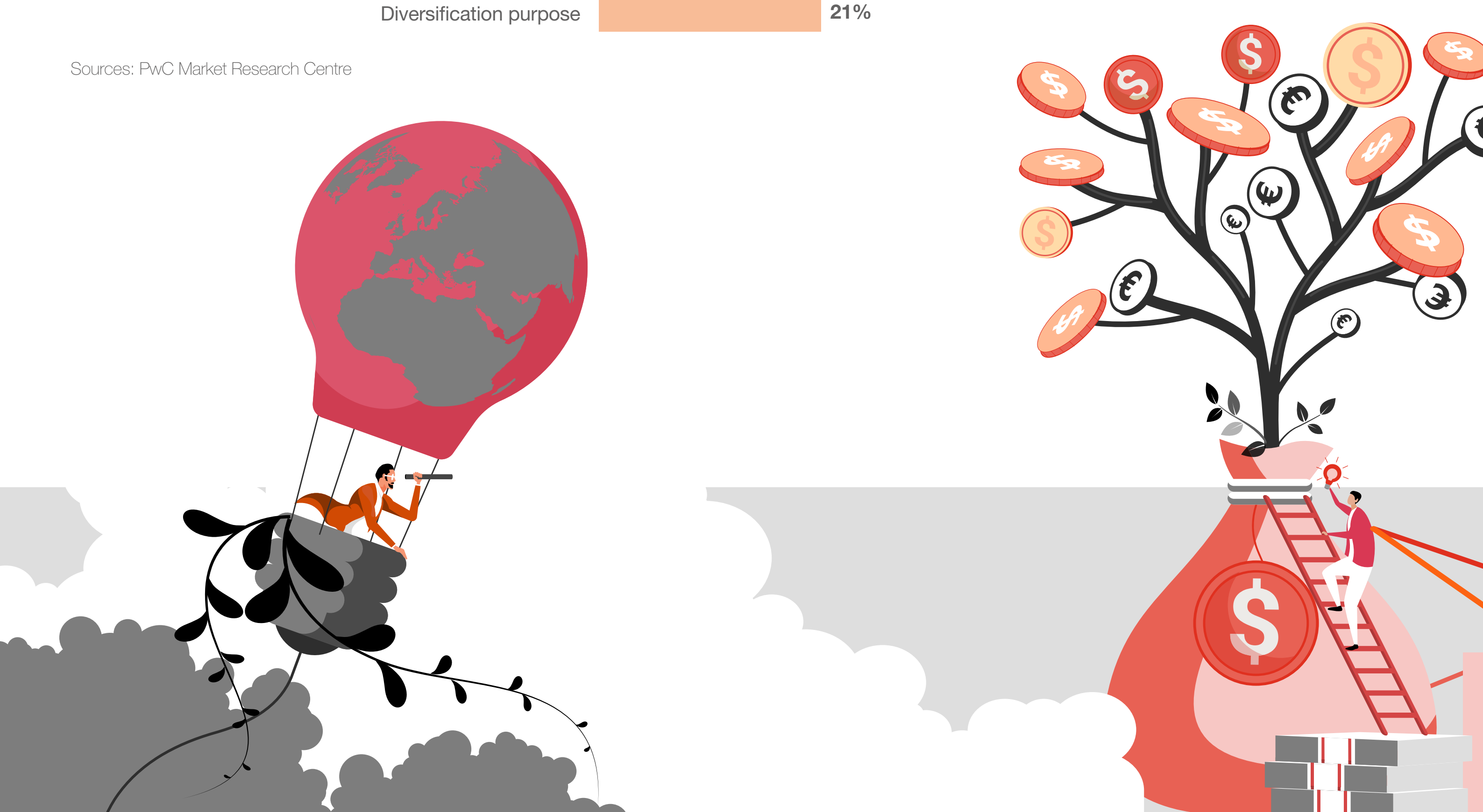
Although paramount in the development of the GSS bond marker, regulation is certainly not the number one driver behind the surge in the demand for GSS bonds. This surge in investor demand has been mainly driven by the proven ability of GSS bonds to deliver strong, resilient returns; sustainable debt instruments are increasingly gaining the interest of mainstream investors who are finding better financial performance from GSS bonds than their plain vanilla counterparts. Firstly, investing in high-ESG-rated issuers has been shown in most corporate bond markets to result in slightly improved risk-adjusted returns. Secondly GSS bonds show the same weak correlation with the stock and high-yield markets as the traditional corporate bonds market, allowing investors to benefit from the same portfolio diversification and risk management benefits.

Adding to the better financial performance comes the reputational enhancement factor, which according to our investor survey was ranked as the second most important factor why investors buy GSS bonds. Impact investing is also amongst the top three reasons for investing in GSS bonds, indicating the importance of ‘double materiality’ as a key factor in investors’ decision-making processes. This, in turn, hints at a shift in investor priorities towards the simultaneous and equal prioritisation of financial metrics alongside non-financial ones. With increasing pressure from all stakeholders in the market, and the inherent benefits brought about investing in GSS bonds, investors are far from hampering the development of the industry.

Exhibit 6: What are your main reasons for investing in GSS bonds? (Investors)



Sources: PwC Market Research Centre



1.3. Constraints to be solved on the demand side

The strong and rising demand of GSS bonds could be negatively impacted by the lack of liquidity in the market. Secondary market illiquidity seems to be a major concern for non GSS bond investors, with 60% of them selecting the lack of liquidity as a decisive factor influencing their decision not to invest in this market. This illiquidity is directly linked to the limited supply of GSS bonds. Despite their rising numbers, issuance of GSS bonds still represents a minor segment of the total overall bond issuance – 13.7% as of 2021. This combined with investors willingness to hold GSS bonds until maturity is further limiting their liquidity on the secondary market. Nevertheless, with issuance likely to grow substantially, liquidity constraints should be significantly reduced over the next years.

Although financial performance remains the number one focus of investors, unclear use of proceeds and/or unsatisfactory quality of post-issuance reporting are strong enough reasons to reduce or stop investing in GSS bonds, as evidenced by our survey results. Nevertheless, a series of initiatives could alleviate these barriers highly associated to the "greenwashing" risk.

Exhibit 7: What are your main reasons for not investing in GSS bonds products?* (Investors)

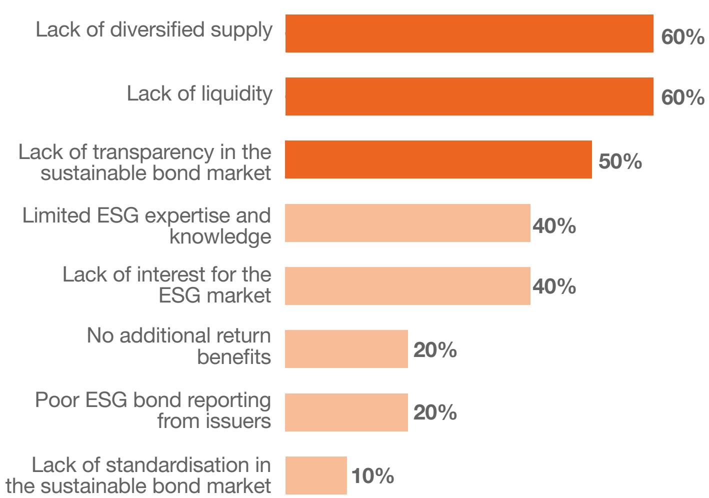
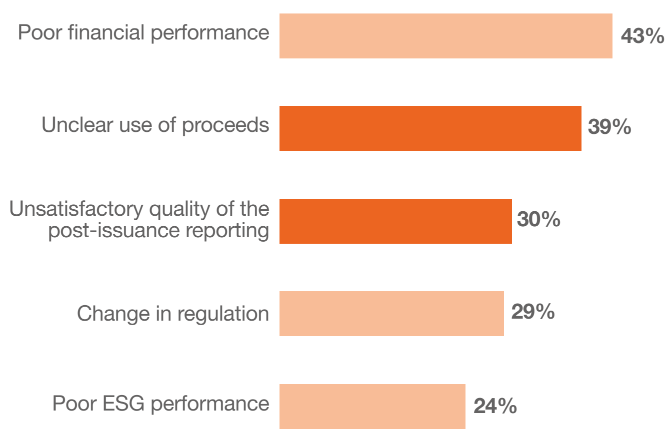


Exhibit 8: What influences your decision to reduce your exposure or stop investing in GSS bonds? (Investors)



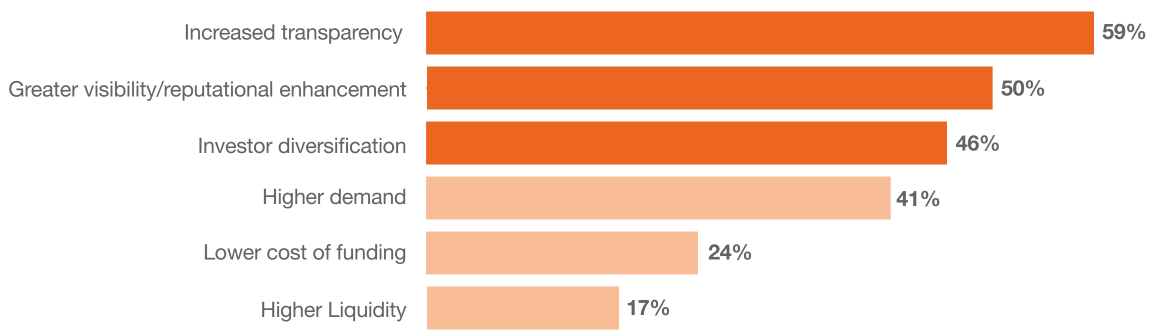
Note: * Only answered by 10% of investors in the survey

Sources: PwC Market Research Centre

First, a series of voluntary guidelines have emerged in parallel to regulatory efforts, equipping financial markets players with sets of sustainability-related 'best practices' and standards. The most recognised standards are the International Capital Market Association (ICMA)'s Bond Principles, the Climate Bonds Initiative (CBI)'s Standards, the People's Bank of China (PBOC) Green Bond Endorsed Projects Catalogue, and the ASEAN Green Bond Standards. All these standards help further boost the transparency of information required by investors. ICMA's Principles represent the most far-reaching global standard that aim at alleviating the long-standing lack of transparency and standardisation issues that have traditionally permeated the GSS bonds realm, ultimately fostering green bonds' market growth. In fact, as of 2020, an overwhelming 97% of GSS bonds were aligned with at least one of the various ICMA Principles.

Second, the development of more than 20 stock exchanges around the dedicated green, social and sustainability segments have greatly served to foster market integrity. Indeed, dedicated stock exchanges promote investor attraction and retention, thus providing issuers with greater access to financing opportunities and a means to secure long-term financing. These platforms serve to clarify criteria for the eligibility of projects and promote strong standards for reporting on intended and actual use of proceeds. They are also serving to alleviate the burden faced by investors of having to identify high-quality GSS bonds, pushing for more transparency from issuers, as confirmed by more than half of our survey respondents. This, in turn, mitigates the risk of greenwashing – increasing the likelihood that investors will continue to invest in these increasingly trustworthy debt instruments.

Exhibit 9: What are the main drivers behind listing GSS bonds on a stock exchange? (Issuers)



Sources: PwC Market Research Centre

The two main listing stock exchanges selected by our surveyed issuers – Lux SE and London SE – have expanded to meet the demand for quality sustainability-linked bonds and transition bonds. The Luxembourg Green Exchange (LGX) – launched in 2016 – is the world's leading GSS bond stock exchange, alone listing 50% of green bonds available globally. Today more than 1,200 GSS bonds are listed on the exchange, accounting for more than EUR 500bn in total issuance volume.

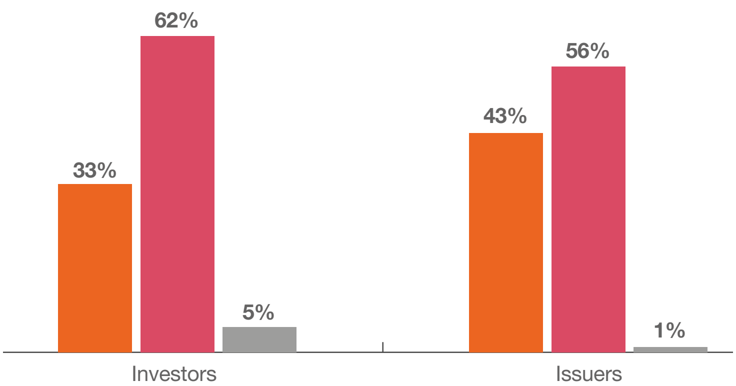
Stock Exchange	Number of listed GSS bonds
LuxSE (LGX)	1,200
Euronext	450
London SE (SBM)	250
Borsa Italiana (EuroTLX)	213
Stockholm Stock Exchange	84
Swiss Stock Exchange	68

Sources: PwC Market Research Centre based on stock exchanges websites

Finally, the introduction of the EU GBS is introducing a series of requirements for issuers from the allocation of the use of proceeds (allocation of 100% of funds raised to EU Taxonomy-aligned activities) to the pre and post issuance reporting (factsheet to describe the process for selecting green projects and measuring the estimated environmental impact, that will serve as a basis for the preparation of the annual post-issuance impact reports). This will definitely bring the clarity and transparency required by investors. The EU GBS comes at the perfect time given the desire from issuers and investors for a more regulated market. This is evidenced by our survey, which highlights that 99% and 95%, respectively, believe that current standards have a positive impact. This notwithstanding, the EU GBS will reinforce best market practices and serve as the norm for member states and corporates issuing green bonds within the EU, with potential for widespread acceptance globally. However, the level of stringency of the taxonomy can limit the set of projects/assets that will be compliant with GSS bond issuance. As the details on the regulation is set, issuers should receive the necessary guidance to expand their GSS bond issuance in alignment with the EU regulation.

To summarise, with GSS bonds securing a risk/ return balance similar to that of conventional bonds, mounting pressure coming from society, more dedicated infrastructures combined with high standards and more restrictive regulations, we expect investor appetite for this instrument will continue to carry the market to new records.

Exhibit 10: How do you believe current standards impact the development of the GSS bonds market?



Sources: PwC Market Research Centre

- Current standards have a strong positive impact
- Current standards have some positive impact but there is room for improvement
- Current standards have no impact

1.4. Issuers will remain the binding constraint on the market

The aforementioned drivers have been urging issuers to expand, adapt and diversify their GSS bonds offerings accordingly. Indeed, our survey shows that 84% of issuers intend to increase their offerings in the next 24 months. Among them, 88% plan to increase their issuances by more than 5%, with 35% preparing increases of over 20%.

Exhibit 11: Are you planning to increase your issuance of Sustainable Bonds or green securitised products in the next 24 months? (Issuer)

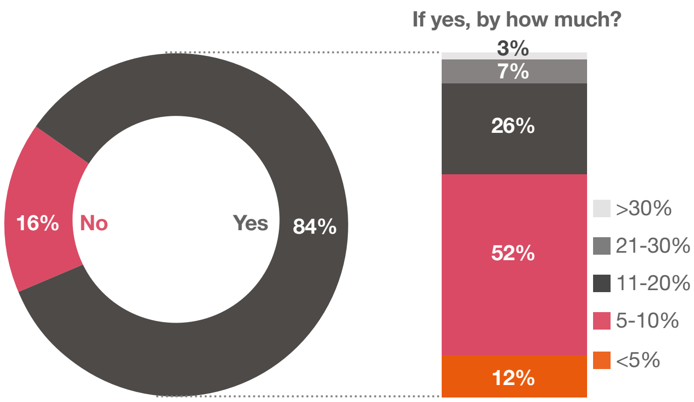
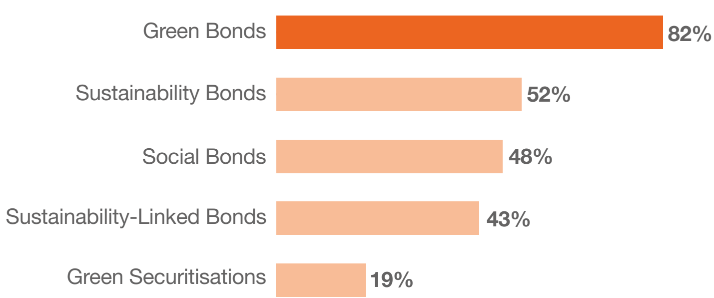


Exhibit 12: Which type of sustainable fixed-income products are you planning to issue more of in the next 24 months? Select all that apply.



Sources: PwC Market Research Centre

This surge in issuance will be the result of the increase in both private and public issuance. As of today, public entities (supranational and sovereign) are the major issuers of GSS bonds: they accounted for a combined 53.5% of total GSS bonds new issuances as of end-2021. Their dominance has been been pushed by the COVID-19 stimulus packages from the EU and the deepening commitment from sovereign and supranational entities to mitigate environmental and climate-change-related impacts. In fact, as of end-2020 as much as 63.9% of new GSS bond issuance was conducted by public entities alone. But the role of private entities has been gaining importance for the past 5 years. Prior to the Covid-19 pandemic, private entities were already at the forefront of GSS bonds issuance accounting for 51.9% of total GSS bonds new issuance volume in 2019, overtaking public for the first time pointing out to a long-term shift in corporates towards stakeholder capitalism. Looking into the future we expect several drivers to continue carrying the market forwards:

Exhibit 13: European GSS bonds new issuance, per type of issuer (volume, EUR bn)

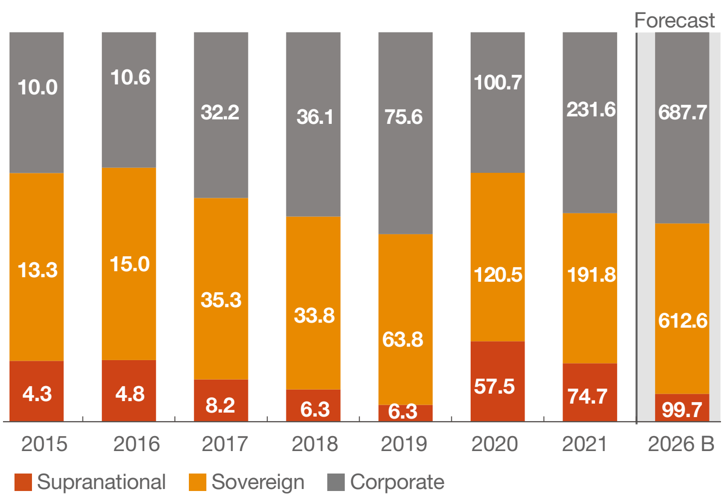
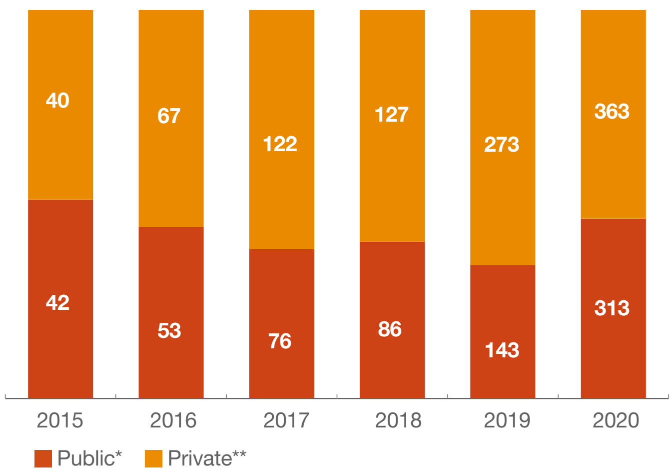


Exhibit 14: European GSS bonds new issuance, public vs private (number of bonds)



Note: *Public refers to Supranationals and Sovereigns combined, **Private refers to Corporates.
Sources: PwC Market Research Centre, Eikon, Climate Bond Initiative, OMFIF

Brand Enhancement

The number one internal driver for issuers to issue GSS bonds is 'reputational enhancement', according to our survey. Today more than ever, it is essential for corporations to become increasingly well-perceived by their internal and external stakeholders. As more and more concerns arise regarding the future of our planet and our society as a whole, issuers can highly benefit from an enhanced brand image. Furthermore, a strong brand image can lead to higher employee retention, increased customer loyalty, attract talent and improve a company's equity value – all of which can have strong positive impacts on the future of any institution.

Greenium

The mismatch between low supply and high demand has opened a space for "greenium"– defined as the difference in the yields of GSS bonds and their plain vanilla bond equivalents, driven both by the nature of the bond as well as the general scarcity and limitation of volume. Researchers have been able to prove the existence of greenium in the secondary market in 70% of the cases – and in the primary market – 56% of the time.[5] In particular, players issuing bonds with longer tenors will likely experience a larger "greenium". According to our survey, institutions that encountered greenium when issuing GSS bonds claimed that Sustainable Bonds with longer maturity rates tend to benefit from higher discount rates – when it comes to funding costs. In fact, 80% of issuers that selected the longest maturity range (>10 years) experienced a greenium of over 20bps, compared to only 30% of those that selected the shortest maturity range (<1 year). This correlation further incentivises issuers to pursue longer projects with a greater sustainability impact.

5. MacAskill et al. (2020) 'Is there a green premium in the Green Bond market? Systemic literature review revealing premium determinants', Journal of Cleaner Production 280(1).

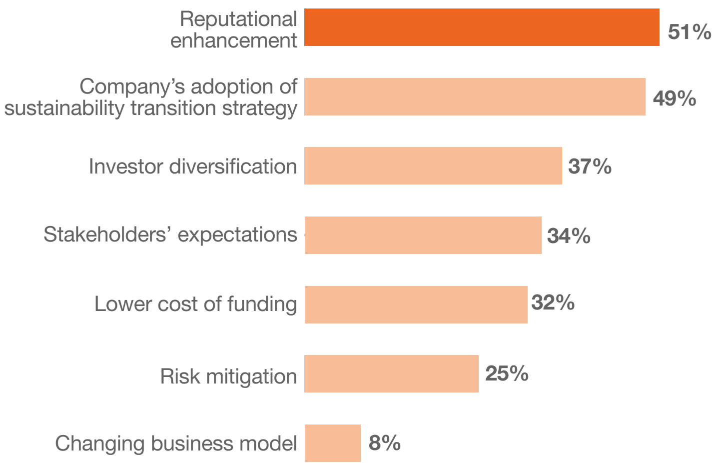
Access to a broad and committed investor base

While sustainable debt instruments have traditionally appealed to a small segment of dedicated ESG investors, they are increasingly gaining the interest of mainstream investors. Subsequently, issuers are gradually benefiting from an expanding investor base. Also, compared to plain vanilla bonds, issuing GSS bonds has proven to create greater engagement between issuers and investors – as confirmed by our survey. During pre-issuance, improved communication between issuers and investors reduces the risk of misalignment between both parties regarding the intended versus actual use of proceeds. The willingness of investors to understand the use of proceeds and how it fits into the issuer's broader sustainability strategy allows the development of a deeper relationship between both parties. This will, in turn, boost investors' confidence in the management and overall strategy of the business, affording businesses greater leeway in times of crisis.

Access to capital

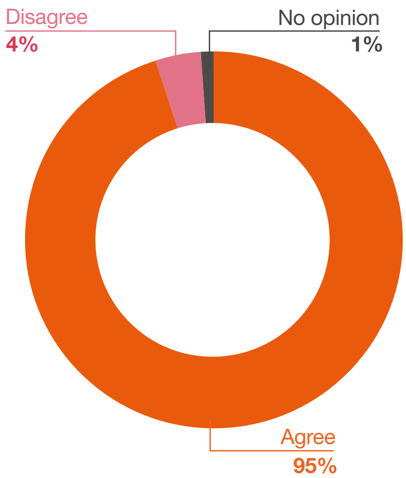
The inherent benefits of issuing GSS bonds will not be the only factors driving supply of GSS bonds in the years to come. The overall change in investors behaviour coupled with increasing regulatory pressure is forcing players to adapt their financing structure. Issuers seeking financing will have to adapt to the increasing sustainability demands coming from all stakeholders of the market. Those capable of demonstrating their ability to contribute towards the "sustainability transformation" will experience easier access to financing. On the other hand, those players who are opposed to or find limitations to transition their strategies might struggle to access capital in the middle to long run. Already, nearly 25% of investors are planning to limit their allocations towards traditional bonds in the next 24 months. This suggests that financing will increasingly become contingent on the preference of investors for sustainability-oriented projects, making traditional bond issuers less attractive. In addition, from an issuer perspective, GSS bonds are suitable options to support the transition of the business activities, which can raise the interests of CFOs. Indeed, equity – as a 'all activities' capital financing - supports both traditional and sustainable business growth. On the other hand, GSS bond will enable the company to attract external finance to support only sustainable activities. In that sense, GSS bonds appear as a recognised tool for transition financing management. In this way, GSS bond can contribute to balancing the share between non-sustainable and sustainable economic activities in a company.

Exhibit 15: What is/are the main internal driver(s) for your decision to issue GSS bonds? (Issuers)



Sources: PwC Market Research Centre

Exhibit 16: Compared to plain vanilla equivalents, issuing GSS bonds allows the issuer to benefit from greater engagement of investors? (Issuers)



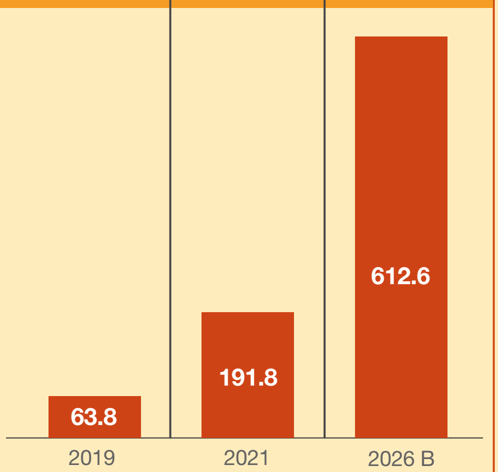
Forecast assumptions

Taking into consideration the aforementioned drivers, we have projected total GSS bond issuance up to 2026. In order to do so, we have split issuance between public (sovereign and supranational) and private entities (corporate).

Sovereign GSS Bonds New Issuance Forecast

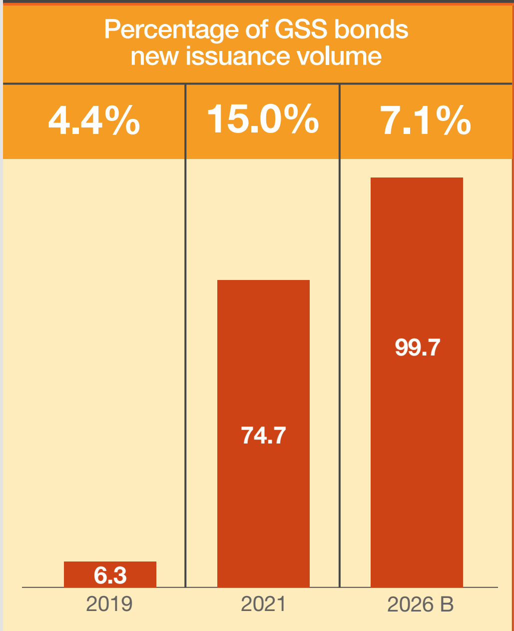
Percentage of GSS bonds new issuance volume

2019	2021	2026 B
43.8%	38.5%	43.8%



Sovereign issuance – has been estimated by analysing the expenditure composition of national EU member states budgets, calculating the potential percentage taxonomy – or sustainability – aligned expenditures, and deriving from this a possible trajectory for sovereign GSS bond issuance. Our estimations indicate that about 70% of government expenditures could potentially be ESG aligned. Nevertheless, we have estimated that only about 40% of the national expenditures will indeed be aligned with ESG considerations up until 2026. Taking into account that only about 13% of the total government expenditures are financed through bond issuance, altogether we have forecast sovereign GSS issuance to reach EUR 612.6bn by 2026 – up from EUR 191.8bn in 2021.

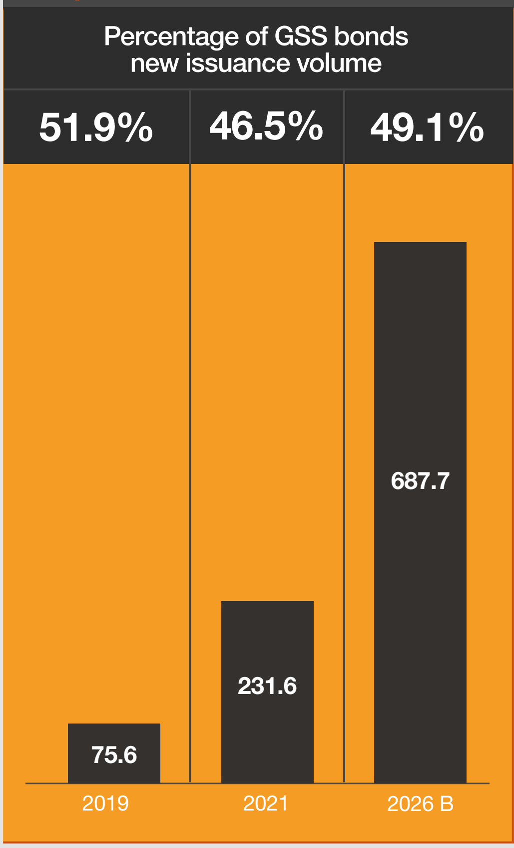
Supranational GSS Bonds New Issuance Forecast



Supranational entities GSS bonds new issuance has been estimated largely based on announced EU and EIB plans regarding GSS bond issuance up to 2026. To this end, we have retrieved all publicly available information from supranational institutions on their plans of future GSS issuance. Due to the high likelihood of an additional uptake of supranational entities based on the expected sustainable financing needs from the EU, we have decided to increase the estimated GSS issuance from these institutions. Taking into account the EU Next Generation recovery plan, the SURE emergency program, the EU multinational financial framework and the expected GSS bonds issuance from the EIB, total Supranational issuance is expected to average to EUR 84.9bn per year and reaching EUR 99.7bn by 2026B.

In a nutshell, sovereign and supranational issuers are expected to lead by example. The decision to issue 30% of NextGenerationEU as green bonds reflects the EU's commitment to boosting the supply of sustainable debt instruments, providing a wide range of investors with access to the market and enabling asset managers to diversify their portfolios with safe and sizeable sustainable assets. Additionally, public entities will play a key role in enhancing local GSS bonds markets by conducting the necessary investments for long-term carbon emissions reduction plans and increasing transparency through budget tagging and reporting on the allocation of proceeds. Financing public-private partnerships with project bonds or increasing international collaboration represent further compelling opportunities for sovereigns and supranational entities to actively participate in the development and growth of the GSS bonds market.

Corporate GSS Bonds New Issuance Forecast



Incentivised by the numerous benefits inherent to issuing GSS bonds and the growing pressure to embrace sustainability, private entities are poised to leverage this financing instrument to follow their long-term strategic goals while gaining access to adequate financing for their sustainability-themed projects. Furthermore, as previously mentioned, historical data suggests that corporates were stepping up their game before the COVID-19 induced catalysis of societal sustainability awareness – accounting for more than 50% of total GSS bonds new issuance volume in 2019 – and with stimulus packages fading away, we expect corporates to regain importance in the market. Moreover, the reality is that, according to the EU, most emissions originate from six main industries – transport, buildings, agriculture, forest and land use, energy and industry, which are primarily dominated by the private sector. These sectors are likely to face severe economic risks and will, therefore, be the target of numerous EU carbon emissions reduction policy initiatives. Indeed, decarbonising the energy supply and demand stands as one of the EU's top priorities and will necessitate the mobilisation of significant additional investments from the private sector. To this end, we expect that by 2026, corporates will account for 49.1% of the GSS bonds new issuance, reaching EUR 687.7 bn under a base case scenario. However, the growth of corporate issuance will be limited by the alignment of the proceeds with respect to the Taxonomy.

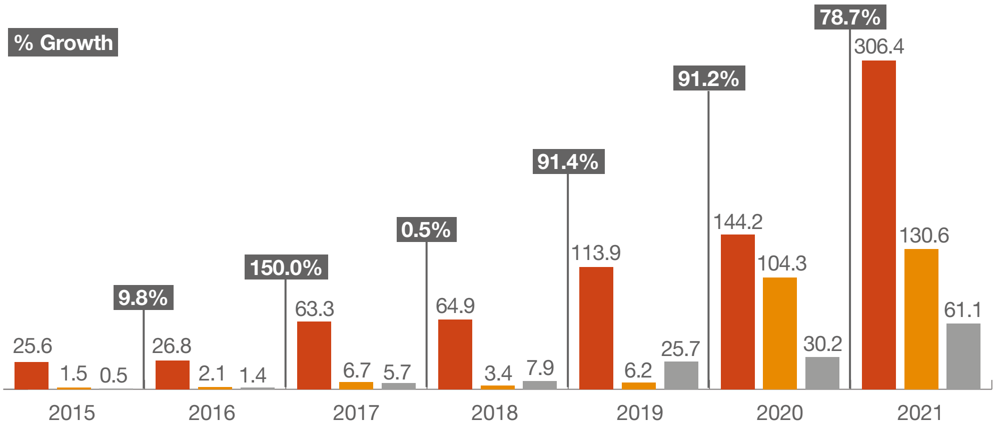
1.5. Further developments of the GSS bond market

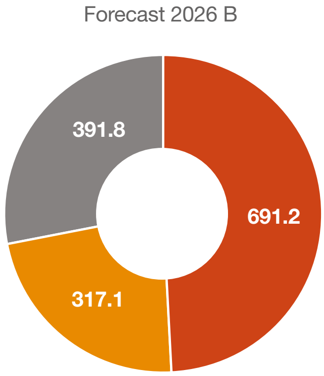
Despite a great run from Social and Sustainability bonds, Green bonds will continue driving the market

Green bonds have traditionally been the most popular themed bond issued in the Sustainable Bonds market and are expected to continue to lead in the coming five years.

That being said, during 2020 and 2021, Social and Sustainability-themed bonds grew dramatically, with Social bonds experiencing a fifteen-fold increase from 2019 to 2020. While the short-term effect of the EU recovery plan – pushing for social emergency measures – is expected to fade away over the next two years, the green bond market will likely regain dominance over the GSS bonds landscape. Indeed, green bonds are forecasted to reach EUR 691.2bn of new issuances by 2026, with social bonds accounting for EUR 317.1bn and sustainability for EUR 391.8bn – in a base case scenario.

Exhibit 17: European GSS bonds new issuance volume (EUR bn)





Green Social Sustainability

Sources: PwC Market Research Centre, Eikon

Energy, Building and Transport to guide the EU sustainability transformation

As of today, around 65% of the proceeds from GSS bonds have been allocated towards projects with an environmental objective. Within this group, renewable energy & energy efficiency – closely followed by clean transportation and green buildings – stand out as the most popular use of proceeds categories. The same trend is reflected in the alignment with SDGs, with sustainable cities and communities, affordable and clean energy, and climate action as the predominant goals. Nevertheless, with the development of the GSS bonds market, social objectives have been captivating the interest of industry players at a vigorous pace, increasing from less than 3% of the total use of proceeds in 2019 to approximately 35% in 2021. Employment generation, essential services and socio-economic advancements have emerged as priorities, especially in light of the pressing need for COVID-19 emergency measures.

Exhibit 18: GSS bonds, use of proceeds (%)*

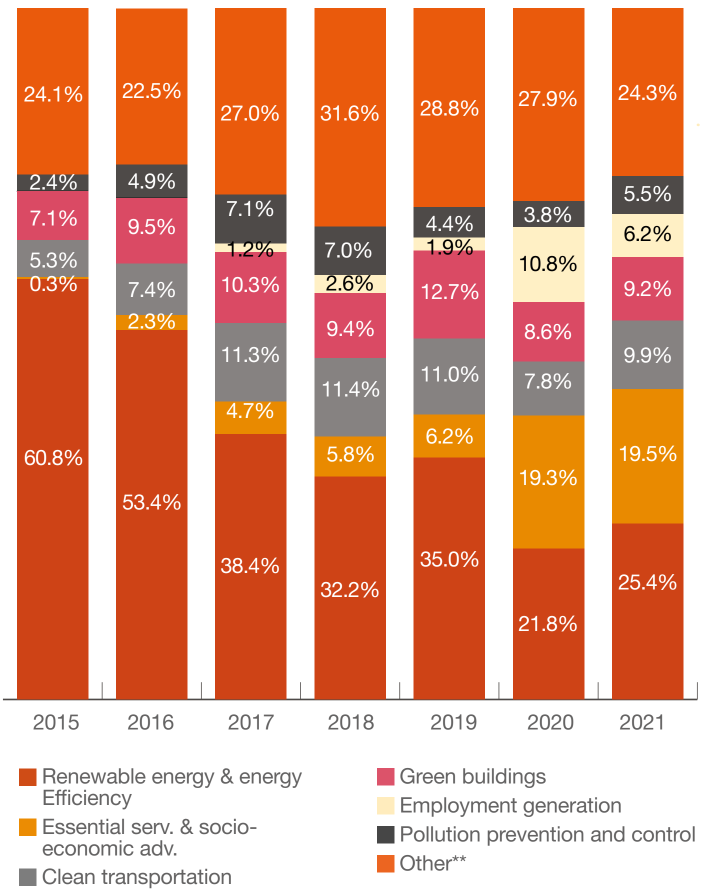
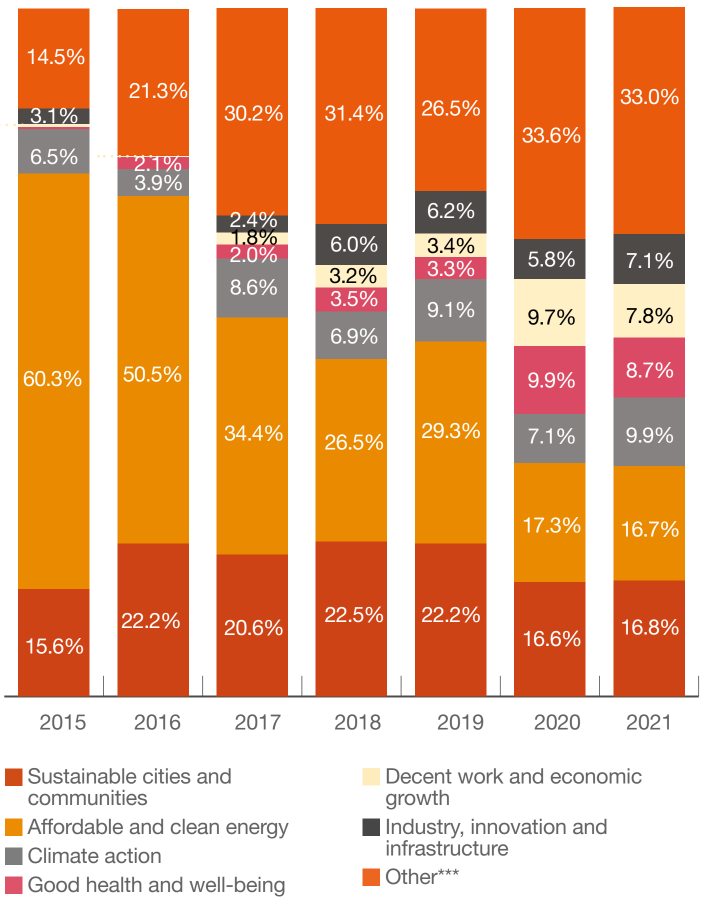


Exhibit 19: GSS bonds, alignment with SDGs (%)*



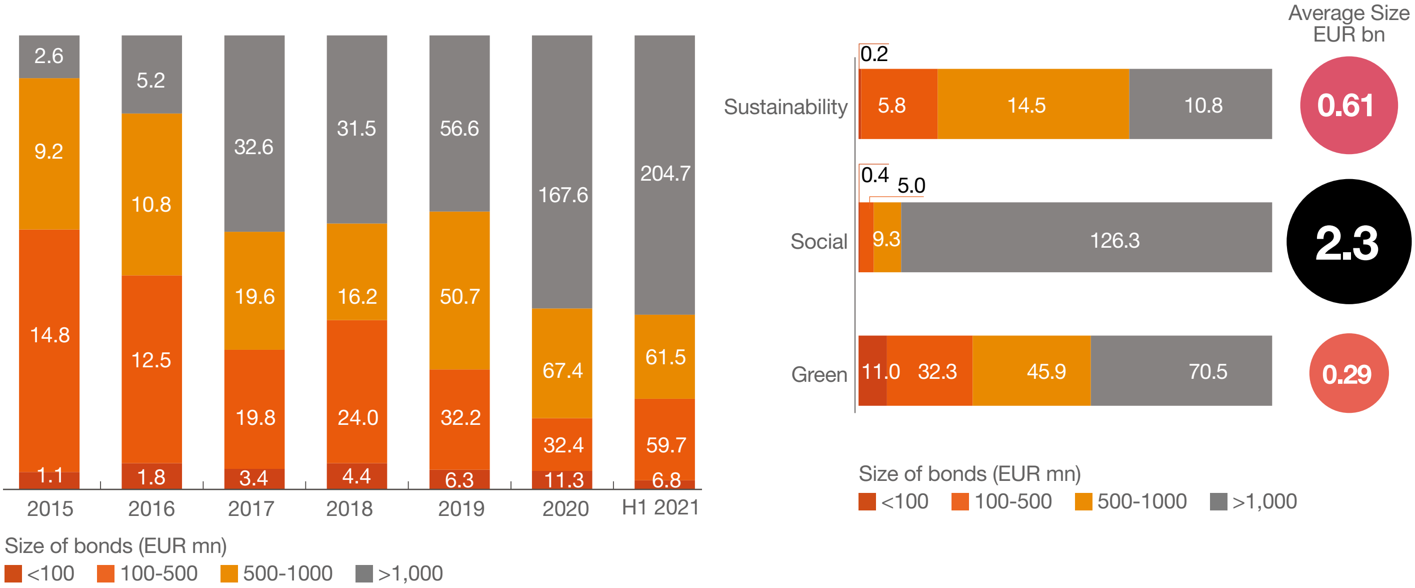
Note: * Close to 50% of the sample represents European players
** Other mainly includes sustainable water and wastewater management, affordable housing, environmental sustainable management of living natural resources or climate change adaptation
*** Other mainly includes responsible consumption and production, clean water and sanitation, reduced inequality, life on land, no poverty or quality education.

Sources: PwC Market Research Centre, Luxembourg Green Exchange (LGX).

As Covid-19 fades away, medium to small bonds are expected to gain back some market share

Bond issuance size varies significantly depending on each GSS bonds type. For instance, Social bonds tend to be much larger than sustainable or green bonds, with the later having an average size nearly 10 times smaller than social bonds. Over the last years, bonds larger than EUR 1bn have been gaining importance, moving from 9.4% market share in 2015 to 61.5% in H1 2021. The type of issuer very much determines the size of the bond. Private players – who mostly issue green bonds – are more prone to participate in smaller deals when compared to public institutions – who have upped their game in social and sustainability bonds. The exceptional circumstances caused by Covid-19 have propelled even more the issuance of larger bonds by public institutions over the last two years. However, we expect that as private entities retake some market share back, smaller to medium size bonds will regain power in the GSS bond market.

Exhibit 20: European GSS bonds market new issuance volume by bond size (EUR bn, H1 2021)



Sources: PwC Market Research Centre, Climate Bond Initiative, Eikon

Currency diversification will continue to decrease as the Euro increases its dominance

Both in terms of new issuances and outstanding volume, the Euro is clearly the dominant currency in the European GSS bond market. This is not surprising given the fact that since 2015, more than 60% of the total issuance volume was done in Euro-denominated bonds. The US dollar and the Swedish Krona stood as the second and third most popular currencies in terms of new issuance volume and number of deals. As the market continues to develop, the Euro is expected to increase its dominance, taking over market share from other currencies. In 2015, European GSS bonds issued in Euro accounted for 64% of total issuances (in terms of volume). Today this amount has risen to 83% and is expected to keep growing. The increase in sustainable European-based projects combined with the rise of European investors interest, as well as the Brexit slowing down the issuance volume of GSS bonds in British Pounds within Europe will continue to strengthen the Euro dominance.

Exhibit 21: European GSS bonds new issuance, currency breakdown (volume, EUR bn)

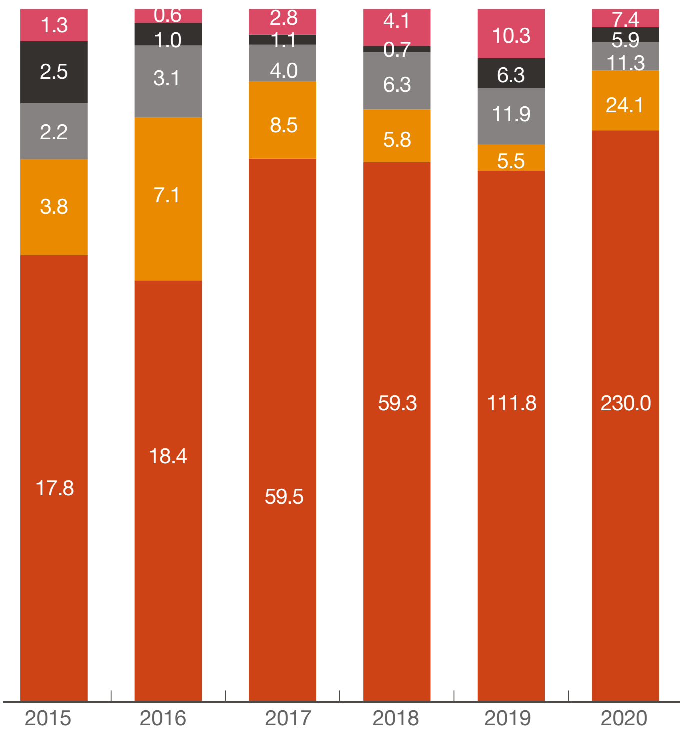
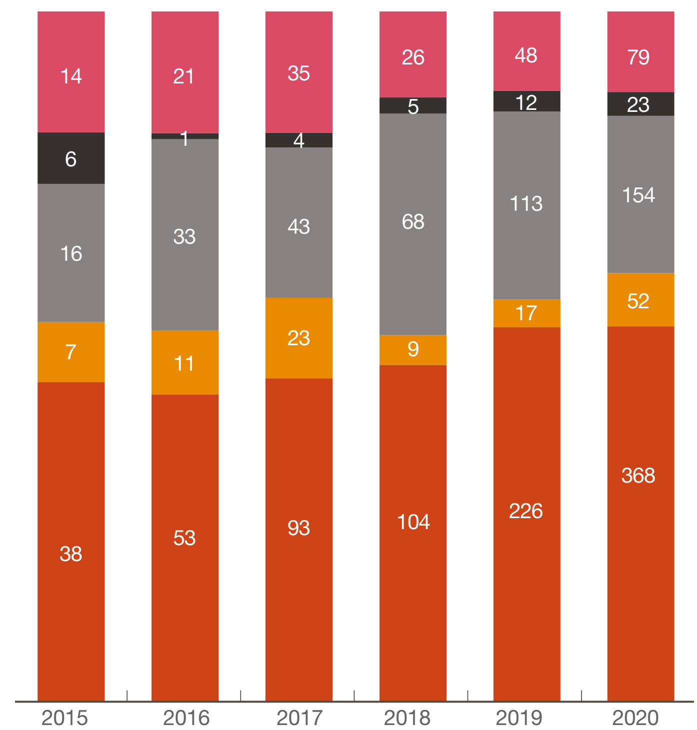


Exhibit 22: European GSS bonds new issuance, currency breakdown (number of bonds)



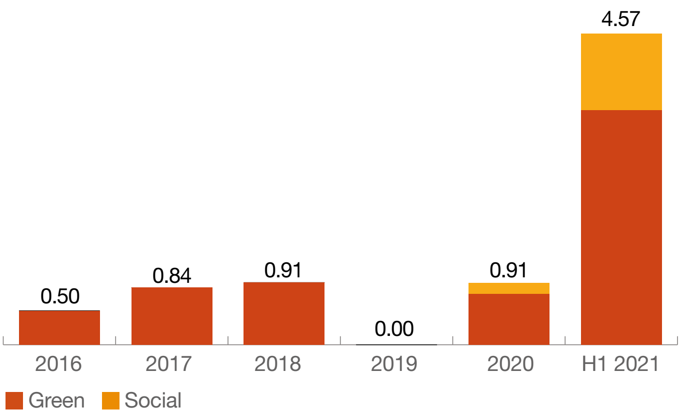
Euro | US Dollar | Swedish Krona | British Pound Sterling | Other

Sources: PwC Market Research Centre, Climate Bond Initiative, Eikon

Sustainable securitised products show signs of promising development

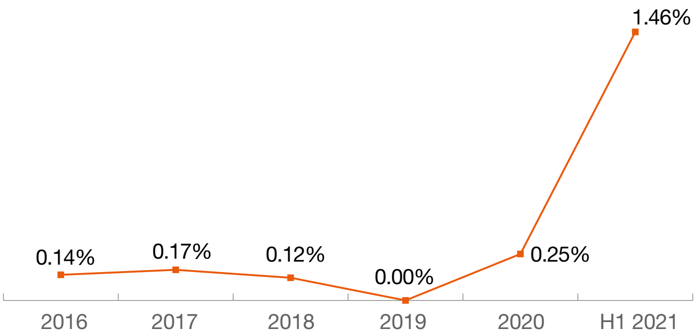
Integrating sustainability into the securitised product market represents a significant opportunity, considering that this market is worth EUR 10.4tn in the U.S. (25% of the fixed-income market) and EUR 1.1tn in Europe. Securitisation has been growing in popularity as a means of providing capital to small-scale assets and projects. Indeed, this form of financial aggregation also allows loans of small- and medium-sized businesses to be traded on financial markets, thus lowering the cost of capital compared to bank financing. In the first half of 2021, the European sustainable securitised product market (comprised of both ABS and MBS)* reached an issuance of EUR 4.6bn, approximately five times the amount recorded at the end of 2020. This explosive growth is largely attributed to green securitisation, though momentum around social considerations has also started to materialise in this market. That being said, the market for sustainable securitised products remains underdeveloped when compared to the overall European market for securitisation. As of H1 2021, the ratio stands at 1.46%, despite growing sharply during the past months. It is still early to draw any conclusion on where the market could be heading.

Exhibit 23: New issuance of European sustainable securitised products* (EUR bn)



Note: * Includes both asset-backed (ABS) and mortgage-backed (MBS) securities
Sources: PwC Market Research Centre, Eikon, UNPRI, CBI

Exhibit 24: European sustainable securitised products issuance over total European securitisation issuance (%)



Sustainability linked bonds claim their seat at the big table after a staggering first half of 2021

The issuance of a EUR 1.4bn Sustainable Development Goal (SDG)-linked bond by the Italian energy company Enel in 2019 launched a new asset class based on a target-based structure. Since then, the global issuance of sustainability-linked bonds (SLBs) has skyrocketed to a total of EUR 64.7bn as of H1 2021, though the issuance market remains largely concentrated in Europe. The less-constraining nature of the asset class has translated into the rapid diversification of issuers – appealing to companies from the consumer and healthcare industries, but also those looking to transition away from carbon-intensive sectors, such as industrials or materials. The simpler monitoring and reporting practices required of SLBs also give smaller issuers with fewer resources access to this new type of financing. However, SLBs remain significantly different from GSS bond as they are not earn marked for specific projects underpinned by recognised sustainability standards. This is why the evolution of the EU and international regulatory development will affect the development of this product.

Exhibit 25: SLBs global issuance (EUR bn)

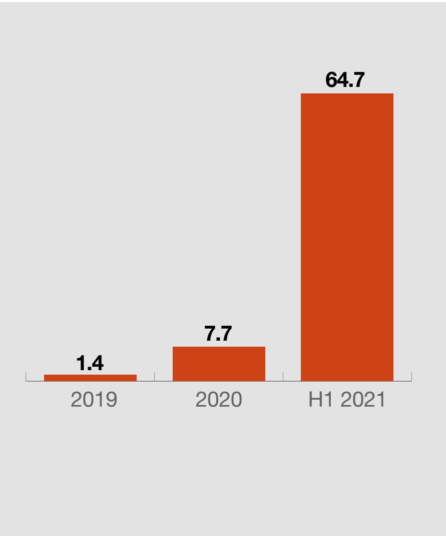


Exhibit 26: SLBs issuance by region (H1 2021)

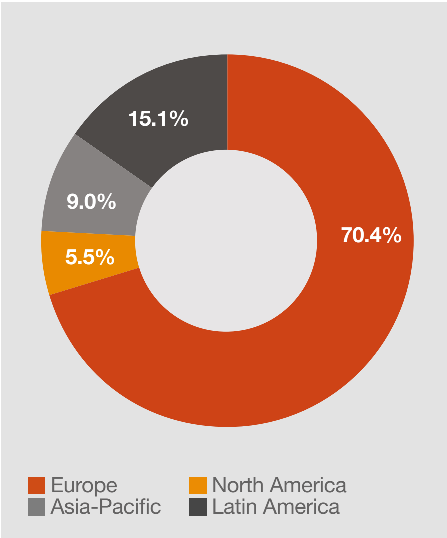
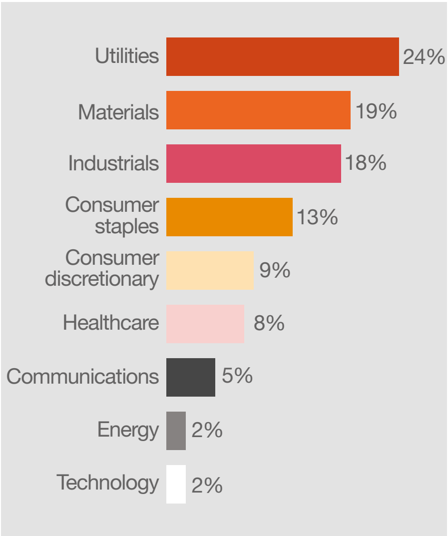


Exhibit 27: SLBs issuance by non-financial corporate sector (2020)

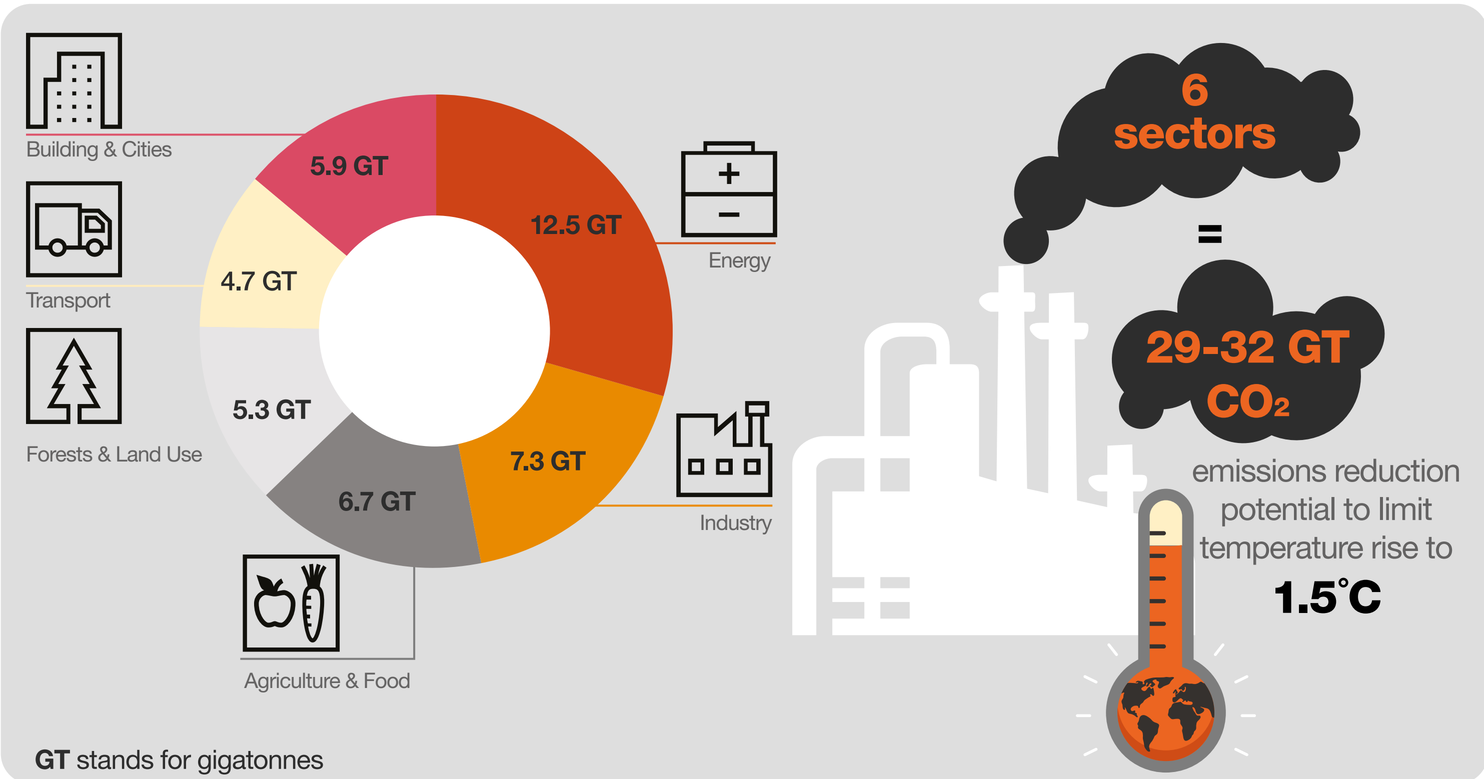


Sources: PwC Market Research Centre, Eikon, S&P

Transition bonds as an indispensable instrument in supporting the green transition within high-carbon emitting companies

Developed in parallel to the green bond market, transition bonds were created with the aim of providing companies operating within large carbon-emitting industries with the means to finance green transition projects, enabling them to reduce their carbon emissions and environmental impacts. However, the issuance of transition (use of proceeds) bonds has got off to a slow start – with the 14 bonds issued in 2021 bringing the total transition bond market to 31 issuances according to the CBI. That being said, the EU's push for transition finance, coupled with ICMA's new guidance for climate transition finance, is poised to provide a boost to this asset class. With enough support, transition bonds have the potential to significantly minimise greenwashing in the green bond market, given that they create a separate space dedicated to companies unable to meet more stringent eligibility criteria. Nevertheless, with the higher adoption of SLBs as a more flexible alternative to transition finance, transition bonds are currently poised to maintain their "niche product status."

Exhibit 28: Top sectors in terms of CO2 emissions*



Sources: PwC Market Research Centre


CO2

2 It's critical for any bond issuer to consider GSS as a new way of financing

Notwithstanding the growing potential advantages of GSS financing (both reputational and financial), our survey shows that many potential GSS issuers and their CFOs remain highly challenged by a lack of understanding of the GSS market. The danger is that – as sustainability goes mainstream - further delay may increasingly lead to an even narrower universe of potential investors for the issuer. To this end, we have developed a 5-point plan that – if applied together and tailored to an organisation's specific needs - will ensure a smooth and successful transition; enabling issuers to leverage this financing vehicle to finance sustainable transformations of their business models and operations.

Key factors of success

- Find a strategic fit
- Select and Instrument
- Identify a taxonomy-aligned (and/or) sustainability project
- Establish a balance between seeking partnerships and developing internal capabilities
- Build trust
  - Data challenge
  - Risk monitoring
  - Transparency requirements

2.1. Find a strategic fit

Before embarking on their ESG journey, issuers must define what sustainability means to their organisation – if they see it more from a risk protection or value creation perspective – and to which extent they wish to entrench it within their business operations. Developing a coherent strategy is more likely to guide the entity towards a consistent use of proceeds, thus helping create a credible story.

We have identified three strategic options that issuers can pursue in order of low to high impact: **"business as usual"**, **"selective approach",** or "**sustainable leaders"**.

"Business as usual"

Under certain circumstances, shifting towards a more sustainable strategy can be a big undertaking: the nature of an industry can itself be an impediment for entities to embed sustainability into their operations. Those in GHG-intensive sectors or with a very fragmented value chain can find it very costly to do so. Furthermore, players finding themselves in a financially precarious position will face difficulty shifting towards a long-term sustainable strategy.

As a result, a considerable part of the economy is still considering ESG from a risk and regulatory perspective. However, entities that make no adjustments to their operations, governance or organisational structure may find themselves at a disadvantage. Therefore, GSS bonds should still be considered as a tool to slowly embark on a sustainability transition.

"Selective approach"

A growing number of entities try to seize the business opportunities that have emerged from the ESG revolution. Not committed to rearranging their organisations around an overarching sustainability strategy, companies overlook the importance of putting in place the necessary structures and protocols. Although they may profit from using GSS bonds for specific projects in the short term, entities using a selective approach will not fully reap the benefits of a sustainability transition.

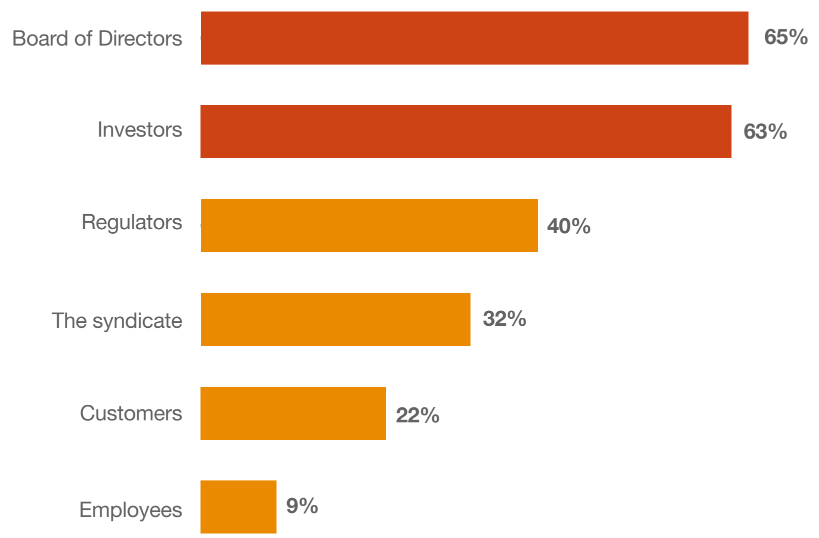
"Sustainable leaders"

What defines a sustainable leader is their ability to transform their entire organisation (financing, operations, etc.) to be aligned with the evolving needs of society. Thanks to this approach, they can take advantage of GSS bonds as a standard method to raise financing for projects that will contribute to the future success of the entity. In the long run, we strongly believe that adopting this approach will position players at the forefront of today's changing world, guaranteeing future prosperity for the entity as well as society.

The outcome of this decision will determine the extent of the transformative impact of the **"sustainability transition"** on issuers' business models. We strongly believe that any successful transition should follow a top-down decision process. Our survey lends credence to this view, showing that the Board of Directors has the greatest influence on the decision to issue Sustainable Bonds. Hence, engaging the board at the earliest stage and creating dedicated roles and responsibilities will prove essential in incorporating GSS bonds into issuers' financing strategy.

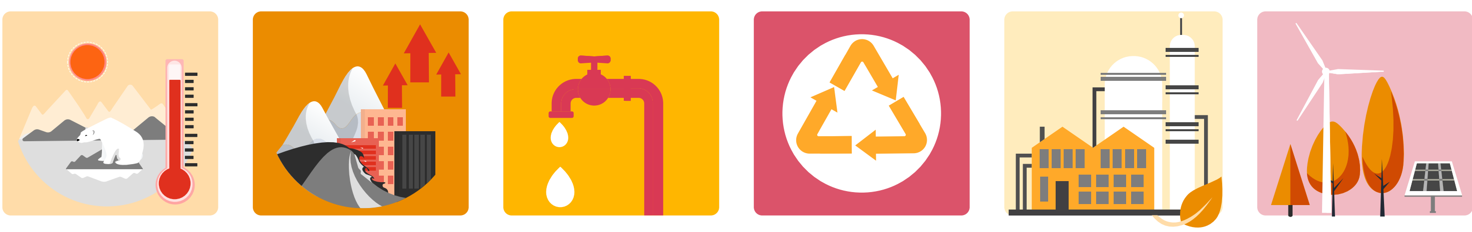
As evidenced by our survey results, employees are generally perceived to have little impact on issuers' GSS bond issuance decision – with only 9% of issuers we canvased describing their employees as being the highest influence in their decision to issue such bonds. Nevertheless, in a post-COVID environment, we are seeing staff exert heightened pressure on their employers to transition towards sustainable activities. Sustainable financing will be an essential tenet in this transition journey and will likely help attract and retain increasingly sustainability-conscious employees. In fact, PwC's latest Consumer Intelligence Series survey on ESG shows that, on average, 84% of employees are more likely to work for a company that promotes ESG commitments.[6] Subsequently, we strongly advise companies to view and base their overall sustainability strategy in the wider context of talent attraction – with those that actively embrace and elucidate their sustainable transition likely representing the greatest draw for young professionals.

Exhibit 29: Which stakeholders have the greatest influence on your decision to issue GSS bonds? (issuers)



Sources: PwC Market Research Centre

6. Source: PwC US "2021 Consumer Intelligence Series Survey on ESG" (June 2021).



2.2. Select an instrument

Once an entity has decided to which extent they wish to embed sustainability within their organisational and operational DNA, they must then select which type of sustainable bond to issue (Green, Social, Sustainability, Sustainability-linked, etc.). The selection process varies largely from issuer to issuer, and is largely determined by their specific needs, objectives and capabilities - taking into considering pre- and post-issuance processes.

First, they can opt to issue green bonds for energy or environmentally related projects - as they are widely recognised, and external parties have developed more expertise. Second, they can issue social bonds for socially related projects which, although they are at a nascent stage of development, are rapidly growing and becoming increasingly popular due to the shift in societal values. Third, sustainability bonds are suitable when an entity is looking to finance projects that meet both environmental and societal objectives. This increases the flexibility on the issuer side and also allows investors to diversify their exposure to a variety of projects. However, they are the least developed market and require the issuer to demonstrate both environmental and social impact. Last but not least, sustainability-linked bonds represent a compelling option for companies whose capital expenditures are not aligned with the taxonomy, or who want to establish quantifiable metrics and be accountable for their sustainability progress. They differ from their GSS bond counterparts in that they are based on target KPIs rather than projects, but can be strongly suitable for non-taxonomy-aligned companies that wish to embark on their transition journey.

Furthermore, once the type of bond is selected, players must look at pre and post-issuance requirements, and the type of frameworks to be followed. Where country or region-wide guidance is not available, issuers should look to sustainability-related market guidelines, such as the Climate Bonds Taxonomy and the environmental and social project categories listed in ICMA's Bond Principles. This best practice will prepare European market players for the upcoming EU GBS, which will require green bonds with the 'European green bond label' to allocate 100% of funds raised to EU Taxonomy-aligned activities.

To this end, issuers interested in the EUGB label will need to complete the European green bond factsheet and ensure that it has been subject to a pre-issuance with a positive opinion by an external reviewer.[7] This factsheet should consist of an outline of the environmental strategy and rationale of the green bond issuer, including a reference to the environmental objectives from the Taxonomy Regulation it intends to pursue. Furthermore, the entity should use this factsheet to describe the process for selecting green projects and measuring the estimated environmental impact, making use of the upcoming technical screening criteria and the key impact metrics referred to in the delegated acts of the Taxonomy Regulation. Moreover, the factsheet serves as a basis for the preparation of the annual post-issuance impact reports.

7. Proposal for a Regulation of the European Parliament and of the Council on European green bonds

2.3. Identify taxonomy-aligned (and/or) sustainability projects

In parallel with the selection of the bond's type, organisations must determine suitable projects that are aligned with both their long-term goals, current financial situation, and existing regulation.

In fact, a first difficulty relates to the regulation: the stringency of the Taxonomy limits the potential pool of assets that can be suitable for GSS bond issuance. In addition, some of the elements have not been finalised yet.

With work underway to develop a social taxonomy and potential extensions of the taxonomy framework beyond environmentally sustainable activities,[8] other types of bonds – social, sustainability, sustainability-linked and transition bonds – stand to benefit from the same clarity and transparency. In the meantime, we encourage sustainable bond issuers, as a best practice, to develop an eligibility bond framework to be included in the prospectus, engage a specialist to provide a second-party opinion that will add assurance and credibility to that framework, and include relevant ESG impact metrics that can be used to justify the environmental and/or social impact of the funds raised.

A second issue relates to the internal processes required to go from the selection of assets to the GSS bond issuance itself. This requires collecting all necessary data, performing the relevant analyses, supervising the assurance process to make sure that the selected projects align with the international standards that will be used. In total, this requires a combination of technical expertise to ensure the alignment of proceeds, and time resources needed to handle such assurance process. However, for companies with multiple economic activities, among which non-sustainable ones, the issuance of GSS bonds to finance sustainable activities or to transition to more sustainable activities will be one of the finance management instruments of CFOs in the near future.

8. On the 12th of July, the European Commission published a call for feedback on draft reports regarding a social taxonomy and the extended taxonomy to support economic transition

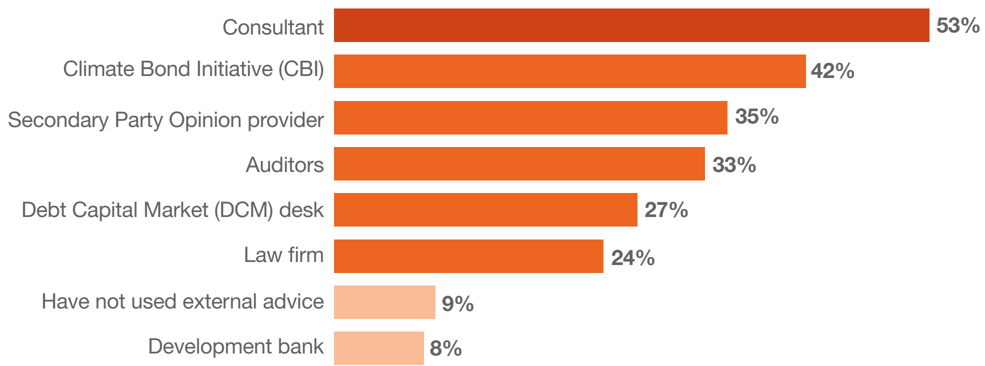
2.4. Establish a balance between seeking partnerships and developing internal capabilities

Once issuers have found their strategic fits and chosen the right bond to issue in alignment with their strategy, they can begin transforming internal processes. Based on the extent to which the organisation is willing to adapt its funding strategy, issuers must find their own balance between seeking partnerships with external players and developing internal capabilities. The upskilling process – necessary for an efficient and scalable GSS bonds issuance process – should be regularly examined in order to keep adapting an issuer's bond issuance to the required standards.

While it is pivotal for issuers to build the right talent pool to execute their organisation's GSS bond structuring, the learning curve can be smoothed with the help of external partners, each one bringing distinct expertise throughout the GSS bond issuance process.

The wide popularity of this practice is confirmed by the fact that most of our surveyed issuers are finding value in choosing at least one third-party/external advice partner to support them throughout the lifecycle of the bond. This includes advice on formulating a corporate sustainability strategy, developing a sustainable bond framework, generating transparent communication to investors, or monitoring/reporting on the financial and sustainability outcomes of the bond's use of proceeds.

Exhibit 30: In the process of issuing your GSS bonds, have you used third-party/external advice from any of the following? (issuers)



Sources: PwC Market Research Centre

In fact, issuers should take advantage of the growing ecosystem of external review services to provide investors with evidence of the quality of their sustainable bond instruments and boost their sustainability credentials. It is a common practice to begin by commissioning an independent verification of the alignment of issuers' claims/ practices with established market standards. Second-party opinion providers (SPO) can serve as an additional layer of credibility as they can perform an assessment of the intended use of proceeds as well as the risk and the value creation potential of the project financed by the sustainable bond. For sustainability-linked bonds, SPOs validate the selection of KPIs and the calibration of sustainability performance targets (SPTs). As a final step, data providers can assign a rating to an issuer's bond from a sustainability perspective, allowing investors to compare the quality of GSS bonds on the market. Overall, we believe that the use of credible external providers to assess and verify issuers' sustainability approach will greatly enhance their standing within the GSS bond market.

In the long term, it will also be paramount for issuers to work towards building internal capabilities and internalising some of the tasks outsourced to external partners. This upskilling will ensure the successful sustainability transition of their entity and minimise costs in the long run. Amongst best practices, creating a sustainability committee/department is considered a priority, as evidenced by the fact that 95% of our surveyed issuers have adopted the practice. In addition, forming a special selection committee comprised of senior members from diverse backgrounds (Finance, Engineering and Corporate Social Responsibility) is essential for screening eligible projects and assets against the entity's sustainable bond framework and making informed recommendations to the Board of Directors for approval. Finally, sourcing accounting, legal, regulatory and data science expertise is also required for the sustainability committee/department to fulfil its other responsibilities beyond project evaluation and selection – including the management of proceeds, allocation & impact reporting to investors and addressing any issues from the post-issuance external verification report.

Amidst a rapidly changing market and regulatory environment, it is pivotal to complement new governance structures and procedures with high-quality training to all relevant employees. This upskilling process should be regularly examined in order to keep adapting an issuer's bond issuance to the required standards. Rather than see it as an additional cost of the 'sustainability transition', entities will soon realise that it is an investment that is necessary for removing bottlenecks and conducting an efficient and scalable GSS bond issuance process.

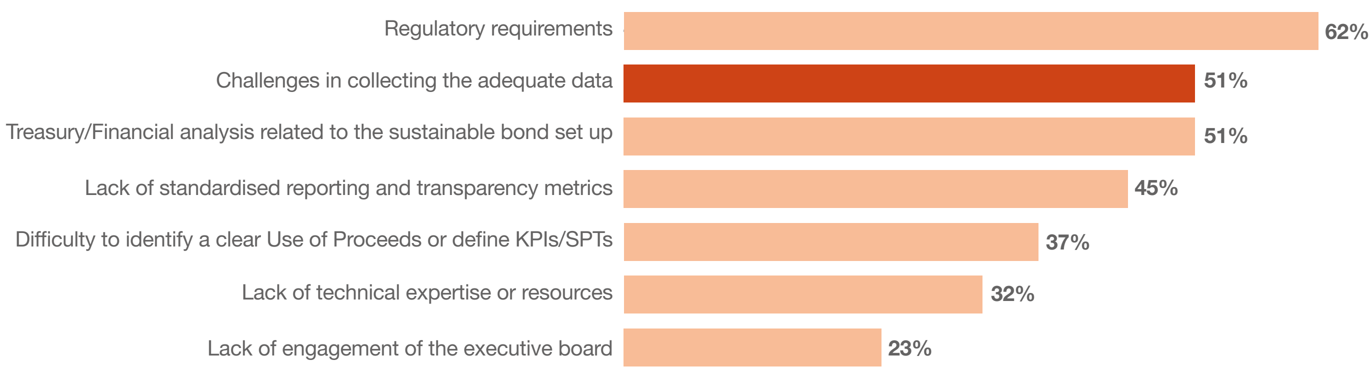
2.5. Build trust

Trust encompasses the data challenge, risk monitoring and transparency requirements associated with GSS bond issuance. All of which can result in an improved brand management strategy where the issuance of GSS bonds can enhance issuers reputation, build a constructive relationship with stakeholders, and create long term value.

Master the data challenge

A recurring issue in our sustainable finance series is the data challenge facing both the financial and corporate worlds. Beyond traditional financial indicators, issuers must look at environmental and/or social performance indicators, which in nature are harder to measure and quantify. This is evidenced by the fact that 51% of our survey respondents said that they are facing issues collecting adequate and quality data.

Exhibit 31: What main challenges do you face when issuing GSS bonds? (Issuers)



Sources: PwC Market Research Centre

The first step to solving this challenge is setting the right KPIs at the pre-issuance stage. To do this, issuers will need to understand what data will best communicate to their investors the impact of the bond's proceeds. At the same time, it is important to anticipate the feasibility of measuring the desired impact from their GSS bonds. To alleviate the burden, issuers can use guidance from standardised reporting frameworks to extract relevant KPIs for their use of bond proceeds. This could include KPIs from the delegated acts of the Taxonomy Regulation, or more generally, from the Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), the Task Force on Climate-related Financial Disclosure (TCFD), World Economic Forum (WEF) or the upcoming IFRS's International Sustainability Standards Board (ISSB) for reliable and comparable metrics able to capture ESG matters. Using one of these internationally recognised standardised reporting frameworks allow issuer to align their bond impact metrics with their company-level commitments and targets.

The second step – taking place during the post-issuance phase – is aggregating and normalising data in a way that is comparable to other issuers in the relevant sector. Players may, indeed, face the challenge of having to gather data from multiple sources. Leveraging technology and digital development to complete these tasks can be a key success factor as long as the issuer already has in place the right internal capabilities. Taking into account the issuer's plans to increase sustainable bond issuance, each entity should decide whether to outsource this task to a data provider/AI firm or invest in building these solutions internally. In any case, digitisation has become of "must" for entities to compile data efficiently – regardless of whether they issue GSS bonds – especially in the face of increasingly stringent ESG disclosure requirements.

Going beyond minimum reporting requirements and showing value to investors demands evidence of demonstrated impact, and for that, issuers must select measurable KPIs and leverage digital solutions to ease the data challenge.

Risk Monitoring

Financial and non-financial corporates alike are facing external pressure from regulators and stakeholders to disclose their exposure to material ESG-related risks (from the EU Corporate Sustainability Reporting Directive and Sustainable Finance Disclosure Regulation in particular). Establishing a risk management framework at an entity level is, therefore, a "must" to all companies regardless of whether they issue GSS bonds. This framework will serve to benefit the GSS bond issuance process as entities will already be familiar with the practice of ESG risk identification and mitigation and have the procedures in place to collect and report on the relevant data.

In addition, there are ***several common GSS bond-specific risks*** that issuers should prepare to monitor and manage in order to avoid situations that could deter their issuance process.

Overall, managing both entity-level ESG exposures and GSS-bond specific risks serves to build trust with investors by being transparent about the process for measuring and managing material risks – which, in turn, allows them to make sound investment decisions.

Second-party opinion risk

Obtaining a truly "independent" second-party opinion is important to assure the quality and integrity of the sustainable bond. It is common to see that the second party hired as a consultant to help the issuer develop its sustainable bond framework is also the one reviewing it. However, this practice should always be avoided as it compromises the validity of the opinion.

"ESG-washing"/Fraud risk

Providing adequate information to stakeholders during the entire issuance process and in all post-issuance reporting is key to avoid facing litigation. This risk is amplified by the fact that there are no mandatory standards yet, making it difficult to assess whether there has been a departure from a reasonable standard of requirement.

Labelling risk

Carefully assigning a label to a GSS bond that is representative of its use of proceeds is a difficult task as new labels are being developed by market players (transition, blue, impact, nature…) that have no well-defined framework or standards. This could lead issuers to increase their discretionary power over the issuance process with a negative impact on the ESG-washing risk.

Credit/Repayment risk

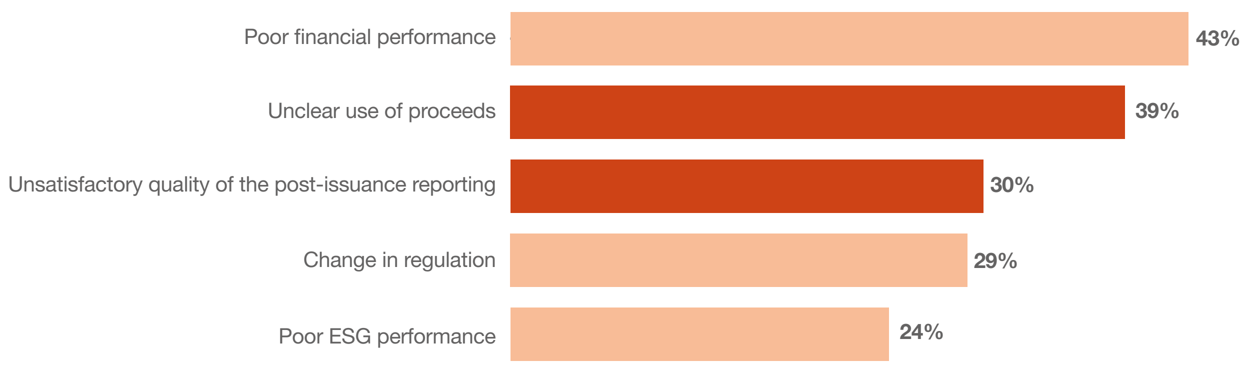
While GSS bonds generally do not incur a different level of credit risk with respect to traditional bonds (as credit risk is assigned to the issuer), this can be the case in certain instances. First, GSS bonds that are project-based may require heavier credit analysis compared to a traditional bond issuance, as payment depends on cash flows generated by the project. Additionally, for bonds that have a target-based structure (SLBs), issuers face the risk of coupon step-ups or financial penalties should they fail to achieve their predefined sustainability/ESG objectives.

Transparency requirements

In the context of increased transparency requirements, reporting has become a core engagement activity with investors. Entering and maintaining an active dialogue with investors may be compulsory, as in the case of bonds carrying the EUGB label, where the use of proceeds statement must be verified by an independent accountant once the bond reaches its maturity date to confirm that 100% of the funds raised were allocated to EU Taxonomy-aligned activities. Beyond minimum reporting, transparency enables investors to gain confidence in the issuer's sustainability strategy.

In order to do so, issuers should make use of both qualitative and quantitative performance indicators – measured using a sound and well-described methodology – to demonstrate the impact achieved by the allocation of proceeds towards the different projects. In fact, our survey results show that unclear use of proceeds and/or unsatisfactory quality of post-issuance reporting are strong enough reasons to reduce or stop investing in GSS bonds.

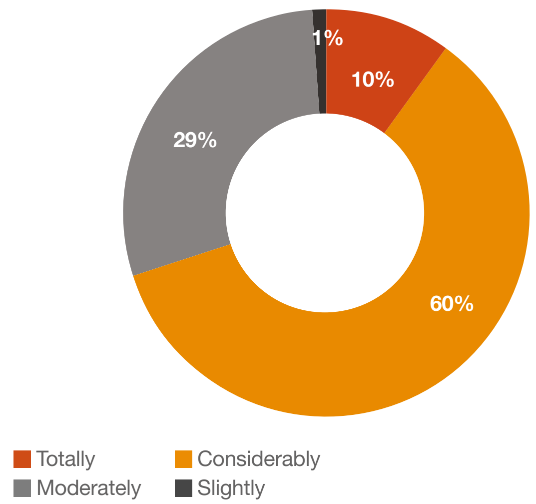
Exhibit 32: What influences your decision to reduce your exposure or stop investing in GSS bonds? (Investors)



Sources: PwC Market Research Centre

To bring such transparency, a myriad of bond reporting frameworks have been developed (ICMA, CBI, country guidance) to guide issuers with regards to the content and process for reporting. But in the absence of a single worldwide accepted standard, the choice stays with the issuer, creating confusion for investors, which could hinder the further expansion of this market segment. The effect of this lack of harmonisation is reflected in our survey, with 70% of investors favouring the implementation of a standardised post-issuance reporting.

Exhibit 33: How much would you favour the implementation of a standardised post-issuance reporting? (Investors)



Sources: PwC Market Research Centre

The EU GBS is likely to bring such standardisation and clarity needed by investors and issuers on the structure and minimum requirements of allocation and impact reporting. This will help create a common language that effectively communicates between issuers and investors. All in all, trust is earned by being transparent and authentic – a task that issuers will need to take seriously in order to succeed in the GSS bond market as investors and regulators, faced with "ESG-washing" concerns, increasingly have higher expectations for risk management, reporting and data evidence of ESG impact.

All of which can result in an improved brand management strategy. Indeed the GSS issuance can enhance issuers reputation, and create long term value in a context where the sustainability track record of a firm is becoming key. Indeed, academic research have demonstrated that firms with higher ESG scores tend to have greater brand equity value.[9] Also, a strong brand image can lead to higher employee retention and increased customer loyalty: the PwC's latest Consumer Intelligence Series survey on ESG shows that on average 79% of consumers and 84% of employees are more likely to buy/work for a company that promotes ESG commitments (with concerns well-balanced across all three dimensions of sustainability). In this sense, brand management becomes integrated with the other key success factors and better positions issuers to reap the benefits of GSS bonds issuance in the short and long term.

9. Ajour El Zein S, Consolacion-Segura C, Huertas-Garcia R. (2020) 'The Role of Sustainability in Brand Equity Value in the Financial Sector'. Sustainability; 12(1):254.

3 Conclusion

The **"sustainability transformation"** of the European fixed-income market is fast approaching. Policymakers globally have been mirroring and reacting to the shift in the societal psyche by implementing a series of policies to embed sustainability considerations at the very core of the global economy and financial ecosystem. Regulatory efforts have been particularly directed to the classification and disclosure of sustainability-related definitions and metrics, mostly to alleviate concerns surrounding the lack of transparency and standardisation. The European fixed income industry is in the midst of a seismic shift in investor behaviour, with institutional investors attributing unprecedented levels of focus and urgency to sustainability issues and adapting their investment philosophies accordingly. The convergence of these drivers will boost European GSS bond new issuance to account for up to half of the total European bond issuance by 2026.

GSS bonds are reinventing the debt market – standing out as an innovative way to raise capital while also contributing to the wider goals of society. While public institutions are expected to lead the way in the GSS bond market, corporates must start recognising the inherent benefits of issuing GSS bonds and adapt their funding strategy accordingly. Keeping in mind the difficulty of identifying the eligible assets compliant with the EU regulation, and the expertise needed to ensure the overall issuance process, GSS bonds constitute a key tool for CFOs to attract external financing for the purpose of transitioning towards more sustainable activities. In light of this, we have developed a set of key factors for entities to lead successful Sustainable Bonds issuances and leverage this financing vehicle to transform their business model and operations.

As ESG becomes the mainstream in the fixed-income market, we expect that political and regulatory stakeholders will put more pressure on private-sector players to transition their economic activities and related funding strategy towards a more sustainable future as well as allow transition financing mechanism to allow for such required changes. As such, we believe that GSS bonds will become a much-required source of financing in a market where the selection of investments is increasingly driven by ESG factors and sustainability indicators.

4 Appendix

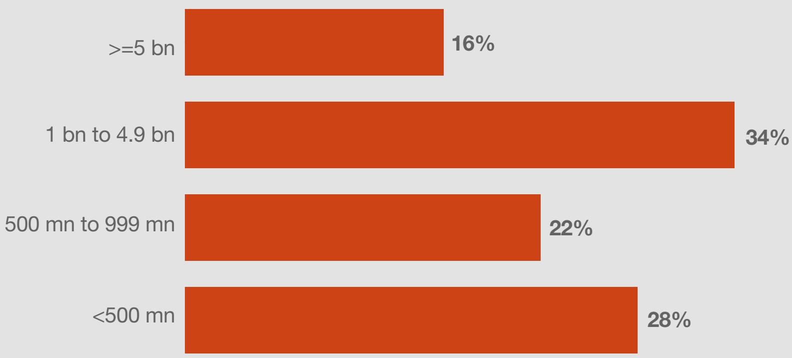
The surveys for issuers and investors have been both conducted over the second quarter of 2021.

- Our survey sample for issuers includes 100 answers from actual and potential issuers of GSS bonds.
- The sample includes small and large issuers, with 16% of the survey respondents having issued more than EUR 5bn of GSS bonds and 28% less than EUR 500mn over the last 5 years.
- **The composition of the sample in terms of sectors is diversified:**

  40% of the sample are non financial institutions, 33% are financial institutions, 10% are supranational, 10% are sovereigns, and 7% are central banks.
- **The respondents' function are the following:**

  CFO or directly reporting to CFO (40%), Head of Treasury or directly reporting to Head of Treasury (30), ESG Lead or directly reporting to ESG Lead (19%) or CEO (11%).

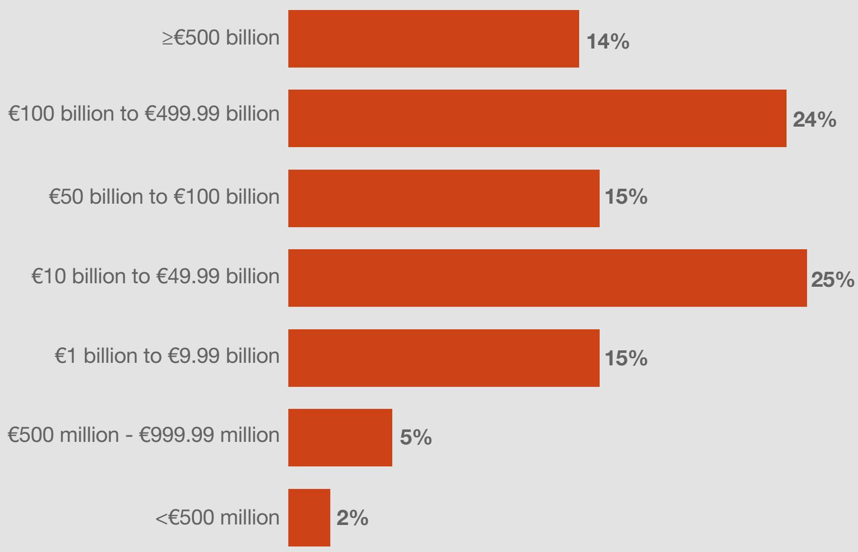
Exhibit 34: Total volume of GSS bonds and securitised products issued over the last 5 years? (in mn EUR)



- Our survey sample for investors include 100 answers from international investors coming from Europe (93%) and North America (7%).
- **The composition of the sample in terms of sectors is diversified:**

  Asset/wealth managers (24%), insurance companies (21%), pension funds (19%), sovereign wealth funds (10%), investment funds (10%), banks (11%), and family offices (5%).
- The respondents' functions are portfolio manager (35%), CIO (26%), investment manager (17%), head of ESG (13%), or head of sustainable investments (9%).
- The survey also include small and large investors, with 14% of the survey respondents having an AuM over EUR 500bn and 7% with AuM below EUR 1bn.

Exhibit 35: Total volume of GSS bonds and securitised products issued over the last 5 years? (in mn EUR)



In addition to the surveys, we would like to thank the Luxembourg Green Exchange which has provided us with very insightful data from its proprietary database on the use of proceeds, SDGs alignment and other characteristics of the GSS bonds issued in Europe.

Key Contacts

PwC Luxembourg

Olivier Carré
Financial Services Market Leader & Sustainability Sponsor,
PwC Luxembourg
+352 49 48 48 4174
olivier.carre@pwc.com

Giuseppe Corsini
Partner, PwC Luxembourg
Tel: +352 49 48 48 4957
giuseppe.corsini@pwc.com

Markus Zenz
Partner, PwC Luxembourg
+352 49 48 48 2647
markus.zenz@pwc.com

Strategy&

Andrew McDowell
Partner, Strategy& Luxembourg
+352 49 48 48 2034
andrew.mcdowell@pwc.com

Robert Bischof
Partner, Strategy& Germany
+49 89 54525 557
robert.bischof@pwc.com

Dr Sebastian Marek
Director, Strategy& Germany
+49 711 34226 975
sebastian.marek@pwc.com

Research Contact

Dariush Yazdani
Global AWM Market Research Centre Leader,
PwC Luxembourg
dariush.yazdani@pwc.com
+352 49 48 48 2191

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