BSAMC

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SBL: A NEW FINANCIAL INSTRUMENT IN ESG INVESTMENTS

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1. Introduction to Financing Products

Sustainable debt refers to the issuing of bonds or loans to invest in projects or businesses that support social and environmental causes. However, the definition has become increasingly challenging to frame due to the evolving market's scope and complexity.

Focusing on the bond market, there are four principal types of sustainable debt:

- **Green bonds**: proceeds are used to exclusively fund projects that have a positive environmental impact.
- **Social bonds**: proceeds are used to exclusively fund projects with positive social outcomes.
- **Sustainability bonds**: proceeds are used to finance a mix of green and social projects.
- **Sustainability–linked bonds**: a performance-based instrument in which the financial or structural characteristics (e.g., coupon rate) are adjusted based on the achievement of pre-determined sustainability targets.

The labelled bonds require mandatory certification process and typically adhere to recognized standards; most issuers prefer their bond products to be labelled before issuing.

The labelling process can be divided into four steps. Firstly, a bond standard organization (BSO), such as ICMA or CBI, defines guidelines outlining the **characteristics required** for a specific sustainable bond. After that we have the **pre-issuance certification**, where an external verifier provides second party opinion or assurances (accounting and audit firms) and undertakes procedures to assess the alignment with the standards. If a bond is deemed eligible, the BSO lists it in their database alongside similar bonds. Finally, there is the **post-issuance stage**: once the bond has been issued and the proceeds paid out, the verifier will check if the funds have been correctly distributed. In addition, the issuer will also need to publish, as part of the annual report, a section in the **sustainability report** confirming that the funds are still correctly allocated.

The International Capital Market Association is one of the most accepted BSO providing principles, that have become the leading framework globally for issuance of sustainable bonds.

Specifically, each bond has its own set of principles, which are four in total: green bond principles (GBP), social bond principles (SBP), sustainability bond guidelines (SBG) and sustainability–linked Bond principles (SLBP).
For green, social and sustainability (GSS) bonds, the four core components of ICMA bonds principles are:

1. **Use of proceeds**: GSS must have 100% of the proceeds dedicated towards Green and Social project and the issuer is required to identify the set of green and social sustainable categories or list of projects and assets to be financed by the proceeds from the bond issuance.
2. **Process for project evaluation and selection**: the issuer of a GSS bond should clearly communicate to investors: the environmental-social-sustainability objectives of the projects, the process by which the issuer determines how the projects fit within the eligible project categories, and information on the processes by which the issuer identifies and manages perceived social and environmental risks associated with the relevant project(s).
3. **Management of proceeds**: funds raised should be applied to green or social projects as soon as possible and the issuer should make known to investors the intended types of temporary placement for the balance of unallocated net proceeds.
4. **Report**: issuers should make, and keep, readily available, up-to-date information on the use of proceeds, to be renewed annually until full allocation and on a timely basis in case of material developments.

The governance framework for the principles, focus on three key areas:

- updates to the principles.
- oversight of the Principles Secretariat.
- other governance-related matters.

It comprises four components: members, observers, executive committee, and steering committee, each with distinct roles and responsibilities.

The principles are revised through a process led by the secretariat, involving the collection of input from members and observers and the drafting of updates by the EC. Each revised set of the principles will be identified by the year

of issuance and will remain valid until replaced by a newer version approved by the EC. Additionally, the EC has the authority to issue supplementary guidance documents and strives to ensure that the principles are consistent and harmonized within a unified framework and procedure.

2. Agenda 2030

Sustainable bonds have gained ground in the government and corporate bond market in recent years through also the widespread of Sustainable development goals across a broad market base, including investors.

Sustainable Development goals are a collection of 17 interlinked global goals designed in 2015 by the United Nations general assembly. The SDG are included in an UN-GA resolution (Agenda 2030) and are intended to be achieved by the year 2030 by all the UN member country.

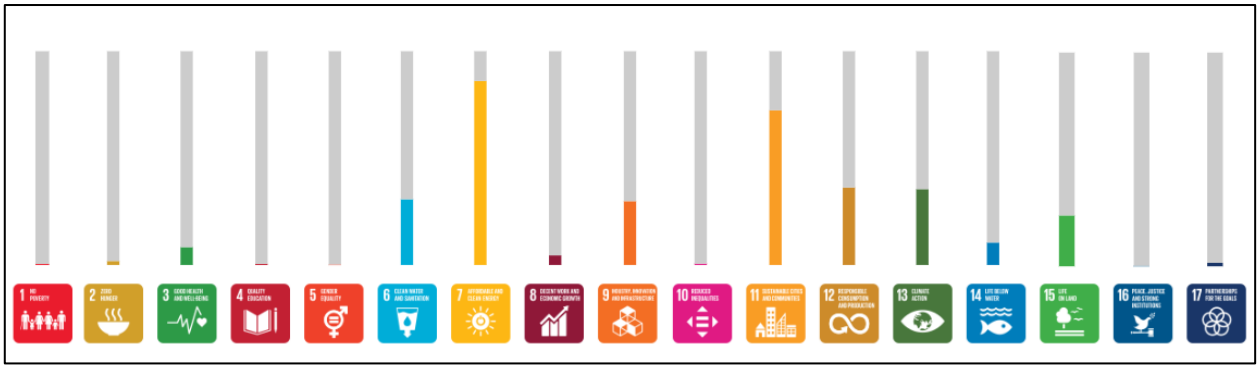
The **17 goals** are:

1. **End poverty** in all its forms everywhere
2. **End hunger**, achieve food security and improved nutrition, and promote sustainable agriculture.
3. Ensure **healthy lives** and promote well-being for all at all ages.
4. Ensure inclusive and equitable quality **education** and promote lifelong learning opportunities for all.
5. Achieve **gender equality** and empower all women and girls.
6. Ensure availability and sustainable management of **water** and sanitation for all.
7. Ensure access to affordable, reliable, sustainable, and modern **energy** for all.
8. Promote sustained, inclusive, and sustainable **economic growth**, full and productive employment, and decent work for all.
9. Build resilient **infrastructure**, promote inclusive and sustainable industrialization, and foster innovation.
10. Reduce **income inequality** within and among countries.
11. Make **cities and human settlements** inclusive, safe, resilient, and sustainable.
12. Ensure sustainable **consumption** and production patterns.
13. Take urgent action to combat **climate change** and its impacts by regulating emissions and promoting developments in renewable energy.
14. Conserve and sustainably use the **oceans, seas, and marine resources** for sustainable development.
15. Protect, restore, and promote sustainable use of **terrestrial ecosystems**, sustainably manage forests, combat desertification, and halt and reverse land degradation, and halt biodiversity loss.
16. Promote **peaceful and inclusive societies** for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels.
17. Strengthen the means of implementation and revitalize the global partnership for **sustainable development**.

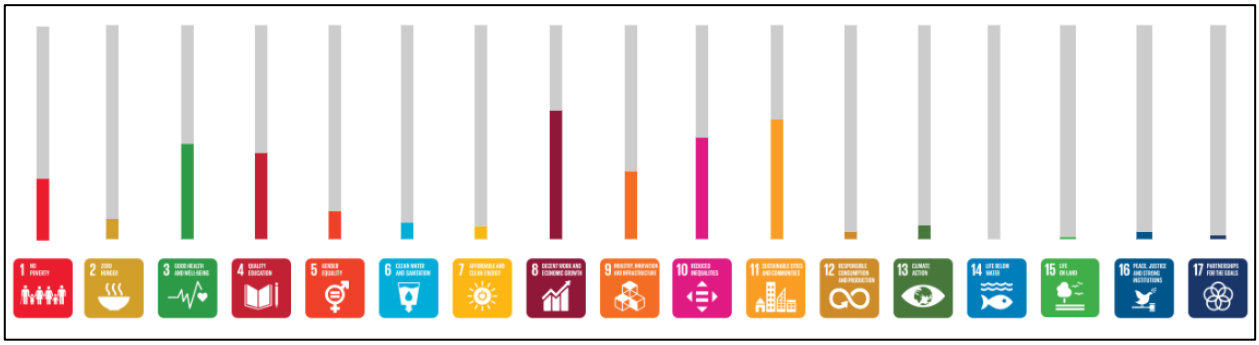
The progress that each country is making toward achieving the SDGs can be monitored online by accessing the Sustainable Development Report (SDR). The SDR sets standards not only for emerging and developing countries but also for the industrialized nations. Each country is graded against the 17 sustainable goal dimensions, progress is tracked, and gaps are identified that must be closed in order to achieve the SDGs by 2030.

LuxSE (Luxembourg Stock Exchange) has mapped the contribution of each financial sustainable instrument to the goals of Agenda 2030:

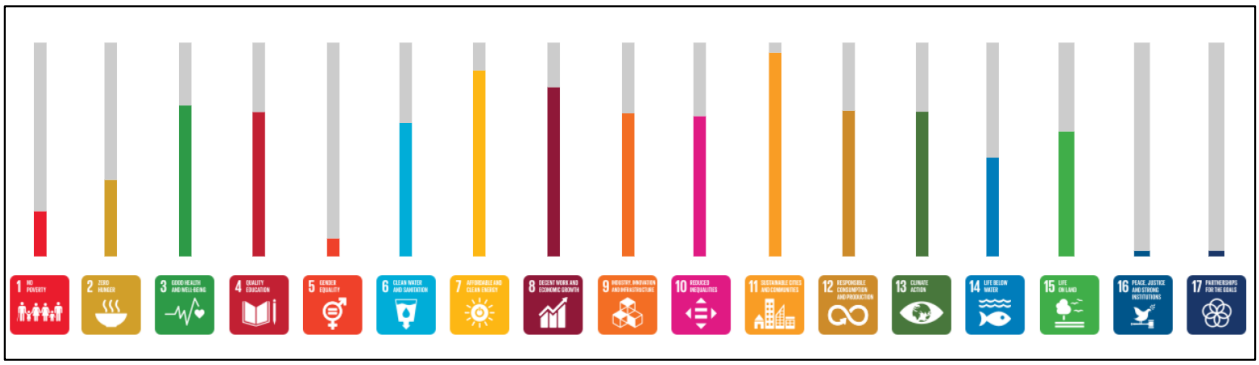
- **Green bonds** are focused on goal number 7 about sustainable and modern energy and goal number 11 about sustainable cities and communities.
- **Social bonds** contribute to more goals than green bond and mostly cover goal 8 on decent work and economic growth and goal 11.
- **Sustainability bonds** are more efficient and take into account almost all the goals of Agenda 2030.



Green Bonds; Source: ICMA group



Social Bonds; Source: ICMA group



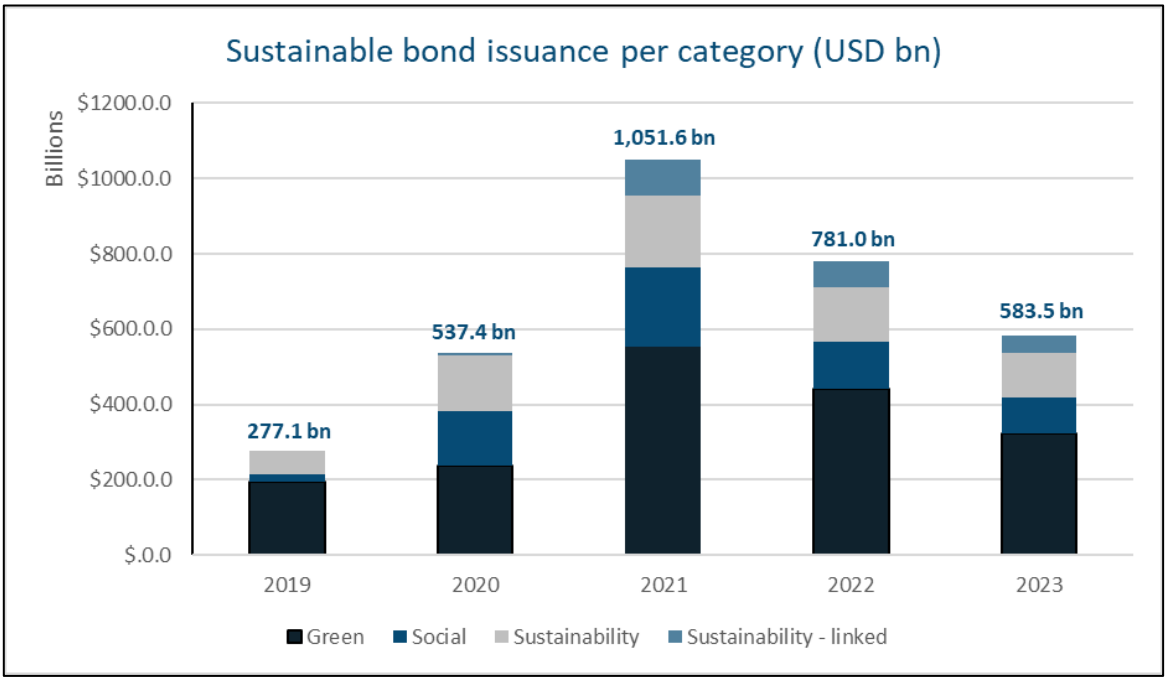
Sustainability Bonds; Source: ICMA group

3. Issues of sustainability certificates (2019-2023)

As displayed in the following representation since 2021 the sustainable bond market has gone always forward, reaching a total issuance of more than **1000 billion**. The most issued bond is the green bond, covering more than half of the total emission of sustainable bond. The most interested region is Europe but in the last years, Asia has increased its issuing of sustainable bonds, coming to have a portion of **22.6%.**

However, in 2022, as the general bond market, it saw **a decline** in new issuance of about **26%**. The decline of Bond Market was caused by the inverse relation between bonds and interest-rates. In fact, Macroeconomics' data are fundamental to understanding the trend of bond's market. The European Central Bank and Federal Reserve have been forced to intervene in response to high inflation rates. During 2022 high inflations rates brought Federal Reserve and ECB to a succession of Restrictive open market operation, rising interest rates. Their focus shifted from supporting markets to trying to fight inflation and bond markets reacted badly.

Total issues of sustainability are expected to be achieved in 2023 at least the 2022's value, that depends on ECB and FED's next policies.



Note: data updated weekly
Data Source: ICMA group (Not including issuance in China's and Russia domestic market)

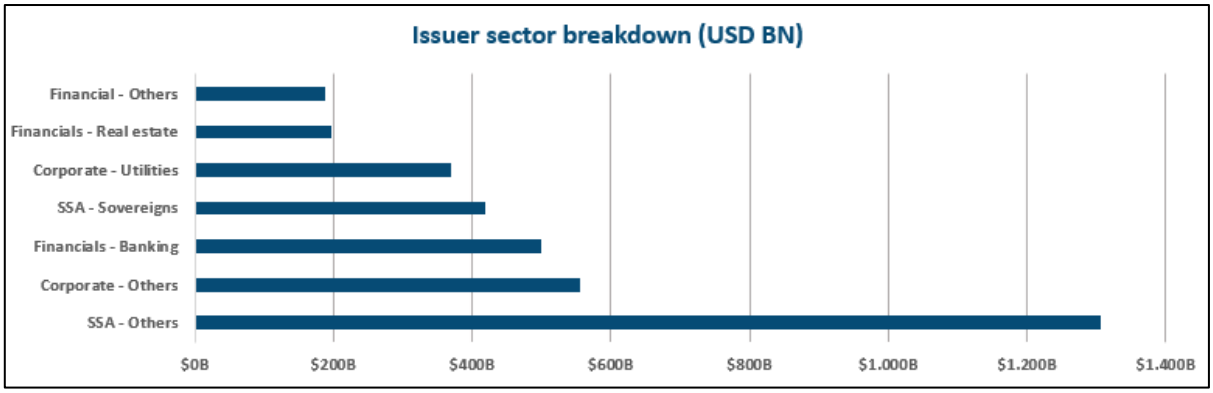
3.1. Principal Issuers

Top 5 issuers all sustainable bond types combined

Issuer name	Amount issued (USD bn)	Issuer sector
INTERNATIONAL BANK FOR RECONSTRUCTION AND D...	270.9bn	SSA - Supranationals
EUROPEAN UNION	164.9bn	SSA - Supranationals
CAISSE D'AMORTISSEMENT DE LA DETTE SOCIALE	134.1bn	SSA - Agencies
EUROPEAN INVESTMENT BANK	82.6bn	SSA - Supranationals
FRENCH REPUBLIC GOVERNMENT BOND OAT	64.4bn	SSA - Sovereigns

Source: ICMA group (Not including issuance in China's and Russia domestic market)

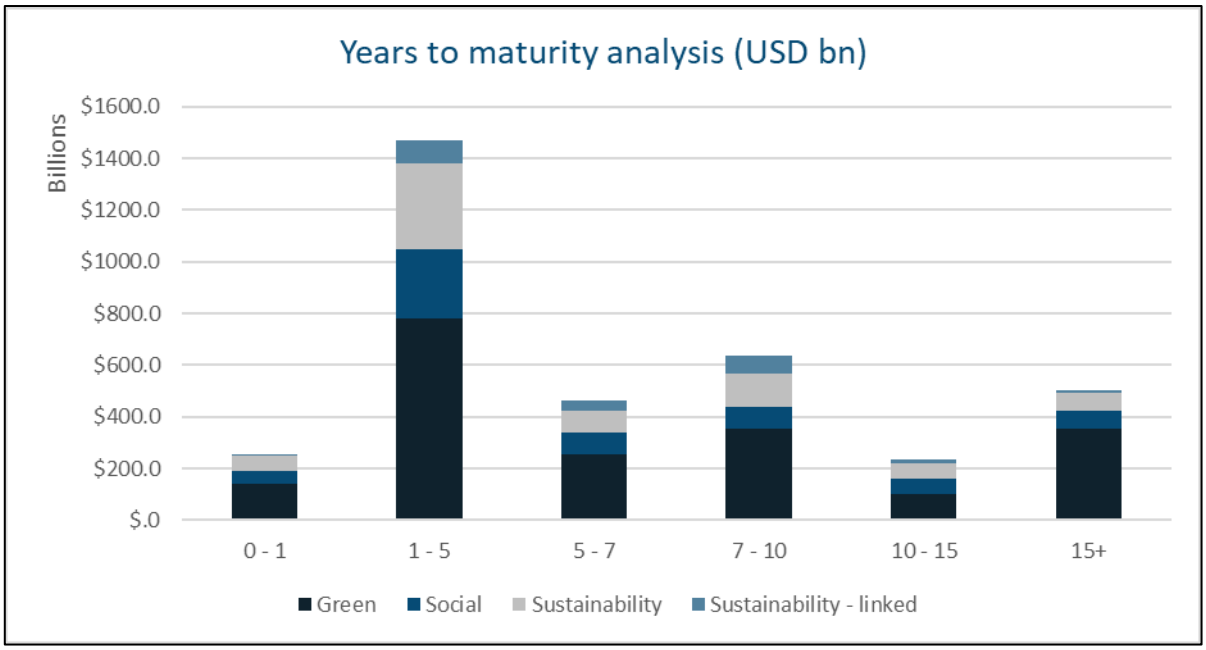
More in general, regarding the Issuer sector breakdown, it's evident that the market is dominated by **sovereign** (French Republic Government Bond OAT) **supranational** and **agency entities** such as Investment banks and European union, which account for almost a half of all time sustainable bond issuance. The graphic below represents proportions clearly:



Source: ICMA group

3.2. Focus on maturity of different sustainability bonds

The graphic below shows the distribution of issued bond among different maturities.



Source: ICMA group

We can see that the most of issued bonds have a maturity between 1 and 5 years. We could try to explain this result:

- **Alignment with short-term objectives:** Many short-term sustainability projects, including those related to energy efficiency, renewable energy, enhancements in green infrastructure, and recycling initiatives, often necessitate short-term funding. Issuers can align the duration of bonds, typically ranging from 1 to 5 years, with the project's timeframe, enabling them to finance these endeavours and repay the capital within a shorter time frame.
- **Meeting investor preferences**: Investors interested in sustainable bonds frequently prioritize liquidity and swift returns on their investments. Bonds with maturities spanning 1 to 5 years cater to this demand by offering a shorter repayment period, making them particularly appealing to individuals seeking more immediate returns on their investments.
- **Risk management**: The issuance of shorter-term bonds helps mitigate issuers' exposure to long-term interest rate fluctuations. This approach also grants increased flexibility, allowing issuers to capitalize on current lower interest rates and refinance their commitments more expediently, thereby reducing the potential risks associated with interest rate variations.

- **Adaptability in funding short-term projects:** Shorter maturities of bonds enable issuing entities to respond more nimbly to shifting financing needs for short-term projects. They can swiftly issue new bonds to fund subsequent initiatives without the need to await the maturity of long-term bonds.

Hence, the issuance of sustainable bonds with maturities ranging **from 1 to 5 years** is strategically aligned with the funding requirements of short-term projects, fulfils the expectations of investors seeking rapid returns, and serves as a risk management approach against long-term interest rate fluctuations. It's worth noting that issuances of sustainable bonds with extended maturities are also practiced, contingent on the specific demands of issuers and the nature of sustainability projects.

4. Sustainable stock exchange initiative

The Sustainable Stock exchange initiative is a global platform for exploring how exchanges can enhance corporate transparency on ESG encouraging sustainable investing. It is a United Nations initiative focusing on specific SDG covered by Agenda 2030 (5, 8, 10, 12, 13, 17).

Once stock exchanges are designated as SSE initiative "Partner Exchanges", they assume a significant role within the SSE Consultative Group. Regular quarterly meetings of the Consultative Group serve as a forum for Partner Exchanges to provide updates on their ongoing or potential sustainability-related initiatives. Importantly, these meetings also extend invitations to investors, regulators, and companies, fostering broader participation and collaborative dialogue.

The SSE initiative further strengthens its commitment to sustainability through the biennial Global Dialogue, an exclusive gathering that brings together senior representatives from stock exchanges, regulators, investors, and companies.
In this setting, participants share best practices and valuable lessons learned in promoting sustainable markets. To ensure high-level engagement, it is expected that the CEO or another top-level representative of Partner Exchanges will participate in these invite-only conferences.

The release of the “SSE Report on Progress” is closely linked to these Global Dialogues, as it is published concurrently. This report serves as a comprehensive tool for assessing the progress made by the stock exchanges in improving ESG (Environmental, Social, and Governance), disclosure and performance among listed companies. Additionally, the report emphasizes policy developments that support the SSE initiative's goals while highlighting the challenges and opportunities that lie ahead.

To promote transparency and communication with stakeholders, all exchanges affiliated with the World Federation of Exchanges are required to document their efforts in fostering sustainable markets. This documentation includes updating their 'Fact Sheets' at least once a year, which are then made accessible on the SSE website. This practice enhances communication with stakeholders and effectively demonstrates the initiatives undertaken by stock exchanges to advance sustainability within their respective markets.

5. Sustainability linked bonds

In recent years, the world of finance has witnessed a remarkable transformation and sustainability took center stage in investment strategies. Sustainable finance instruments, such as Green Bonds and Social Bonds, have gained considerable attention for their contribution to addressing global environmental and social challenges. Within this dynamic landscape, in 2019, Sustainable Linked Bonds (SLBs) emerged as forward-looking, performance-based instruments, further cementing the integration of sustainability into the world of investments. SLBs are the most novel type of instrument, they have increased rapidly, especially among corporate market. They are a type of bond where the funds generated from the issuance are not specifically dedicated to green or social projects, in contrast to "use of proceeds" bonds. Indeed, the proceeds from SLBs can be utilized for general corporate purposes or any other purpose as needed.

For Sustainability-Linked bonds the five core components defined by ICMA are:

1. **Selection of Key performance indicators (KPIs)**: all KPIs should be consistent with the issuer's strategy and reference a core, significant and relevant business activity, for which the outcomes are under the control of the issuer. This allows investors to evaluate the issuer's historical performance against the KPIs selected.
2. **Calibration of Sustainability Performance Targets (SPTs)**: the process for calibration of one or more SPT(s) per KPI is key to the structuring of SLBs since it will be the expression of the level of ambition the issuer is ready to commit to.
3. **Bond characteristics**: bond structure evolves based on SPTs achievements. In practical terms, the SLB must include the financial and structural impact associated with one or more trigger events. The potential variation of the coupon rate is the most common example, with an increase in the interest rate in case sustainability goals are not met (and vice versa).
4. **Reporting**: issuers are required to regularly publish comprehensive information, at least annually, covering the performance of selected KPIs, a verification assurance report on SPT achievement and its impact on bond characteristics, and data enabling investors to gauge the ambition of the SPTs.
5. **Verification**: ongoing checks (at least annually) on the performance level concerning each SPT for every considered KPI are necessary throughout the life of the bond. These verifications should be conducted by a qualified external reviewer, such as an environmental consultant or a rating agency, and ideally, they should be publicly available. As long as funding is directed towards achieving the issuer's KPIs and SPTs, SLB issuers are offered more flexibility in their allocation.

While other ESG bonds focus on how capital raised will be used, SLBs as they link a key term of the transaction to SPTs, they overcome this challenge. This opens the market for ESG tools to issuers with lower levels of sustainability spending requirements. This is especially helpful for firms at the beginning of their sustainability transition. SLBs capture a broader issuer base encouraging and allowing, issuers who operate in any space, to pursue capital raising tied to their sustainability agenda.

In contrast to other sustainable instruments, SLBs have a more complex structure, given the presence of certain clauses that affect the coupon or redemption. Indeed, there are different financial incentives to encourage issuers to meet specific sustainability targets. These incentives can be categorized as follows:

- **Coupon Step-Up Penalty**: if the issuer fails to achieve predetermined sustainability targets by the target observation date, they must pay a penalty, usually expressed in basis points, which increases subsequent interest payments.
- **Coupon Step-Down Incentive**: on the flip side, if the issuer successfully meets their sustainability targets, subsequent interest payments may be reduced by a predetermined amount, typically quoted in basis points.
- **Redemption Premium**: should the issuer fall short of sustainability goals by the target observation date, they are required to pay a premium on the redemption price at the time of bond redemption, usually stated as a percentage.
- **Donation**: if the issuer fails to achieve their sustainability objectives, a percentage of the bond's issuance amount is donated to a foundation or organization of their choice.
- **Early Redemption**: in case the issuer does not meet their sustainability targets by the specified date, the bond may be redeemed early at a predetermined redemption price.

- **Carbon Offsets**: to compensate for sustainability shortcomings, the issuer might be obliged to purchase carbon offsets equivalent to a predetermined percentage of the total bond principal amount.

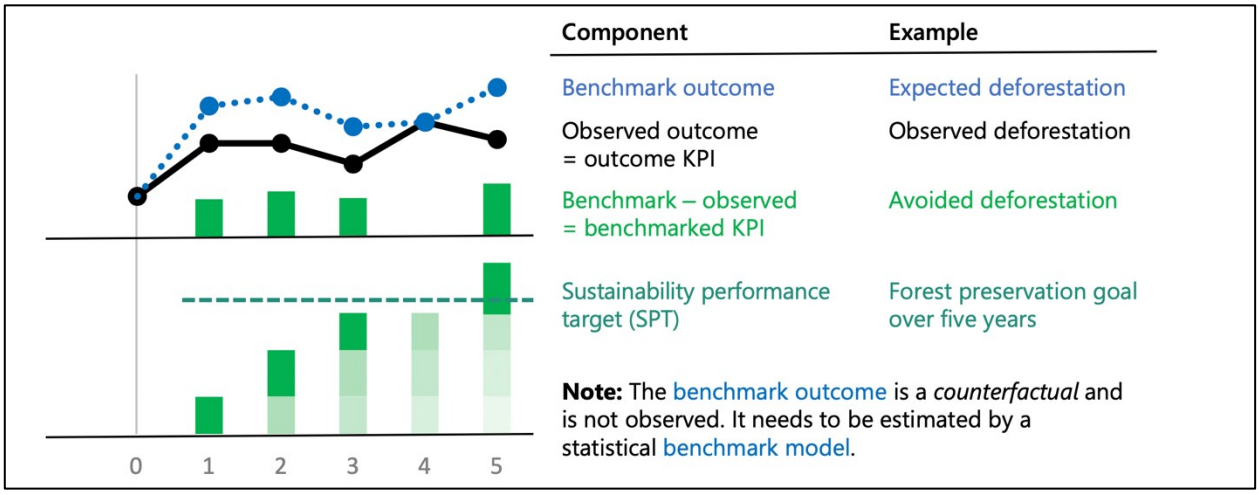
In essence, the financial incentives embedded in Sustainable Linked Bonds (SLBs) ensure that issuers have a vested interest in achieving the Sustainability Performance Targets (SPTs), which represents a significant advantage. This creates a situation where SLBs offer a third compelling benefit: they empower issuers to adjust and experiment with policy measures over the course of the bond's lifetime. From an economic theory perspective, the SLB structure elegantly addresses the challenge of incomplete contracts. Since it's impractical to fully specify how issuers should act in all future scenarios to meet the targets, economic theory suggests that as long as issuers have aligned incentives with the SPT, delegating decision-making power to them can still lead to target attainment. This delegation of authority ensures that issuers can respond to changing circumstances and fine-tune policies to achieve the SPT without requiring predefined fund usage constraints.

5.1. Choosing the appropriate KPIs

The attractiveness of these financial instruments is strongly linked to how ambitious the chosen KPIs are. In this regard, Dieter Wang, Bryan Gurhy, Marek Hanusch, and Philipp Kollenda (World Bank consultants) suggest selecting KPIs based on relative targets.

They make a critical distinction between two types of KPIs: **outcome-based** and **benchmarked**.
Outcome-based KPIs solely gauge performance based on the final result achieved. In contrast, benchmarked KPIs assess performance concerning a benchmark model, allowing the separation of performance attributed to the issuer's actions from external, uncontrollable factors (exogenous part).

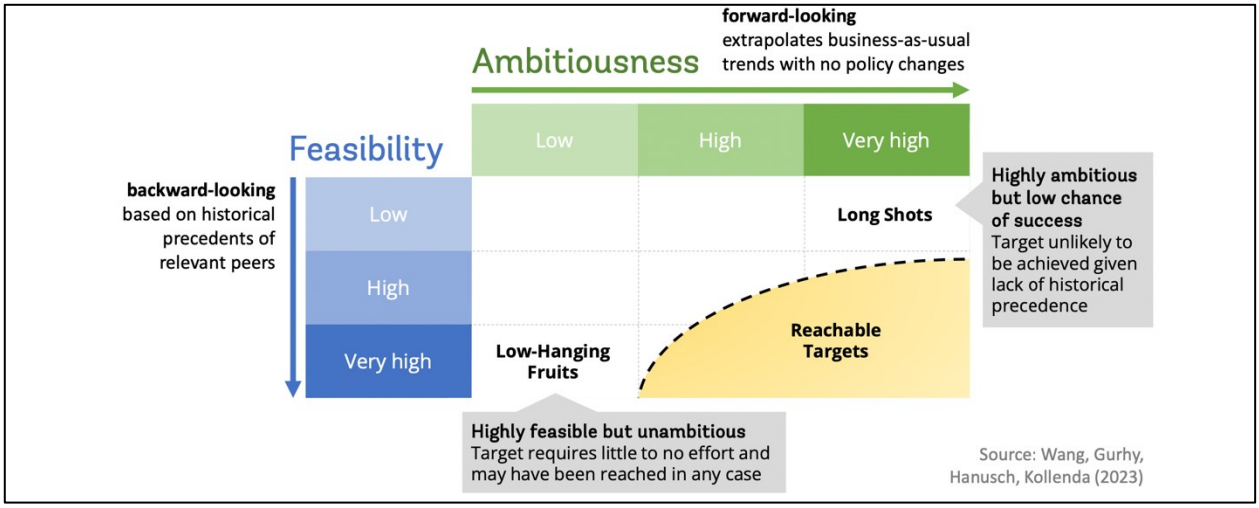
When SLBs adopt benchmarked KPIs, the sustainable performance targets (SPTs) are also defined in relative terms, comparing them to benchmarks. While this shift from absolute to relative targets might initially create some discomfort due to the simplicity of absolute SPTs, the authors argue that it is crucial for enhancing performance incentives and streamlining impact evaluation. Absolute targets, while straightforward, can potentially dilute motivation and hinder the accurate assessment of real impact, ultimately weakening the effectiveness and signaling impact of SLBs.



Source: Policy Research Working Paper 10558

The concept of benchmarking performance may not be common in sustainability finance, but the authors draw parallels with its widespread use in other areas of finance. They highlight that this proposed approach to benchmarking performance in SLBs shares conceptual similarities with factor attribution and empirical asset pricing. For example, financial performance in sectors such as investment funds is not evaluated solely in absolute terms but in relation to benchmarks. Good performance indeed means over-performing the benchmark (generating “alpha”), which is very similar to authors benchmarking approach. However, while portfolio managers are concerned with risk-adjusted returns, they are interested in additionality and measurable impact.

The World Bank consultants also emphasize how setting Sustainability Performance Targets (SPTs) in the context of Sustainable Linked Bonds (SLBs) involves striking a delicate balance between ambition and feasibility. It's crucial to define targets that are both challenging and attainable.
To simplify the assessment of SPTs, a Feasibility-Ambitiousness (FAB) matrix is employed. This matrix visualizes the relationship between feasibility and ambitiousness.



Source: Policy Research Working Paper 10558

From the image above we can distinguish between:

- **Low-hanging fruits**: unambitious targets set by issuers, which can lead to accusations of greenwashing. This occurs when the targets are easily attainable even without SLB financing, undermining the instrument's purpose and making it less appealing from a reputational and return prospective.
- **Long shots**: SPTs demand an unrealistically high level of improvement, the projects may be seen as unattainable and overly ambitious. Investors who purchase such SLBs face two types of reputational risks. The first risk arises from funding projects with unattainable targets which may never be realized, potentially tarnishing the reputation of investors who supported such ventures (Greenwashing allegations). This is compounded by a second factor: investors may need to justify benefiting from a step-up when the issuer fails to meet an unrealistic SPT, especially if it was apparent that the feasibility of the target was low.

The FAB Matrix not only highlights targets to avoid but also those to strive for, an ideal target is one that is both highly attainable and exceptionally ambitious. Financing linked to performance against these targets carries a strong potential for generating additional value, thus sending a powerful message to both issuers and investors.

5.2. Coupon step-up SLBs

Coupon step-up penalties are a significant aspect of SLBs and merit particular scrutiny due to their widespread use within the industry. Notably, a closer look at the penalty amounts for step-up coupons uncovers intriguing patterns. These penalties are consistently clustered at **25 bps**, which raises questions about the rationale behind this consistent clustering. The peculiar clustering at 25 bps lacks a clear explanation, and industry stakeholders have expressed concerns regarding this anomaly suggesting an arbitrary or non-systematic approach in determining penalty amounts.

From an investor's standpoint, determining the appropriate coupon step-up in SLBs involves a delicate balance between materiality and credit risk. On one hand, the step-up should be substantial enough to have a meaningful impact on sustainability goals. On the other hand, it should not impose excessive strain on a company's financial stability, potentially leading to increased credit risk. This balance is nuanced because the point at which a step-up becomes a credit risk trigger varies from one company to another.

Consider this: for highly rated investment-grade companies offering coupons of less than one percent, a 25-basis point increase can be significant compared to the base coupon. However, such firms are well-equipped to manage this small step-up relative to their cash flow. On the flip side, for high yield companies with higher coupons, a 25-basis point increase may seem relatively small. Still, it can have a more significant impact, particularly for smaller entities with credit challenges.
The financial significance of a 25-basis-point step-up depends on factors like the issuing company's cost of capital and credit strength. An investment-grade company missing a Sustainability Performance Target (SPT) may face negative publicity but no real financial risk. In contrast, a high yield company could encounter both financial and reputation risks.
There's a growing concern that the widespread acceptance of a 25-basis-point step-up as a standard could undermine investor confidence in the SLB market also because imposing an overly burdensome coupon step-up could potentially have a detrimental impact. It might not only hinder the achievement of sustainability objectives but could also lead to severe repercussions, including job losses, business closures, and a reduction in essential services.

Ideal scenario can be found at the intersection of two factors: a modest level of discomfort when missing the Sustainability Performance Target (SPT) and avoiding significant damage to credit fundamentals.

6. The Evolution of Sustainable Linked Bonds

SLBs' history begins in September 2019 when Italian utility company, Enel Spa, issued the first sustainability-linked bond, raising USD1.5 billion. Alongside other targets, Enel is set to increase installed energy capacity to at least 55%. The terms agree to Enel paying an annual penalty of 25 basis points on its coupon rate, if the target wasn't to be met.
The bonds issued at the time had the following structure:

- Senior unsecured instrument with a maturity of 5 years and a fixed interest rate of **2,650%** subject to a one-time adjustment (**+25bps**), upon the non-satisfaction of the Renewable Installed capacity condition (Step-up condition).
- Linked to SDG 7 (affordable and clean energy) setting the target to increase its renewable energy installed capacity to 55% of total capacity by the end of 2021 (From 45,9% on June 30, 2019). Such target was achieved by Enel S.p.A., avoiding an increase in the interest rate of 25 basis-points, that would have otherwise started from the first interest period immediately after the publication of the report by the external auditor.

The operation was structured as a single-tranche issue of 1,5 Billion US dollars. The issue was oversubscribed by almost three times, reaching a total order amount of nearly 4 billion US dollars with an issue price of **99,897%** and a YTM of **2,676%**
A syndicate of banks, including BofA Securities, Inc., BNP Paribas Securities Corp., Citigroup Global Markets Inc., Credit Agricole Securities (USA) Inc., Goldman Sachs & Co. LLC, J.P. Morgan Securities LLC, Morgan Stanley & Co., and Société Générale, came together to underwrite the financial operation. They formed a joint-bookrunner arrangement, pooling resources and sharing the associated risk. The operation received provisional credit ratings of BBB+ from Standard & Poor's and A- from Fitch, which were later confirmed as a definitive rating of Baa2 by Moody's.

However, Enel's second SLB issuance in 2021 was not as successful as the first. It is "highly unlikely" that Enel will achieve an end of 2023 carbon-emissions goal after changes to European energy policy resulted in the delayed phaseout of coal plants, as the Anthropocene Fixed Income Institute wrote in a report on 25th October 2023. Failure to meet the key performance indicator would release an estimated $27 million of additional annual interest costs for the Italian energy company, AFII said.

The first real structure for SLB was released shortly after on the 9th of June 2020: the International Capital Markets Association (ICMA) issued the Sustainability Linked Bond Principles. These principles offer guidance to issuers: structuring features, disclosure details, and reporting recommendations. The document was designed to bring credibility, transparency and progressive ambition to SLBs, to ultimately encourage a wave of new issuers. It has the scope of clarifying the parameters and mechanisms regarding SLB's issuance and outlining how ESG objectives can

be incorporated into such. The principles were effective in standardizing the SLB market as shortly after their release, in September 2020, the European Central Bank decided it would accept SLBs as collateral and would start buying such tools through its asset purchase programmes.

6.1. Sovereign Sustainability Linked Bonds

An important facet of Sustainability-Linked bonds, worth mentioning, is its application to sovereign finance as they are instruments that present unique opportunities in such area. Chile and Uruguay were the world's first issuers of sovereign SLBs but recently Development Bank of Rwanda (BRD) PLC joined the quest. The tool presents an opportunity to merge private and public capital to effectively achieve both public and private targets.
To provide background, we take under examination the Sovereign SLB's mentioned. In February 2022, Chile issued the world's first, consisting in US$2 billion worth of sustainability-linked notes at a **4.34%** coupon rate and due in 2042. The issuance was apparently oversubscribed by more than four times also generating a ''greenium'' (investor pays a higher price for a 'sustainable' instrument than a non-green equivalent obligation) of approximately **10 bps**. The two key performance indicators set are regarding "absolute greenhouse gas (GHG) emissions" and "non-conventional renewable energy," following Chile's Nationally Determined Contribution to the Paris Agreement. If both of the SPT's were not achieved, the bond's coupon would increase by **25 bps** (up to maturity date), and instead **12.5 bps** if one was however completed.
Instead, Uruguay's SLB issuance was of approximately US$1.5 billion due in 2034 and at a **5.75%** coupon rate. Like Chile, Uruguay's SPTs are calibrated in accordance with its NDC to the Paris Agreement. They contain reduction targets of GHG emissions (measured with CO2 equivalents per real GDP unit) alongside other targets in relation to the preservation of forest area. In Uruguay's case, both a step-up and step-down mechanism (**15 bps per KPI**) were put in place.
The strength of Sovereign SLBs stand in the ability to provide financial incentive for world governments to follow sustainability targets, whilst also providing capital for the development of the country. Thanks to the ESG dimension of the SLB, sovereign issuers can attract a greater pool of capital, which then subsequently reduces funding costs: more investors would be willing to invest into issuers which have a strong ESG performance. Additionally, the tool provides an opportunity for investors, such as insurance companies, sovereign, or pension funds, to hedge their environmental and social risks and eventually profit from projects linked to low-carbon markets.

Other instruments, aside from SLB's, also do allow such a hedge. However, classic green bonds for example don't have mechanisms ensuring investors that the investment in 'green' will actually occur. Additionally, unlike a green or social bond, SLBs enable sovereigns to use the bonds' issuance money freely. This provides a benefit specifically to smaller nations, who might not always have the possibility to allocate the bond solely to social projects. The tool offering flexibility makes it apt for such countries (and also corporates) lacking large-scale green projects to fund.

On the other hand, this represents a risk for investors who would prefer a use-of-proceeds approach. There is the risk of lack of ambition towards sustainability targets, low penalties and no use-of-proceeds. The longevity of these bonds implies that Sustainability Performance Targets set by one specific government will likely bind future governments to the same goals, but to what extent will the new government's SPTs' degree of ambition be the same? There is also large scrutiny regarding the selection of appropriate KPIs and meaningfulness the financial penalty in the coupon step-up case. Evaluating a corporate SPT's ambition level is already often difficult, even more for sovereign issuers for the lack of relevant precedents, peers and global standards. Many states will not even likely have historical data accessible that could provide a strong enough baseline which KPIs can be tested against.
Yet, as jurisdictions, including for example, Latin America, start releasing and implementing their sustainable taxonomies, ensuring transparency, the tool should become increasingly attractive even for sceptical investors. Sovereign SLB issuers could also address the mentioned challenges by connecting their SPTs to Nationally Determined Contributions (NDCs) under international agreements (like the Paris Agreement).

6.2. Examples of SLB Issuances

Stepping aside from Sovereign SLBs, to gain a deeper understanding of corporate cases, we take under observation an important corporate example: **H&M**. Issued in March 2021, it raised $500 million with an 8.5-year tenor by 2025 and is linked to three main Sustainability Performance Targets (SPTs):

1. The first is to increase the share of **recycled materials** to 30%.
2. Secondly, H&M aims to reduce all **GHG emissions** from operations, purchases of electricity and heat by 20% using the 2017 emissions as base level.
3. The third target is to **reduce emissions** from raw materials, fabric production, clothing manufacturing and transport by 10%.

Evidenced by its 7.6 times oversubscription, the SLB was of very strong investor appetite which also allowed for its yield to be cut in half. Its spread was indeed reduced by **50 bps** due to this high demand. The chosen KPIs are core to the strategy of the company and the chosen SPTs are aligned with the firm's sustainability strategy. The first SPT is considerably ambitious, both based on past performance and peers' targets. Using recycled materials in the fashion industry is yet to completely take-off, the H&M Group are pioneers in this field who face unprecedented challenges and will require the use of new technologies. The target not being matched by any other fashion producer of H&M Group's scale evidence the firm's commitment to sustainability and level of ambition. The other two targets are equally which regard carbon emission targets were both approved by the Science Based Target initiative in December 2019, again assuring an external reference to H&M's level of ambition. Overall, the group's Sustainability-Linked Bonds align with the Sustainability Linked Bonds Principles 2020, have KPIs which are relevant to the issuer and SPTs ambitious enough to be impactful.
Moreover, we can highlight among the various issuances:

Novartis SLB issued in September 2020 with a coupon step-up of **25 bps** which will be paid to investors commencing with the first interest payment date after 31 December 2025 in case Novartis fails to reach one or both of the group's 2025 Patient Access Targets: At least a 200% increase in patients reached in Low and Lower Middle Income Countries (LMCIs), increase by at least 50% the number of patients reached with Novartis' Flagship Programs in LMCIs

Chanel SLBs issued in September 2020: For 2031's SLB the sustainability targets included decreasing CHANEL's own absolute emissions by 50% by 2030 (from a 2018 base year), reducing its supply chain greenhouse gas emissions by 10% by 2030 (from a 2018 base year); for 2026's SLB the sustainability targets included shifting to 100% renewable electricity in the company's operations by 2025. If targets for renewable energy and emissions reduction respectively are not achieved by maturity, then the redemption amount increases **0.5** and **0.75 points** respectively.

Speaking of the most recent issuances, we highlight several significant developments in the Sustainability-Linked Bonds (SLB) market.
French mining company Eramet made history by being the first to issue a European high-yield Sustainability-Linked Bond (SLB) with a focus on governance. Their SLB was designed to address governance issues, specifically related to the decarbonization targets of its suppliers and customers.
Additionally, Teva Pharmaceuticals re-entered the market with new bonds maturing in 2029 and 2031, and these bonds incorporated social targets. These social targets were related to aspects such as product volumes and regulatory submissions, with a specific focus on low- and middle-income countries.

7. Data and outlook

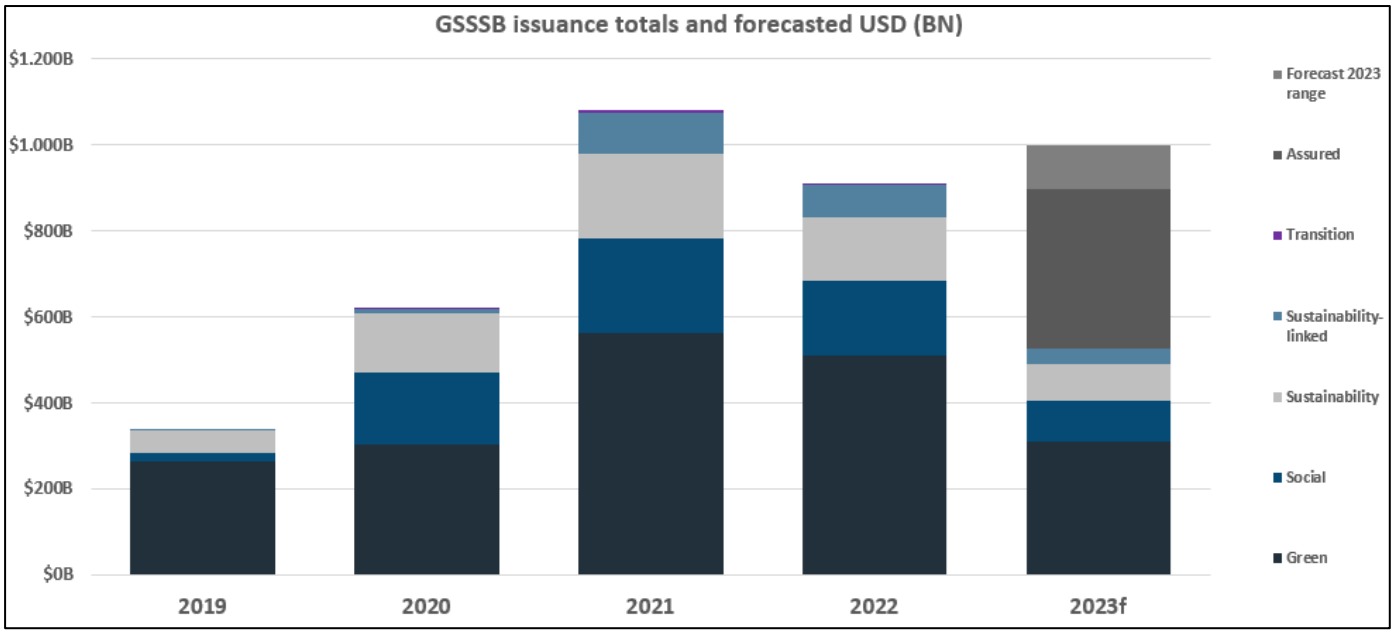
After having gained an understanding of SLBs, it is necessary to look at current numbers, forecasts and possible concerns which could have an impact on the analysis and evaluation of SLB tools.

In perspective, it is estimated that in 2023, the issuance of ESG bonds will amount to approximately **600 billion euros**, with the potential to exceed 2 trillion euros. This is due to the ongoing intensification of environmental ambitions by sovereign entities and corporations. According to the Climate Action Tracker, about 140 countries have announced or are considering net-zero emissions targets, covering nearly 90% of global greenhouse gas emissions.

This increased commitment is likely to push more countries and supranational entities to issue green bonds as an effective way to channel capital into climate-related projects. Additionally, India issues **160 billion rupees** in sovereign green bonds in the fiscal year ending in March 2023.
Companies are also increasingly committed to achieving net-zero goals. By the end of 2021, over 2,200 companies representing $38 trillion in market capitalization were pursuing credible and science-based emission reduction targets to align with the Paris Agreement. It is anticipated that corporate and sovereign entities in emerging markets will contribute to the growth of the ESG bond market denominated in US dollars. In 2015, ESG bonds represented only 1% of corporate bond emissions in emerging markets, but this share has now increased to **18%**.

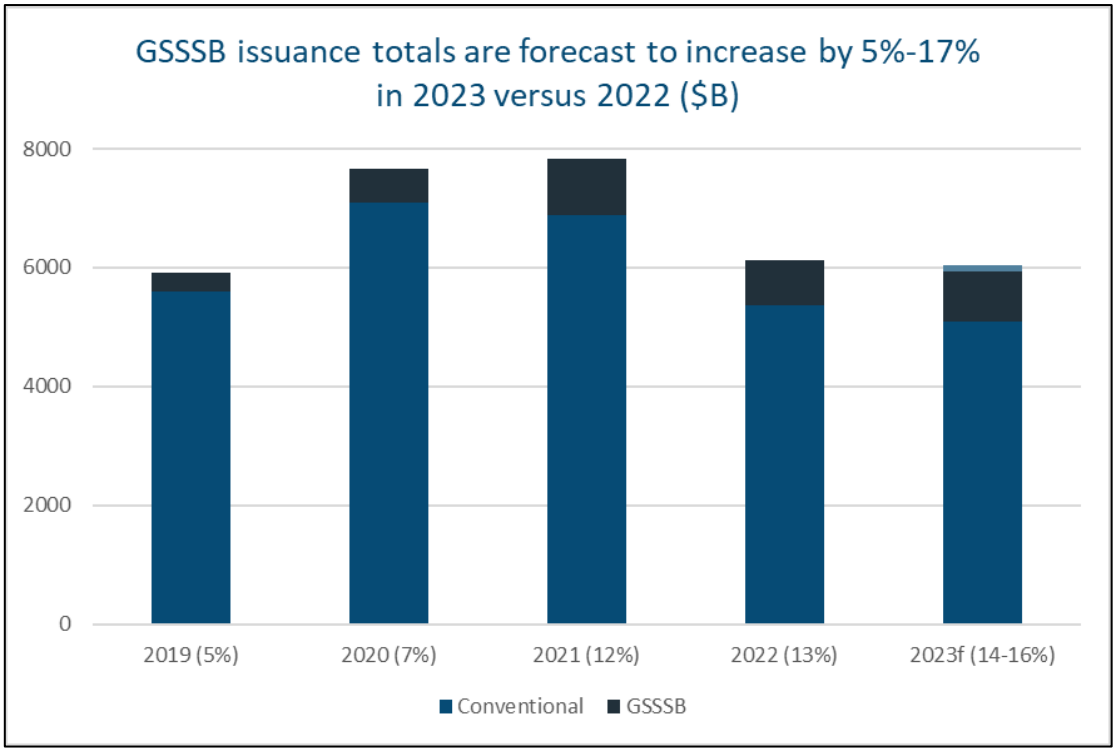
Investor demand will continue to drive the issuance of green bonds. While aggressive monetary tightening tested bond demand in 2022, the ESG fund segment, including dedicated green bond funds, showed relative resilience.
These funds saw a 3% increase in assets under management since the end of 2021, while non-ESG funds experienced a 3% decline. Furthermore, with companies from various sectors and sovereign entities in different regions issuing green bonds, investors will have more opportunities, further stimulating demand.

Lastly, the political landscape, including enhanced guidelines and standards, is expected to continue promoting the issuance and investment in sustainable bonds. China, in addition to tightening its green bond standards in 2022, has committed to developing more renewable energy as part of its 14th five-year plan. In the United States, President Joe Biden signed the Inflation Reduction Act in August, allocating approximately $386 billion for energy and climate spending over ten years, increasing tax incentives by around $265 billion compared to the previous fiscal year.
The transition to a global low-carbon economy is a complex challenge that will require coordinated efforts from governments, companies, investors, policymakers, and individuals. One of the fundamental challenges in the coming years will be to mobilize the substantial funds needed to invest in various aspects, from green infrastructure to cutting-edge technologies required to achieve net-zero emissions by 2050 and mitigate the course of climate change.
It is believed that the ongoing focus of bond issuers on climate mitigation and adaptation will create significant growth potential for green bonds, expanding opportunities for investors dedicated to advancing environmental progress through their bond allocations in the years to come.



Source: Environmental Finance Bond Database; S&P Global Ratings

Driving the growth of ESG investments is, firstly, the concern over the climate crisis, with the worry on behalf of investors, that consumer sentiment will eventually turn against non-environmentally responsible corporations.
Second to drive growth, is the changing attitude towards social concerns, like for example community investment, worker conditions and support for diversity and inclusion.



Excludes structured finance and sovereign issuance.
f = S&P Global Ratings forecast; GSSSB = green, social, sustainable, and sustainability-linked bonds.
Source: Environmental Finance Bond Database; S&P Global Ratings

Who are the issuers? Mainly non-financial corporates, financial services, US and international public finance sectors, and sovereign issuances. The second half of this year is again expected to witness increased demand, driven by key regions, focus on the energy transition, and supportive climate policies. GSSSBs are forecasted to increase by 5-17% and it is hence imperative that the financial and corporate sectors continue to join the efforts to accelerate the transition towards a net-zero world. The graphs below illustrate the mentioned movements by bond type.

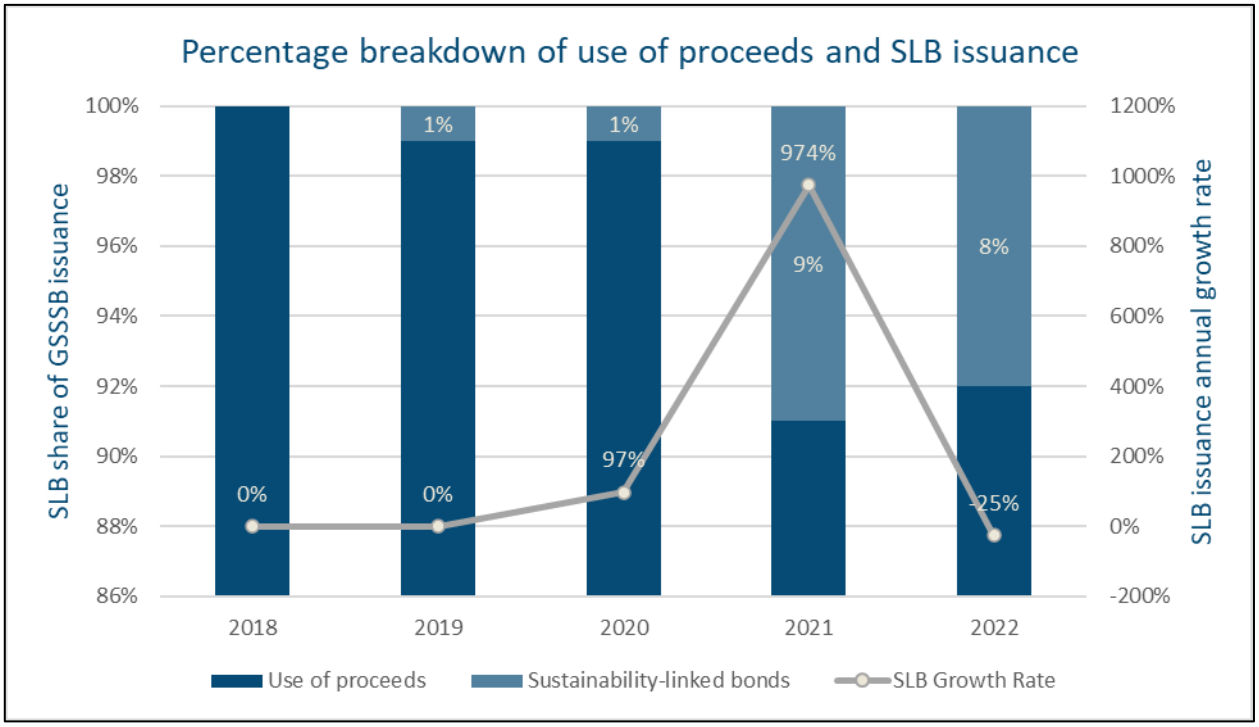
GSSSB Issuance breakdown by bond type:

(Bil. US$)	Green bond	Social bond	Sustainability bond	Sustainability-linked bond	Transition bond	Total
2019	262.5	18.79	52.8	4.24	1.05	**339.38**
2020	301.94	170.38	137.15	9.31	2.6	**621.38**
2021	560.99	220.05	198.58	96.2	4.26	**1,080.08**
2022	508.52	173.73	149.19	75.77	3.5	**910.71**
H1 2023	309.81	95.49	87.05	33.07	1.08	**526.5**

Note: Data excludes structured finance.
Source: Environmental Finance Bond Database; S&P Global Ratings

As for Sustainability-Linked Bonds, the prospective growth is less certain. In 2022, SLB issuance levels dropped significantly, by 25%. In 2023, another decline, in terms of percentage global sustainable bonds, SLBs dropped **from 9% to 7%.** The tool continues to lag other bond types and will unlikely reach 2021 peak levels this year. The 2023 issuances are estimated to be approximately **$33 billion**, representing 6% of all GSSSB issuance, down from the high of 9% in 2021. Most, 99% of SLB issuance this year, are from nonfinancial corporates. And the decline mentioned is in large part indeed due to difficult market conditions for nonfinancial corporates in the past years. Yet, increasing scrutiny from investors and policymakers, regarding SLB's credibility - if SLBs can truly aid companies in achieving meaningful sustainability targets - also contributed. There are lingering doubts amongst investors in regard to target credibility.

Sustainability-linked bonds share of GSSSB declines for first time in 2022:



Note: Excludes structured finance issuance
Source: Environmental Finance Bond Database; S&P Global Ratings

One of the questions about this instrument is if SLBs motivate issuers to set ambitious sustainability targets. These concerns have persisted as stakeholders have expressed doubts on if the structural and financial features associated with missing targets provide issuers a sufficient incentive to achieve them. Giving a more specific example, would be targets in relation to greenhouse gas emissions; these emissions are indirect and often originate in corporations value chains or possibly during the end-use of the goods and services produced. Instead, regarding the sovereign SLBs mentioned, it is in doubt whether they will take off more broadly. This is because of the credibility challenges the asset class faces. As SLBs have found favour primarily in emerging markets, interest in the instruments' sustainability features can greatly enlarge governments' access to capital markets, significantly more than if they issued conventional bonds.

8. Analysis and Evaluation of SLBs' Advantages and Disadvantages

Sustainability Linked Bonds hold various **Advantages** and **Strengths**, alongside other **Disadvantages** and **Challenges** which, based on how the tacking of such is faced, will determine the success or failure of the asset class.

8.1. Advantages

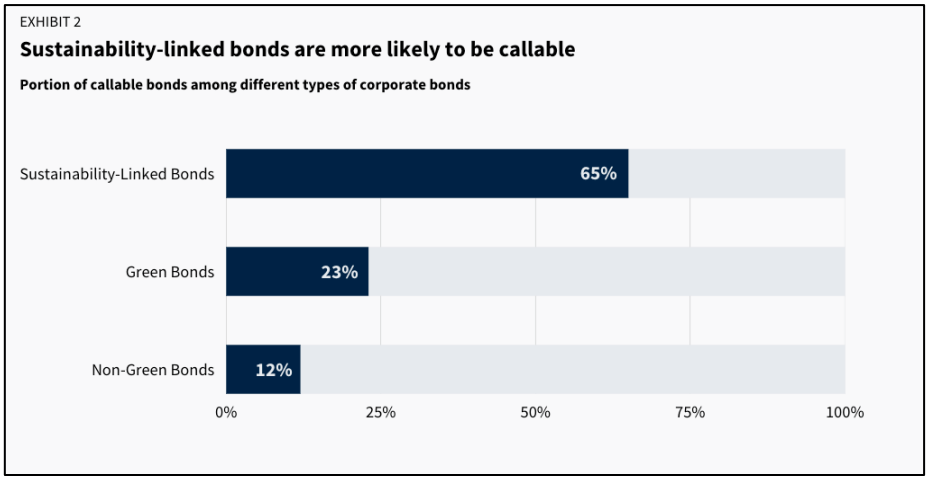
The major advantage of SLBs is incorporated in its flexibility in the use of the proceeds, allowing for versatile investment in sustainability, instead of project specific. There is a focus on outcomes, reaching the set SPTs, instead of the specific allocation of spending. This is aligned to international sustainability frameworks. It allows for broader coherent impact on ESG topics, instead of large significant impacts on a specific pointed area like other ESG bonds. The flexibility in allocating the proceeds to projects that would not coincide with the traditional "green" criteria, gives space to still relevant initiatives and projects that would have not been completed otherwise. SLBs motivates corporations to reduce negative externalities, improve their sustainability performance and set targets aligned with global benchmarks (especially the Paris Agreement on climate change).
The flexibility component of SLBs is a strength also in that it makes SLBs a well-suited tool for countries or corporations with limited large-scale green projects. As hinted at previously, it grants a larger quantity of issuers access to ESG-labelled bond markets. It gives the opportunity to countries with lower direct capital expenditures to make investments that would qualify as green expenses, not necessarily large project based specific investments. This factor benefits issuers alongside also society, increasing overall investments in ESG finance. Furthermore, using SLBs, can also benefit investors by providing the opportunity to diversify across various parameters like geography, bond maturity, industry, or bond rating.
So, the flexibility involved with the issuer defining its own environmental goals, also then allows a broader pool of issuers to access sustainable finance markets, surpassing the limitations of use-of-proceeds bonds like green and social bonds. And without the limitation of having to invest the bond proceeds exclusively in a "green" recognized project, SLB issuers may use the proceeds in order to finance initiatives not otherwise recognized as "green" but which can nonetheless hold a positive impact in more subtle areas. The tool attracting a broader issuer base effectively enables a more consistent, inclusive, and seamless sustainability transition.
Indeed, were it not for SLBs, many initiatives, and changes in organisational cultures and processes would never have been actually financed. You cannot say the same about other ESG financial tools. When using Green Bonds for example, it is debatable whether investments in "green" projects truly do have an impact. Multiple green projects which were financed by green bonds would have likely occurred either way, even if green bonds were never issued. They would have likely been implemented for being part of the corporation's core business activity, strategy, or profit-maximising opportunity. A project like such could have been financed by a "standard" bond issue. However, you could say the same in relation to SLB targets: would they have been met and achieved either way, without the issuance of the SLB? This is where the challenge of assessing firms' ambition comes into play. This leads to the next section, SLB's disadvantages.

8.2. Disadvantages

Sustainable Linked Bonds, though their strengths, are not without their share of criticisms and weaknesses. The innovative financial tool has its own set of challenges and drawbacks that warrant careful consideration by investors and issuers alike.
Following the last point, it is when looking at the effectiveness of Sustainable Linked Bonds and measuring sustainability outcomes, that challenges arise. Due to the relatively new nature of the financial tool, there is a lack of historical data to assess their long-term performance. The lack of historical data forms an obstacle for investors who try gauge these future bonds' performance, and importantly whether they will contribute to sustainable development.
SLB's require issuers to define and measure sustainability indicators. Yet, in some cases, to what extent can these indicators be manipulated, are they always relevant to the ESG impact? There is ambiguity about the selection, calibration and efficacy of KPIs and SPTs. If, for example, targets are too specific to individual corporation, it is difficult for investors to benchmark results to progress, wider environmental goals and industry standards. A further issue is how then would the step-up provision be enacted? This can lead to issuers' opportunistic selection of targets,

focusing on specific aspects of operations rather than the overall effect of activities, hence without measuring the true impact on ESG components.
As an example, we can take under analysis an Indonesian agro-food business, Japfa, which issued SLBs in the amount of **US$350M** with a five-year term in March 2021.
After the issue, Japfa said to install wastewater equipment at its slaughterhouses before December 23, 2024. The SPTs were calibrated in accordance with the number of slaughterhouses and hatcheries with specific equipment. Instead, the KPI used was measured on annual measure of cubic meters of wastewater. Hence, Japfa could be able to reach its SPTs without however any actual reduction in the volume of wastewater. It only has to install wastewater treatment equipment without a reduction in discharged wastewater. Furthermore, such SPT is not coherent to its sustainable development strategy: in Japfa's 2019 report on corporate responsibility, treatment of wastewater was not a priority. Such SLB is not in accordance with the five principles and portrays the risks of such financial tool. The ICMA states that "SPTs should be ambitious [and] represent a material improvement in the respective KPIs and be beyond a "Business as Usual" trajectory [and] where possible be compared to a benchmark or an external reference [and] be consistent with the issuer's overall strategic sustainability/ESG strategy", very unlike the Japfa example previously analysed.
If the targets set by issuers are incoherent, with improper structure or not sufficiently ambitious, this is detrimental also to the issuer itself, which could be accused of **greenwashing**. This damages both the firm's reputation, the credibility of the SLB market as well as the effectiveness of SLBs in incentivizing sustainability improvements. It is difficult to limit or have oversight over such mechanisms due to the risk of the introduction of regulation (like the EU Sustainable Finance Taxonomy) compromising the flexibility of SLBs and going against the released market principles.

A second major disadvantage of SLBs is the possible built-in **loopholes** in bond structure. The regulatory landscape for Sustainable Linked Bonds is still evolving and hence also its structure is yet imperfect, not providing the potential of benefits. There are a variety of built-in loopholes, four main ones, which allow issuers to benefit from lower capital costs, without however a corresponding improvement in ESG performance. Three which are often implemented by firms are: the setting of low penalties; the minimizing the impact of penalties by pushing target dates closer to the maturity date; and the likely calling of an SLB before maturity to completely avoid or at least minimize the penalty.
Another possible fault is the possible inclusion of escape clauses which could allow firms to exclude exceptional events from KPI assessment and hence from sustainability targets. For example, an issuer could acquire assets in the coal sector using SLB proceeds, and those assets which by virtue of an escape clause are not considered in the calculation of KPIs. The investor would not be able to profit from the increase in the coupon rate despite the fossil fuel-related assets, only because of the mentioned clause. All these loopholes weaken the accountability of issuers and can affect the image of SLBs in the eyes of investors. Even without considering the loopholes in the bond structure itself, the mechanism that issuers are not obliged to meet their target on a rolling basis may strongly undermine the SLBs. Once an issuing company does meet its SPT, it is free to invest as it chooses, hence potentially reverting back to its old non-sustainable practices or even undoing all previous efforts and impacts.



Source: Figures on corporate non-green callable bonds from Dias (2021)

Moving forward from loopholes and more structural elements, another possible risk of SLBs is more internal: the delay in the **disclosure** of KPI-related information on behalf of issuers until late in the bonds' tenure. Issuers would be able to gain from the better financing conditions, yet without improving their sustainability performance. ICMA indeed states that issuers should release regularly, at least once a year, up-to-date information on the selected KPIs' performance against the SPTs. Issuers not adhering to this annual disclosure timetable allow them to obtain and benefit from better financing for a lengthy period before maturity. This hence excludes the possibility of a more committed issuer deploying its efforts in transforming its activities for a sustainable cause. A change in the early redemption mechanism should be implemented to avoid this fault. This would be to measure and assess KPIs performance against SPTs beforehand and then, on the early redemption date, implement the adjusted coupon rate on issuers if they fail to meet the SPT.

Unambitious targets, loopholes and illicit disclosures of information set the scene for both **exploitative issuers** and potentially **predatory investors** only making the SLB space a more volatile one. These depend largely on the terms of the increase in coupon rate which must be proportional and carefully taken under consideration to both provide issuers incentives to meet their targets and avoid attracting predatory investors.
In a low-interest-rate environment, an increase of 25 basis points in the coupon rate will possibly not be an incentive strong enough for issuers to meet their SPTs. The ICMA indeed recommends that the variation of the structural features be commensurate and meaningful in relation to the bonds' original characteristics. The 25-basis points variation which appears to be the norm today only represents merely **5% to 10% of the initial coupon rate**. This may not incentivize the management of the issuer to achieve its SPT. This can then ignite the mechanism of firms setting overly ambitious goals, knowing they won't meet these targets, but only to access the SLB capital market. In relation to the first disadvantage mentioned, there is a struggle in mitigating between overly ambitious goals (which are knowingly not going to be achieved from issuance), or SPTs which are not ambitious enough.
On the other hand, if there were too excessive penalties for issuers, investors would buy bonds to which they expect to miss their targets, essentially betting against the firm they provided financial support to and benefitting from target non-compliance.
The ambiguity surrounding Step-Up Provisions is likely the most difficult weakness and challenge which SLBs face. As the SLB market expands, this could lead to a surge in demand for "green" or "sustainable" products. The eventual investment in poor-quality SLBs would create a ripple effect of weaker and weaker targets, diluting their environmental impact, and undermining confidence, potentially compromising the overall sustainability efforts.

9. Conclusion

The need to find solutions compatible with the goals outlined by Agenda 2030 has also led the world of finance to develop new products, such as the SLBs described in this report. Further development of these tools would allow for an improvement in both the situation of issuing companies, by providing access to new capital, and the real world's issues and its sustainability.

It is essential not to forget that this type of instrument is influenced both by financial markets, as demonstrated by the drop in emissions in 2022, and ESG news coming from the real world. This, coupled with the relatively young age of these bonds, necessitates further development of the surrounding ecosystem and calls for greater attention to regulation to curb any improper behaviour, both on the part of issuers and investors.

In fact, in order to benefit of the great advantage given by the **flexibility** of this product that allows firms to reach more Sustainability Performance Targets (SPTs), even of different classification, with a single issue, it is necessary the presence of authorities that are completely dedicated to the ex-ante control through **regulations** and to the ex-post **verification of the performances** with the possibility to punish eventual incorrect behaviours, so as to have of the more objective lines guide.

An important role could be played directly by major monetary institutions, such as the FED and ECB. In particular, the ECB has always had a very open view on these instruments and as early as 2021, decided to accept SLBs as collateral, even though they have a floating yield coupon. This conveys a lot of confidence in the instrument and gives both issuers and investors an incentive to use these bonds.

One solution to improve the structure and reliability of these instruments could be to implement the **ESG ratings** that major rating agencies have already developed. In fact, assigning an ESG rating to the instrument would allow for better structuring of the step-up clauses in SLBs, providing higher increases for those instruments with a low ESG score.

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