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Green Bonds: Issues, Incentives, and Green Premium Debate

- *Despite cumulative issuances surpassing US$3 trillion and annual issuance crossing US$577 billion in 2024, green bonds still account for just 3% of the global bond market. Their expansion is hindered by regulatory complexities, high issuance costs, greenwashing, disappearing greenium, and inconsistencies in green definitions across jurisdictions.*
- *The green premium, a key feature of the green bond market, allows issuers to secure better financing terms and signals strong investor interest in sustainability. However, its modest size and declining green premium raise questions about its long-term effectiveness.*
- *While green bonds help mobilise private capital for environmentally beneficial projects, they cannot replace instruments like carbon pricing, emissions trading schemes, or direct regulation. Their impact is maximised when paired with clear policy signals and robust governance frameworks.*

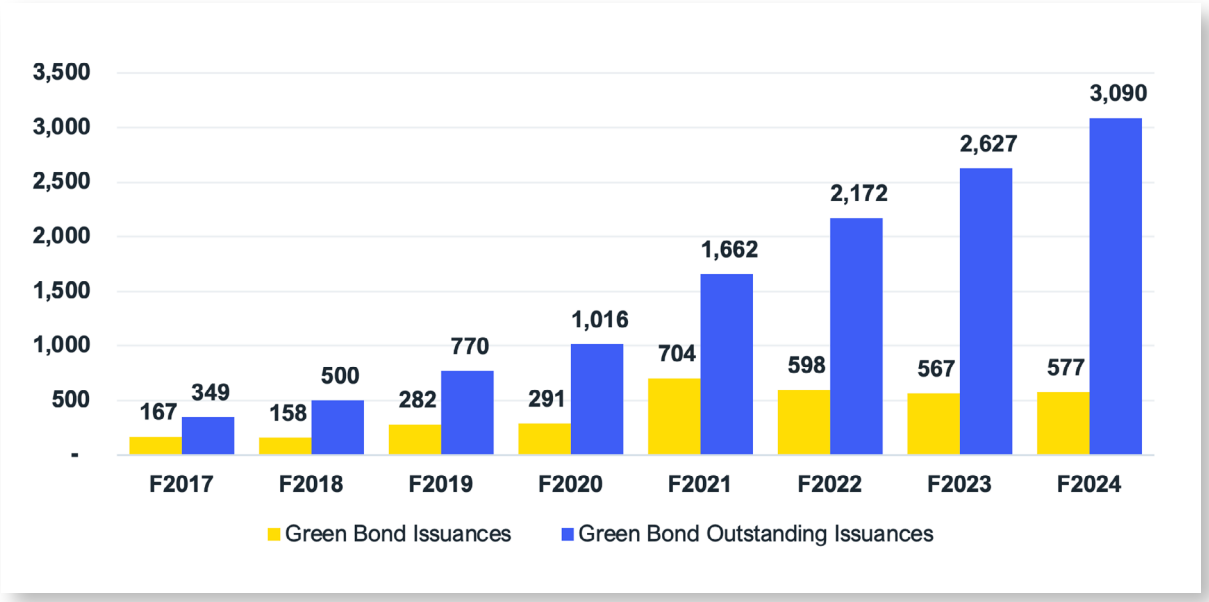
1. Context

Green bonds combine financial innovation and environmental impact, benefiting both the planet and investors. They were initially created to source capital from investors for climate projects without the explicit purpose of lowering the cost of debt. However, over time, issuers, including sovereign governments and corporations, found this instrument useful to raise debt capital at a lower rate, give a signal to the market on greening their business operations, and even for public relations exercises. To facilitate green bond market development, policymakers and regulators have introduced standards and frameworks, and even subsidies, aiming to address market failures and catalyse the mobilisation of lower-cost debt capital for climate action.

First introduced in 2007 by the European Investment Bank, green bonds offer issuers a unique opportunity to finance or refinance projects with environmental benefits. In 2024, the aligned annual volume of green bond issuance hit US$577 billion, crossing the half-trillion mark for the fourth consecutive year, while cumulative issuances surpassed US$3 trillion globally.

However, a fundamental question that remains is whether green bonds are fulfilling their primary objectives – supporting global efforts on climate change mitigation and adaptation, and other environmental challenges, while serving the interests of investors and bond issuers. This briefing note underscores the challenges associated with green bonds: low cost of debt (greenium) for issuers, and higher risk adjusted return for investors.

Figure 1: Green Bond Issuances and Outstanding Issuances (in USD Billion)



Source: IMF/LSEG

2. Challenges to Green Bonds

Despite notable growth, green bonds remain a niche segment of the global bond market, accounting for approximately 3% of outstanding bonds issued by both public and private sector entities. Given that the green transition will require exponential capital – alongside policy incentives and market demand – green bonds are expected to touch US$2.8 trillion of annual issuance by 2030 from US$577 billion in 2024 (see Figure 1). However, regulatory and market challenges, in addition to public scrutiny, could restrict their growth. Some of these are discussed below.

Green bond labelling, while pivotal in promoting transparency in sustainable finance, is fraught with challenges that can undermine its efficacy – most notably, greenwashing. The term refers to the misrepresentation of a bond's environmental credentials, where the proceeds are either not directed towards green projects or the projects fail to deliver meaningful environmental benefits. This risk arises when issuers exploit the demand for green bonds without committing to sustainability practices. The absence of robust monitoring and reporting mechanisms exacerbates greenwashing. In some cases, issuers may fail to provide detailed disclosures about the environmental impact of their projects due to high disclosure costs or may use vague and unverifiable claims about the green benefits of their initiatives. Such practices can erode trust in the green bond market and dissuade genuine investors from participating. These challenges stem from inconsistencies in standards, difficulties in verifying environmental impact, and the potential risks of greenwashing. Addressing these barriers is essential to ensure that green bonds achieve their intended purpose of financing genuinely sustainable projects and attracting investors seeking alignment with environmental, social, and governance (ESG) criteria.

The dynamic nature of environmental and climate challenges adds a layer of complexity to green bond labelling. As the scientific understanding of sustainability evolves, so do the criteria for what constitutes a "green" project. This requires ongoing updates to taxonomies, standards, and frameworks to reflect the latest developments in climate science and environmental priorities. The need for regular revisions can create uncertainty for both issuers and investors, who must adapt to changing requirements. The emergence of new technologies and innovative financing mechanisms, such as sustainability-linked bonds, further complicates the landscape, as they introduce additional criteria and reporting obligations.

One of the most significant challenges in **green bond labelling** is the lack of global standardisation. While frameworks such as the Green Bond Principles (GBP) by International Capital Market Association and the Climate Bonds Standard have gained international recognition, their adoption and interpretation vary across markets. Different jurisdictions often use their own frameworks for defining a green project. A renewable energy project in one country might be eligible for green bond financing, while similar initiatives in another region may face stricter criteria. For instance, nuclear projects are eligible under green bond guidelines in Europe, but not in Sweden. This lack of harmonisation creates confusion among investors and issuers, limiting the scalability and comparability of green bonds on a global scale. Inconsistent standards also increase the risk of fragmented markets, where green bonds may not be accepted universally due to differing definitions of "green".

Verification and certification processes in the pre-issuance stage also pose significant challenges. To maintain credibility, issuers seek third-party verification to certify that the proceeds of green bonds are allocated to environmentally beneficial projects. However, this process can be both costly and time-consuming, especially for smaller issuers or those in emerging markets. The expenses associated with obtaining a certification may deter potential issuers from entering the green bond market. Additionally, the quality and rigour of third-party certifications can vary widely, further complicating efforts to ensure that labelled bonds genuinely contribute to sustainability goals. Inadequate or inconsistent certification practices can weaken investor confidence and exacerbate concerns about greenwashing.

Another challenge lies in **measuring and reporting** the environmental impact of green bonds after their issuance. Quantifying the benefits of funded projects, such as reductions in greenhouse gas emissions or improvements in energy efficiency, is a complex task. It requires sophisticated methodologies, data collection, and monitoring systems that are not always readily available or universally agreed upon. For instance, renewable energy projects might report avoided emissions differently, depending on the baseline scenarios they choose. These discrepancies in impact assessment can hinder comparisons between green bonds and make it difficult for investors to gauge the true environmental value of their investments. Furthermore, the reporting burden on issuers, particularly in developing countries, can be overwhelming, as many lack the technical expertise and resources needed to meet rigorous reporting requirements.

The **high costs associated with issuing green bonds** also present a challenge. Although green bonds carry reputational benefits and may attract a broader base of environmentally conscious investors, the expenses involved in compliance, certification, and reporting can be prohibitive for smaller entities. This creates an uneven playing field where only larger corporations or government bodies with substantial resources can afford to participate in the market. As a result, the potential of green bonds to drive sustainability in smaller businesses or local governments remains underutilised. Bridging this gap requires innovative solutions, such as pooled bond structures or subsidies for certification costs, to make green bond issuance more accessible.

Regional disparities in **market maturity and capacity** further compound the challenges of green bond labelling. Developed markets, such as Europe, have well-established green bond frameworks and a mature investor base. In contrast, developing countries often contend with regulatory uncertainties, limited technical capacity, and weaker institutional frameworks for green finance. These disparities create barriers for issuers in emerging markets to access the green bond market and attract international investors. Moreover, the lack of depth in the local currency green bond market in developing economies exposes issuers and investors to currency risks, further disincentivising participation.

3. Varying perspectives of the issuer and the investor

Perspectives on green bonds vary based on stakeholder objectives, with issuers seeking financial and reputational benefits, investors aiming for sustainable returns, and market participants analysing the green premium from different perspectives. It is challenging to meet the objectives of all three stakeholders – while issuers would like to issue green bonds at a lower cost, investors are interested in enhancing returns without taking on excessive risk.

3.1 Issuer

Issuers of green bonds enjoy several benefits. First, green bonds enable issuers to attract a growing pool of ESG-focused investors, including institutional funds, sovereign wealth funds, and dedicated sustainability and/or green financial institutions or funds. Issuing green bonds bolsters a company's brand by signalling commitment to sustainability, improving stakeholder relationships, enhancing media coverage, and differentiating organisations in competitive markets. Financial advantages also arise, as the increasing demand for green bonds could lead to cost savings through lower interest rates, known as the green premium or "greenium". Governments may also offer tax incentives or preferential regulatory treatment for green issuances. Moreover, issuers can align their financing strategies with international environmental goals, such as the Paris Agreement and the UN Sustainable Development Goals (SDGs), ensuring compliance with emerging regulatory expectations.

Despite these advantages, issuers face notable challenges. Issuance costs are higher than traditional bonds. Navigating different international frameworks, such as the EU Green Bond Standard or China's Green Bond Endorsed Project Catalogue, can be administratively burdensome. There is also the risk of being accused of greenwashing if funded projects underperform or if environmental claims prove unsubstantiated, leading to potential reputational damage. Additionally, issuers must invest in continuous monitoring and reporting on the environmental impact of projects, which requires substantial human and financial resources. Issuers also face market perception challenges as mainstream investors, who prioritise financial performance, may question the returns from green investments.

3.2 Investor

From the investor's perspective, green bonds can offer significant benefits. They provide an opportunity for portfolio diversification, allowing investors to allocate funds to assets tied to sustainability objectives. Green bonds also enable institutional investors to meet growing regulatory and fiduciary responsibilities by integrating ESG factors into their investment strategies. Moreover, investors can enhance their public image by supporting environmentally responsible projects, which can attract like-minded clients and partners. Investing in green bonds can also reduce exposure to environmental and regulatory risks, supporting sectors (e.g. renewable energy, electric vehicles) likely to benefit from the global shift towards decarbonisation.

However, investors face several challenges when investing in green bonds. In addition to greenwashing, there are inconsistencies across jurisdictions in defining green bonds that complicate investment decisions. The green bond market remains relatively small compared to the broader bond market, limiting investment opportunities. Transparency is also an issue as obtaining clear, consistent post-issuance reports on the environmental impact of projects can deter investors. Furthermore, the relatively smaller size of the green bond market may pose liquidity challenges, particularly for large institutional investors.

Given the challenges associated with green bonds, along with investors' concerns over their effectiveness in reducing investment risk, the question is whether investors are willing to offer a green premium despite the potential benefits of this innovative bond instrument.

4. Greenium was once noticeable – now, its presence is uncertain

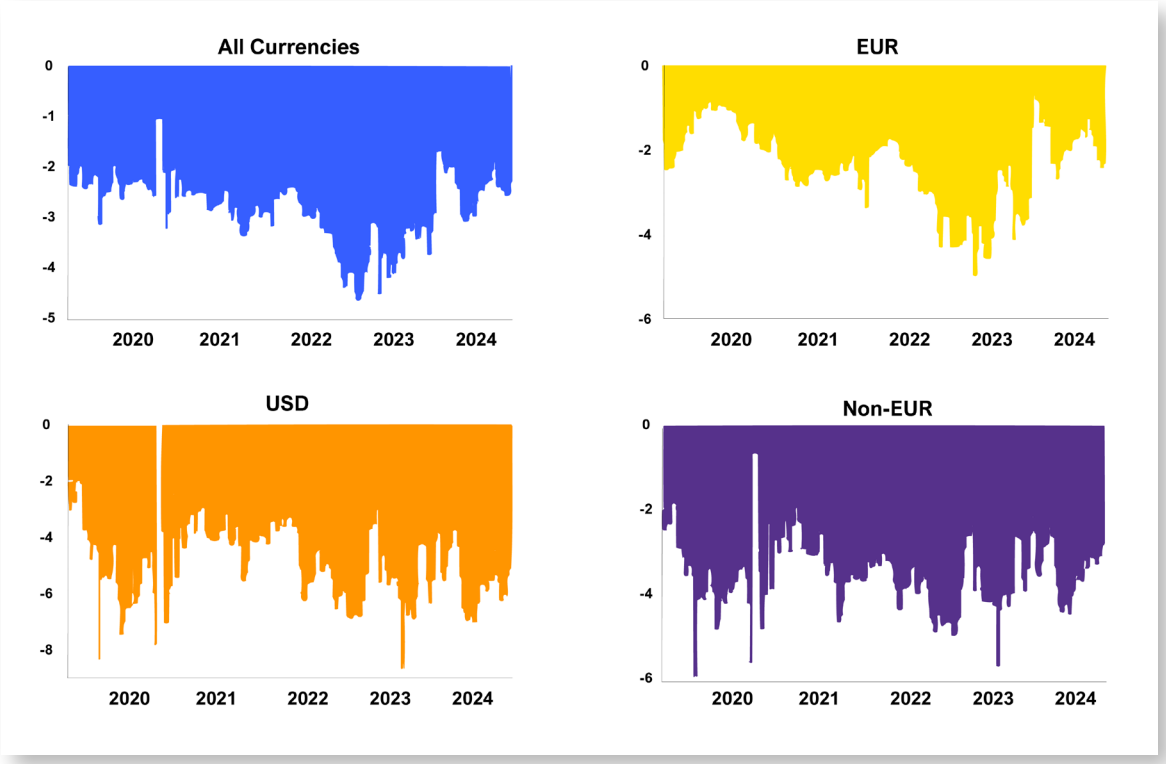
The green premium remains a central feature of the green bond market, driven by both macroeconomic and microeconomic factors, presenting opportunities and trade-offs for market participants. The green premium, also known as the "greenium", reflects the tendency of green bonds to trade at a premium relative to conventional bonds, often resulting in lower yields for issuers due to heightened demand from ESG-focused investors. Macroeconomic trends, including regulatory measures like the EU's Sustainable Finance Disclosure Regulation that encourage sustainable finance, drive the demand for green bonds. Additionally, global investor sentiment has shifted due to growing awareness of climate change and sustainability, leading to heightened demand for green financial instruments.

At the micro level, the green premium is influenced by issuer-specific and project-level factors. Issuers with a strong environmental track record and credible reputation could command higher demand for their green bonds, reducing borrowing costs. The quality of the funded project also plays a significant role; bonds financing impactful and verifiable green projects attract investor interest. Adherence to frameworks, such as the GBP, or obtaining external certifications from the Climate Bonds Initiative could enhance credibility, leading to a higher premium.

The green premium offers several benefits. It allows issuers to secure better financing terms due to heightened demand. The existence of a green premium also signals strong investor appetite for sustainable investments, encouraging issuers to prioritise projects with meaningful environmental impact. The 'Green Halo' effect – the positive perception or theoretical benefits enjoyed by companies that follow sustainability practices – can lower a firm's cost of capital by attracting new investors through green bond issuance.

However, there are challenges associated with the green premium. Investors may accept lower yields in exchange for environmental impact, potentially compromising on financial returns, and could be compromising their fiduciary responsibilities if return is not commensurate with risk. Some studies suggest that the green bond premium is shrinking or has already become negative. The greenium is negative between -5 and -2 bps on average; both EUR and USD green bonds have a statistically significant negative premium. All credit rating categories exhibit negative premiums, with their mean ranging from -3.13bps for A-rated issuers and -1.38bps for Aa-rated issuers. Lower ratings (A, Baa) exhibit a significant negative premium. While all regions exhibit a negative premium, all sectors except sovereigns exhibit a more negative premium than the financial sector. The premium declines with smaller-sized bonds as well as with age, although not significantly.

Figure 2: Shrinking Green Bond Premium



Source: IMF/LSEG

5. Conclusion

Green bonds represent a convergence of financial innovation and environmental responsibility, offering distinct benefits and challenges for issuers, investors, and the broader market. While issuers could benefit from diversified funding sources, lower capital costs, and enhanced reputation, they must navigate complex regulatory frameworks and mitigate greenwashing risks. Investors, meanwhile, could gain from ESG-aligned returns and risk mitigation but face concerns around market liquidity and impact measurement.

While green bonds are not a standalone solution for climate change, they are essential to financing a low-carbon transition. By fostering transparency, improving accountability, and mobilising capital for green projects, they complement broader climate policies and financial strategies. Their success depends on the interplay between market mechanisms, regulatory frameworks, and stakeholder commitment to environmental goals.

While green bonds are instrumental in channelling private capital towards sustainable projects, they are not a substitute for robust climate policies. Instruments such as carbon taxes and emissions trading schemes provide a more direct approach to addressing climate change by adhering to the "polluter pays" principle. These mechanisms create the economic conditions necessary for green projects to succeed, offering a complementary foundation for green bond financing. However, green bonds contribute significantly to improving transparency and accountability. Issuers are required to disclose the environmental objectives of their projects, the allocation of proceeds, and the impact achieved. When coupled with strong policy signals, such as net-zero targets or stricter emissions regulations, green bonds can drive financial flows towards sectors that align with long-term climate goals.

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