

# Green bonds, an instrument for financing the environmental transition

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*Abstract :*

The environmental transition needs major investments to make production carbon-free.<sup>1</sup> For more than a decade, the green bond market has been growing to meet the needs of investors and issuers in the effort to fight global warming. This paper addresses the following questions: Do these green bonds differ from conventional bonds? Why do firms issue them? If they actually help limit climate change, what can be done to develop them?

## What is a green bond?

Over time, the definition of a green bond has changed. The International Capital Markets Association (ICMA) has been producing Green Bond Principles (GBP) since 2014. These are voluntary process guidelines which categorise the “green” nature of bonds. According to the ICMA, green bonds are any type of bond instrument where the proceeds will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible green projects. This definition has gradually been adopted as a benchmark by the majority of national and international organisations (ASEAN,<sup>2</sup> European Union, etc.).

The ICMA lists green projects open to financing in categories such as renewable energy, energy efficiency and greenhouse gas control. The association has also laid down core components for the GBP covering use of proceeds for green projects, a process for project evaluation and selection, and post-issuance reporting to monitor investments.

Nevertheless, the ICMA’s definition does not cover all the issues. Firstly, can green bonds be used to finance (or re-finance) projects which would, in any case, be funded by conventional bonds? Secondly, there is no widespread agreement as to what a green project actually is. Lastly, difficulties are raised by the status of issuers. For instance, can a firm operating in a high CO<sub>2</sub>-emitting sector issue green bonds and be granted this type of certification for part of its business activity?

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<sup>1</sup> For renewable energies alone, the global investments required to achieve the Paris Agreement’s goals are estimated at \$452 billion per year over the period 2021 to 2025 (Zindler and Locklin, 2016).

<sup>2</sup> Association of Southeast Asian Nations.

Scientists (see Ehlers and Packer, 2017), market stakeholders and the public authorities are striving to address these issues. The European Commission is currently establishing a taxonomy for green projects,<sup>3</sup> bearing in mind the fact that the Climate Bonds Initiative (CBI), which is a green bonds certifier, already has its own Climate Bonds Taxonomy. Many of the professionals we interviewed consider that a pragmatic approach is required. The green bond market must continue to expand and answers will be found through practice and consensus in the marketplace.

## The green bond market

The first green bond<sup>4</sup> was issued by the European Investment Bank (EIB) in 2007 with the World Bank following suit the year after. From 2007 to 2013, the majority of bonds originated from banks and development agencies. The market’s growth derived essentially from these institutions’ commitment to fund the environmental transition by offering investors securities with low credit risk (rated AAA by rating agencies). Table 1 shows that the green bond market was still made up of a majority of low-risk securities in 2018.

Fresh impetus was provided when the GBP were introduced in 2014 for green bonds issued by private sector firms, enabling the issuer and investor base to be broadened. Since 2015 and the Paris Agreement, the CBI estimates that annual green bond issuance totals between \$100 and \$150 billion. These figures are very low when compared with those for the annual issuance of conventional bonds which stood at \$7,424 billion for the American market alone in 2018.<sup>5</sup> The Bank for International Settlements and the Climate Bonds Initiative consider that the outstanding amount for green bonds currently accounts for less than 1% of outstanding global bond issues.

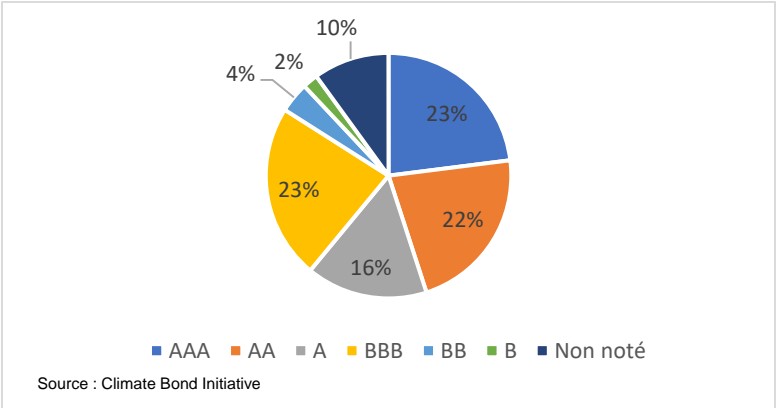


Table 1: Breakdown of financial ratings for green bonds in 2018.

<sup>3</sup> “Proposal for an EU Green Bond Standard”, source: [https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/190306-sustainable-finance-teg-interim-report-green-bond-standard\\_en\\_0.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190306-sustainable-finance-teg-interim-report-green-bond-standard_en_0.pdf)

<sup>4</sup> Initially called the “Climate Awareness Bond”.

<sup>5</sup> Securities Industry and Financial Markets Association (SIFMA) data, bond issuance by all types of issuers in 2018.

[Non noté = Not rated]

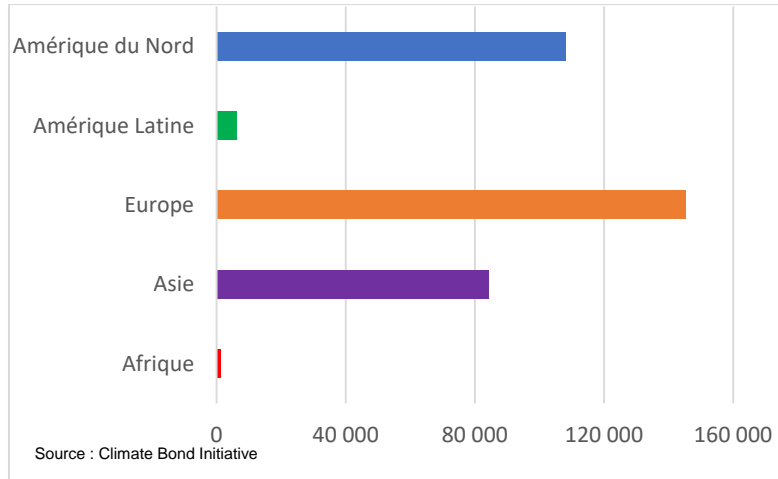


Table 2: Outstanding amount of green bonds by geographic area in 2018 (in millions of USD).

[*Amérique du Nord* = North America

*Amérique Latine* = Latin America

*Asie* = Asia

*Afrique* = Africa]

Europe currently leads the world for green bond issuance (see Table 2) due, in particular, to substantial issues of €7.5, €4.5 and €0.75 billion by France, Belgium and Poland respectively. These issuances increase both the outstanding amount for green bonds and send out a strong signal to private sector issuers.

## **How do green bonds differ from conventional bonds?**

The above-mentioned definition pinpoints the difference between green bonds and conventional bonds which essentially concerns use of proceeds. Whereas funds from conventional bond issuance are usually used to finance sundry corporate assets, with green bonds the funds are earmarked for certain categories of project (ICMA, 2014). With the former, there is no need to specify how the funds will be used beforehand and to monitor use until the bonds mature.

This means that green bonds generate additional costs compared to conventional ones (Asian Development Bank, 2018). These are administrative expenses relating to the issuance process, legal costs, the cost of issuance auditing and reporting expenses. Issuing green bonds also takes longer to prepare and involves greater use of resources which leads to significant organisational costs. Total costs are thought to be between 0.1 and 7.1 basis points for a green bond issue (Asian Development Bank, 2018). Lastly, green bond issuance creates a reputational risk (Morel and Bordier, 2012), which is absent with conventional bonds, as issuers have to comply with their commitments or end up losing credibility and damaging their reputation.

Nevertheless, green bonds do provide economic and ecological advantages (Flammer, 2018; Zerbib, 2018). Financial literature posits that green bond issuance gives issuers a premium of around two basis points on average. This premium may be as much as 20 basis points for the riskiest issuers (Zerbib, 2018). Recent work has also revealed that green bonds carry advantages for investors in the form of diversification (Reboredo, 2018). In spite of these aspects, the economic benefits of green bond issuance are still minimal compared with the additional costs.

Our interviews with issuers and investors flagged up other benefits connected with green bond issuance. First, these bonds allow issuers to broaden their investor base. For instance, the San Francisco Public Utilities Commission (SFPUC) managed to market its green bond issue to European, Swiss and Asian investors in spite of the fact that it usually has a local investor base.<sup>6</sup> In October 2016, a major French firm was able to issue green bonds in a fairly tense market. At that time, the upcoming French and German elections had dampened investors' demand for European debt instruments. Other advantages are harder to quantify but include closer cooperation between the teams tasked with project financing and those responsible for implementing them. Lastly, an oft-cited benefit is the scaling up of the skillsets of financing teams on issues concerning environmental impact. Basically, the majority of businesses we interviewed consider that green bond issuance is a true corporate project which gives meaning to companies' societal undertakings.

## **How can the continued expansion of the green bond market be guaranteed?**

Recent academic works have shown that green bonds allow companies to improve both their carbon footprint and economic performance levels (Flammer, 2018; Glavas, 2018). With respect to the commitment from countries to hold the increase in the global average temperature at 2°C above pre-industrial levels (Paris Climate Agreement), green bonds are one of the means of achieving this goal (OECD, 2017).

There are already a number of arrangements to boost this market's expansion. In June 2017, the Monetary Authority of Singapore (MAS) recognised that issuers of green bonds may have to bear additional costs and offered a grant of up to SGD 100,000 to help meet these costs. The Chinese monetary authorities, especially Dr Ma Jun, former Chief Economist of the People's Bank of China (PBOC),<sup>7</sup> often advocate lowering the risk weight for green assets. This would cut the cost of equity for banks holding green bonds.

The European Commission initially elected to use taxonomy to come up with a clear definition of green asset and green bond.<sup>8</sup> As matters stand, there is no agreement on use of a binding or incentivising legislative instrument which would bolster development of this market. When the Basel III Agreement was introduced (Capital Requirements Directive IV

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<sup>6</sup> Source: <https://www.climatebonds.net/2018/07/sfpuc-seeks-widen-investor-base-latest-wastewater-infrastructure-green-bonds>

<sup>7</sup> Source : <http://www.chinadaily.com.cn/a/201810/11/WS5bbeedb5a310eff303281d13.html>

<sup>8</sup> "Proposal for an EU Green Bond Standard", source:

[https://ec.europa.eu/info/sites/info/files/business\\_economy\\_euro/banking\\_and\\_finance/documents/190306-sustainable-finance-teg-interim-report-green-bond-standard\\_en\\_0.pdf](https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/190306-sustainable-finance-teg-interim-report-green-bond-standard_en_0.pdf)

(CRD IV) and Capital Requirements Regulation (CRR)), many analysts foresaw a significant increase in financing costs for SMEs. Consequently, it was decided to decrease the capital requirement relating to financing this category of businesses (“supporting factor” in Article 501, CRR) to encourage banks to support them. Rolling out similar arrangements for green bonds could reduce the cost of financing for their issuers and allow for greater involvement from the banking sector.

Other innovative instruments could boost the market’s expansion, in particular the European Central Bank’s (ECB) contribution of earmarked financing. When banks refinance themselves with the ECB, they have to provide assets as collateral. The ECB draws up a lists of eligible assets<sup>9</sup> and the corresponding haircuts<sup>10</sup> as the riskier the assets, the higher the haircut applied to the collateral. It may therefore be possible to allow green bonds to be used under these arrangements by granting them a lower haircut which would bolster their appeal to banks.

## **Conclusion**

Green bonds help the fight against global warming and contribute to financing the environmental transition. However, they are not only financial instruments as they also encourage businesses to consider their carbon footprint and foster cooperation between financing teams and their operational counterparts. Despite substantial progress, this market is still in its infancy. We can but call for regulators to take greater account of green bonds and for the introduction of incentives that would ensure this market’s long-term growth.

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<sup>9</sup> Source: <https://www.ecb.europa.eu/paym/coll/assets/html/list-MID.en.html>

<sup>10</sup> Source: <https://www.ecb.europa.eu/paym/coll/risk/liquidity/html/index.en.html>

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