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**Research Report**

## Green bonds: taking off the rose-coloured glasses

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## Green Bonds: Taking Off the Rose-Coloured Glasses

### Summary

In light of the recent global climate agreement, the Paris Agreement, which came into force in November 2016, there is an urgent need to mobilise additional funds for environmentally sustainable investments and to direct financial flows from “brown”, that is, environmentally damaging, to “green” investment. Public officials, investors and the media have hailed green bonds as a key instrument for achieving both. But what are green bonds, and how realistic are assessments of their potential to contribute to financing sustainable development, notably by financing sustainable investments that would not be financed otherwise?

Green bonds are debt instruments to finance environmentally sustainable investments. Although the green bond market began to grow only slowly after the onset of the global financial crisis in 2008, the market has seen explosive growth since 2014, with issuances in 2015 reaching USD 42 billion. Since the 2014 “take-off”, the expectations with respect to the potential of green bonds have further increased.

A number of factors make green bonds appealing for investors. Compared to other green instruments, green bonds are in many cases relatively simple, familiar fixed-income instruments. Moreover, many investors increasingly weigh the risks related to carbon-intensive investments when designing investment portfolios. Green bonds are also attractive for groups of investors who wish to make an environmental impact. Finally, in particular the green bonds issued by international financial institutions or large corporations usually have enough scale to be attractive to institutional investors.

There are, however, also a number of challenges in relation to green bonds. These include: first, deficiencies of

the governance framework of the green bond market; second, the significant costs associated with labelling a bond “green”; and third, the weakly developed pipeline for green projects in which the proceeds from the bonds could be invested. In the context of developing and emerging countries, green bonds face additional limitations. In particular, weakly developed capital markets and low credit ratings for potential green bond issuers pose obstacles to the issuance of green bonds. Moreover, green bonds have rarely been issued to mobilise additional climate finance.

An important way to address these challenges and to realise the potential of green bonds to finance sustainable development is the design of an appropriate governance framework. Only then can the green bond market mature with integrity.

An improved governance framework should be based upon a clear and ambitious definition of green bonds and include regular reporting, monitoring and evaluation of the compliance with standards, going beyond industry self-regulation. It will also be important to take measures to enhance the inclusiveness of governance and to share information among various stakeholders. Governments and multilateral development banks (MDBs) may play an important role in deepening bond markets by reducing the costs of issuance, which is an important precondition for the ability of green bonds to mobilise additional financing.

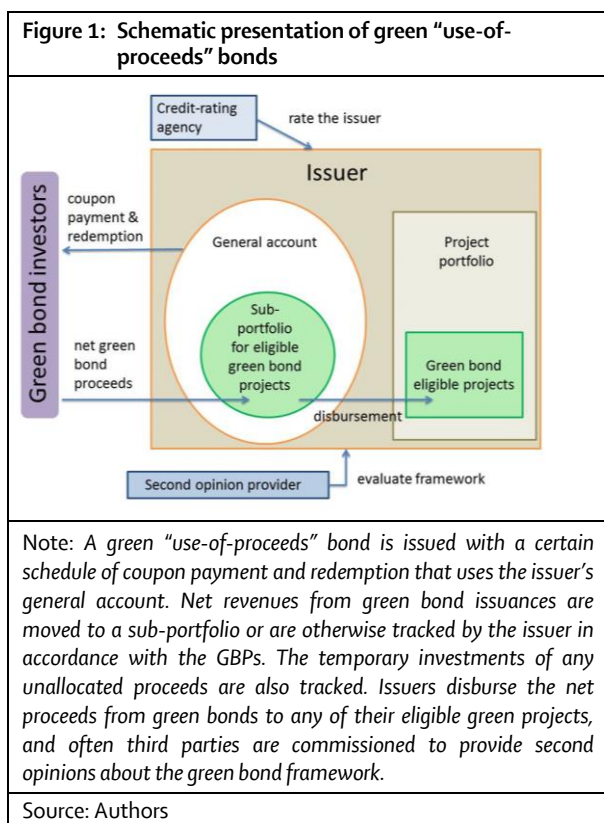
Each of these measures will help to increase confidence in the green bond market. Without such confidence, it will be difficult for green bonds to meet the expectation to mobilise additional funds for environmentally sustainable investments and to direct financial flows from brown to green investments.

### Green bonds: characteristics and development

Many public officials, investors and the media have hailed green bonds as a key instrument to mobilise additional funds for environmentally friendly (“green”) investments and to direct financial flows from “brown”, that is, environmentally damaging, to green investment. What are green bonds and how realistic is this assessment?

Green bonds are debt instruments in which an investor loans money to the issuer for a certain period of time at a fixed or variable interest rate. They are labelled “green” because the issuer uses the raised money to finance “environmentally friendly” projects or activities. However, what is meant by “environmentally friendly” is open to interpretation: self-labelled and lacking any legal requirements, green bonds have no universal definition.

In 2014, a group of major green bond issuers, underwriters and investors developed the Green Bond Principles (GBPs), which are voluntary guidelines to build some consensus on what constitutes a green bond. According to the GBPs, green bonds are any type of bond instrument whose revenues are exclusively used to partly or completely finance or refinance new and/or existing “eligible” green projects. Such projects must have clearly sustainable environmental benefits, which may be in one of the following broad categories: renewable energy, energy efficiency, sustainable waste management, sustainable land use, biodiversity conservation, clean transport, sustainable water management and climate change adaptation (International Capital Markets Association, 2015). Yet, ultimately it is the decision of the issuer to label a bond as “green”.



Generally, four types of green bonds can be differentiated. The four types mainly differ in the way the assets that securitise the bond are grouped. The vast majority of green bonds are “use-of-proceeds” bonds, whereby the proceeds are earmarked for green projects in the issuer’s portfolio, and the bond’s recourse is to the issuer’s entire balance sheet. This has the great advantage that these bonds are backed by the issuer’s complete balance sheet. Consequently, credit-rating agencies do not rate individual bonds, but this type of green bond automatically receives the same credit rating as its issuer. For instance, the World Bank and KfW Development Bank as well as their green use-of-proceeds bonds are rated AAA (Figure 1 illustrates the functioning of a use-of-proceeds bond).

The second type of green bond, the “use-of-proceeds-revenue” bond, is also earmarked for green projects. Its recourse, however, is limited to the issuer’s pledged revenue streams. The third type is the “green project” bond, used for specific green projects, whose recourse is restricted to the projects’ assets. Finally, the fourth type is the “green securitised” bond, whose revenues are used for a group of green projects, with recourse to a certain group of assets on the issuer’s balance sheet.

Green bonds as an asset class are still relatively young. The first green bonds were issued in 2007 by MDBs and their number grew only slowly after the onset of the global financial crisis in 2008, when there was little appetite for new financial instruments. However, since 2014 the number of issuances of green bonds has increased impressively. Partly this has been driven by the larger engagement of MDBs, whose issuances amounted to more than USD 14 billion in 2014 and 2015. Many MDBs made deliberate efforts to develop the nascent green bond market.

The bulk of the USD 35 billion green bonds volume in 2014, respectively of the 42 billion in 2015, was issued by corporations, municipalities, regions and commercial banks that had discovered the new debt instrument (Climate Bonds Initiative, 2016, p. 6). Since the 2014 “take-off” of the green bond market, high expectations have been associated with this debt instrument: many expect the market to further develop at high speed – for 2016 the not-for-profit Climate Bonds Initiative estimates that the total volume could reach the USD 100 billion mark (Climate Bonds Initiative, 2016, p. 6) – and to contribute to a significant reduction in the investment gap for sustainable development.

### Benefits

In particular, use-of-proceeds bonds of MDBs or other well-rated issuers have appealing features. First, in most cases, they are “plain vanilla” bonds – the simplest version of a standard bond, distinguished only by the promise that the proceeds will be used exclusively for green investments while providing the same return. Thus, these green use-of-proceeds bonds are relatively simple, familiar fixed-income instruments that are no riskier than conventional bonds. With these green bonds, investors can contribute to an additional positive environmental outcome without having

to take any additional risks. By purchasing triple-A-rated green bonds, investors can finance green investments but bear virtually no additional risk, but also receive no higher yields than on other bonds.

The similarity of MDBs' green use-of-proceeds bonds to conventional bonds means that they not only attract their traditional investors but also allow them to broaden their investor base: the green bonds are especially attractive for investors such as philanthropic or impact investors who wish to make an environmental impact.

Second, green use-of-proceeds bonds issued by well-rated institutions can help to reduce climate risks in investment portfolios without exposing investors to the specific risks of green technologies. Many investors are increasingly weighing the risks related to carbon-intensive investments when making up investment portfolios. Indeed, in some countries, such as France, institutional investors are now required to disclose the carbon footprints of investments. The fear that assets could be stranded due to the growing political, economic and environmental risks related to fossil fuels increases the relative attractiveness of green investments.

What is more, the MDBs' green use-of-proceeds bonds in particular usually have enough scale to be attractive to institutional investors, especially pension funds, which require issuances exceeding USD 500 million (Lindenberg, 2014). For instance, one of the first International Finance Corporation green bond issuances of USD 1 billion even appealed to large institutional investors such as Blackrock, the California State Teachers' Retirement System and Ford Motor Company.

## Challenges

Although significant progress has been made in developing the green bonds market, we should be wary of painting too rosy a picture when discussing the future development and potential of green bonds. It is time to take off the rose-coloured glasses because there are several factors that limit the development of the green bond market and its often expected contribution to sustainable development.

The first major obstacle are the continued deficiencies of the governance framework of the green bond market (Berensmann, Dafe, & Lindenberg, 2017). In particular, there is no universal agreement among stakeholders about what constitutes a green bond and the characteristics required for projects to be eligible for green bonds financing due to limited standardisation. In some sectors, such as energy, there are multiple and competing standards for green bonds, whereas in other sectors, such as climate change adaptation, there are hardly any standards. Limited transparency and disclosure also make it difficult for regulators, non-governmental organisations (NGOs) and research institutions to monitor market developments. Independent monitoring would, however, be important because the existing guidelines for transparency and

disclosure of the use of proceeds from green bonds are largely voluntary.

The second challenge is that labelling a bond "green" is costly because it involves certification, verification and monitoring. High costs of labelling are problematic because most green investors are unwilling to pay a "green" premium and to accept smaller returns for those bonds than for their traditional "grey" alternatives. Thus, generally the issuer is left with these additional costs. As a result, high labelling costs might deter potential green bond issuers or incentivise issuers to apply lower standards.

In addition, the contribution of green bonds to sustainable development remains limited because the pipeline for green projects is, in both the public and the private domains, weakly developed. This is largely due to the absence of policies and regulations that create demand for green investments.

In the context of developing and emerging countries, three additional factors pose challenges for promoting sustainable development through green bonds. First, in these countries, weakly developed capital markets and low credit ratings for potential green bond issuers pose obstacles to the issuance of green bonds. Second, it is not clear to what extent development banks issue green bonds in order to mobilise additional climate finance. Like traditional bonds, green bonds often serve to finance the general portfolio of projects, rather than to finance projects that could not have been realised otherwise. Instead, a key motive of development banks for issuing green bonds is to promote market development. Although market development is a necessary prerequisite for increasing the potential impact of green bonds, this goal should not replace the aim to mobilise additional (public and private) financing, and there is a need to ensure that green finance does not replace the financing of investments which have other developmental purposes.

## How to support market development?

For developing the green bonds market, several measures are needed. Notably, it will be crucial to design an appropriate governance framework to ensure that the green bonds market matures with integrity. An improved governance framework for green bonds should enhance transparency and disclosure.

- To enhance transparency, a clear and ambitious definition of green bonds is needed that is accepted by financial market participants and observers. Hence, stakeholders should further elaborate the GBPs by offering a clearer definition of green bonds. Policy-makers should aim at harmonising national guidelines for issuing green bonds, such as those developed in China, Mexico and India, across countries.
- Similarly, credit-rating agencies should ensure that green bond indices increase transparency on the green bond market for both issuers and investors by defining specific criteria. Green bond indices could, for example, limit the inclusion of bonds in an index to specific industry standards. Moreover, institutional investors could

contribute towards improving standards by integrating green investment criteria in their guidelines.

- An improved governance framework should also include regular reporting, monitoring and evaluation of compliance with standards, going beyond industry self-regulation. Issuers should publish annual reports of the concrete use of proceeds to improve disclosure. It is important that standard-setting institutions define clearer monitoring responsibilities and sanctions if standards are not fulfilled.
- Second opinions assume an important role in the monitoring and evaluation process. To enhance the comparability of second opinions, also evaluation criteria should be aligned, such as the information about the issuer's core business activities. In the same vein, rating agencies can take on an important role in this area by incorporating environmental aspects of green bonds in their evaluations.
- Measures to enhance the inclusiveness of governance and to share more detailed information among various stakeholders comprise roundtables of investors, issuers, governments, NGOs and regulators. At these meetings, it should be discussed what regulation and policy support is needed to promote a truly green bond market. One step in the right direction is the GBP Executive Committee, which gathers issuers, investors and intermediaries in the green bond market. It aims at assessing the development of the green bond market and proposing best practices.

In addition to an appropriate governance framework for green bonds, it is necessary to promote the development of

local green bond markets. Development banks such as the International Finance Corporation and the International Bank for Reconstruction and Development have already played an important role in this regard. They should intensify their efforts by offering capacity-building and sharing knowledge. MDBs could also contribute to developing local-currency green bond markets by acting as anchor investors and/or demonstration issuers. In the same vein, MDBs could provide capacity-building for investors to correctly identify green assets and to incorporate environmental and social governance (ESG) standards in their investment decisions (G20 Green Finance Study Group, 2016).

To reduce the relatively high costs of green bond issuance, in particular for smaller green projects, governments could provide tax benefits for the issuers of green bonds or investors in green bonds. Again, national and multilateral development banks could take on an important role by supplying credit-enhancement facilities and by supporting the green bond verification processes (G20 Green Finance Study Group, 2016). Lowering the costs of issuance is an important precondition to mobilise additional funds for green investments.

Each of these measures will help to increase transparency and confidence in the green bond market. The extent to which green bonds will ultimately be able to meet the expectation to mobilise large additional funds for environmentally sustainable ("green") investments and to direct financial flows from "brown", that is, environmentally damaging, to "green" investment is not clear. It is clear, however, that meeting these expectations without market transparency and confidence will be impossible.

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