Green Bonds

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1 Introduction

Climate financing began to pick up in Lebanon starting 2010 through efforts from private and public institutions and the support of international organizations and foreign governments. Today, existing financing mechanisms most notably include the National Energy Efficiency and Renewable Energy Action (NEEREA), and lending arrangements between intergovernmental organizations and domestic financial institutions. While the number of investments that have been financed by the established programs\(^1\) continues to grow, urgent national environmental challenges that require large infrastructure projects nationwide remain largely unaddressed. With large funding needs, a broad range of financing instruments will be necessary to undertake climate aligned investments.

In this issue, we examine the Green Bond as a possible instrument in the financing of a portion of Lebanon’s environmental needs, and provide an overview of its different structures, issuance guidelines, and its state in the global market.

Finally we assess the possibility of issuing green bonds by Lebanon as a sovereign and through the private sector within the local regulatory framework.

\(^1\): Around USD 258 million were allocated to 259 projects by NEEREA up to June 2016.
2. Structure of a Green Bond

2.1 What is a Green Bond?

A green bond is a fixed income instrument that allows the issuer to tap into debt capital markets and use the proceeds to invest in projects that have environmental benefits.

Repayment of the bond’s principal amount and the agreed rate of interest is then the issuer’s obligation in the case of a green ‘use of proceeds’ bond, which is the simplest and more commonly used form. Repayment can also depend in other green bond structures on the issuer’s revenues, the project’s balance sheet, or assets against which the bond could be collateralized (See section 2.2).

Green bonds are thus similar to conventional bonds in almost all aspects except in the use of proceeds that are earmarked by their issuer for investments in green projects, an intention that is commonly specified in the bond’s legal terms. This includes similarity to financial features of bonds from the same issuer, such as credit rating and price.

![Figure 1: Green Use of Proceeds Bond Structure](image)

2.2 Different Forms of Green Bonds

Green bonds take different forms, the most common of which is the green use of proceeds bond, which can be issued by a private sector entity (corporate green bond), a public sector entity (national government, local government such as a municipality, or a state entity), or a supranational entity (World Bank, IFC, EIB). The funds raised from the bonds are earmarked for a green project or projects, and repayment is tied to the issuer. A similarly structured bond, the green use of proceeds revenue bond is earmarked for green projects, but repayment is tied to the issuer’s revenues that act as collateral to the bond in case of default. In comparison, a green project bond is tied to the underlying project or projects, whereby recourse is to the project’s assets and balance sheet rather than the issuer, meaning that the investor would have a stake in the success of the project.

2.3 Advantages of Green Bond

Green bonds support climate financing and the implementation of national climate policies, and open up room for investors to diversify their fixed income portfolios. In their accreditation mechanism (section 2.5) green bonds promote transparency of information relating to the underlying assets allowing investors to better implement their green investment strategies, to observe their green investment mandates when applicable and to better assess their risk return portfolios in cases of green use of proceeds revenue bonds and green project bonds.

From an issuer perspective, Green bonds open up access to a growing pool of investors looking to subscribe in environmental, social, and governance (ESG) performance investments, and allow the issuer to communicate its sustainability goals and improve its credibility in the commitment to sustainable investments. This can be better attained when the issuer subscribed to the voluntary oversight mechanism of independent parties.

With a growing pool of ESG investors, cases in which green bonds have attracted higher demand compared to an issuer’s regular bonds are becoming commonplace, such as the case of the US State of Massachusetts, whereby a green bond issuance was 30 percent oversubscribed, compared to its regular bond that was undersubscribed (Climate Bonds Initiative, 2014).
The growth spurt in green bond investments since between 2007 to date is proof that the market still holds substantial potential, with expectations of issuances to exceed USD 100 billion in 2017.

Finally, with additional transparency and the project financing developmental aspect of bonds, issuers are more likely to benefit from the support of national entities and/or of supranational organizations through guarantees for cost reductions or credit rating enhancement purposes.

2.4 Green Bond Disadvantages

From an issuer perspective, a green bond could initially be more costly to issue than a regular bond, requiring in addition to its direct interest cost consultancy expenses and expenses relating to the assessment of the financed project, as well as measurement and disclosure of financial and environmental metrics associated with the project.

Moreover, the risks of issuers not achieving the outlined results of the underlying project or of spending the raised funds appropriately include a possible legal liability to the issuer and a loss in credibility.

For investors, the smaller and less liquid green bond market and generally smaller sized bonds could provide less upside potential on bond trades.

2.5 Global Market Overview

The first green bonds were issued in 2007 by supranational organizations including the European Investment Bank and the World Bank. The market saw a breakthrough in 2013 following a highly successful issuance by the International Finance Corporation (IFC) paving the way for new forms of institutions to enter the market, with green corporate bonds following through, and later municipal green bonds. Total issuances more than tripled to around USD 11 billion by the end of the year, before surging again to USD 37 billion by end-2014 and around USD 42 billion by 2015.

Aside from supranational (example: World Bank, EBRD, etc.,) and sub sovereign development organizations (example: KfW), Green bonds have been issued by a broad range of corporates and public sector entities, including renewable energy (example: Solar City) and other climate related companies in forestry, waste management, water treatment, and transportation. Financial institutions (example: ABN AMRO Bank, Bank of America) have also been a large market player customarily issuing green bonds to use the raised proceeds for green project lending. Other private sector corporates have included real estate companies, manufacturing (example: Toyota), and technology companies (example: Apple). Public sector entities have included a wide range of issuers, including cities, states, provinces (example: City of Johannesburg), public sector utility companies (example: EDF), among others, in power generation, transportation, water authorities, and waste management.

Figure 2: Use of Proceeds from Green Bonds in 2015

Figure 3: Largest Issuers to Date
3. Green Bond Taxonomy and Market Integrity

Given the intrinsic commitment of the issuer in the use of proceeds, voluntary guidelines were developed to adhere to the market’s integrity and to bridge the gap between issuers’ intentions and the investors’ expectations. In general, the set out standards act as a benchmark for best practices in terms of defining what constitutes a green project, and setting specific criteria for each environmental category. Set out standards also act as guidelines for the monitoring and evaluation of the implementation and of the achievement of the set out objectives of the project through third party audits.

Consultations and accreditations by independent entities would promote transparency in the growing market and provide credibility to issuers, prevent potential disputes and accusations of ‘green washing’, and potentially attract higher market demand.

The main market standard or the Green Bond Principles (GBP) was introduced in 2009 to offer such guidance, and was developed by a group of large financial institutions and supported by the International Capital Market Association (ICMA). Other widely used taxonomies were later introduced, including the Climate Bonds Standard, Green bond indices, and issuer instituted taxonomies.

3.1 Green Bond Integrity

3.1.1. The Green Bond Principles

The Green Bond Principles (GBP) were developed as voluntary process guidelines and market standard for structuring Green Bonds, recommending transparency and promoting integrity in the market. 117 institutions representing all participants in the GB market have joined the GBP as members and 71 organizations have received GBP observer status (ICMA, The Green Bond Principles).

The recommended process of GBP tackles four main points:

**Use of Proceeds:** recommends that the issuer declares an eligible Green Project in the use of proceeds section of the instrument’s legal
documentation, and provide clear environmental benefits of the intended project, which can be described quantified and assessed.

**Project evaluation and selection**: Outline what process will be used in determining the eligibility of a project, and assesses qualitative and quantitative metrics.

**Management of Proceeds**: Provides guidelines on processes and controls to certify that raised funds are only used for the specified green project.

**Reporting**: Provides recommendations on the reporting progress and performance indicators in reference to the financing and environmental targets and criteria.

### 3.1.2. Climate Bonds Standard

The Climate Bonds standard was developed by the Climate Bonds Initiative, and assesses what qualifies as a green bond and offers accreditations to issuers. This is done by taxonomy to encourage common definitions across global markets (Climate Bonds Initiative) according to a set of guidelines including technology specifications for certain types of climate-related projects.

### 3.1.3. Green bond indices

Green bond indices were developed by Investment banks and credit rating agencies to help investors in benchmarking bond performance. With guidelines and prerequisites for inclusion on a green index, indices provide a certain legitimization value for issuers and additional visibility to investors. Indices include, Barclays-MSCI Index, S&P Index, and Meryl Lynch Index.

### 3.2. External Consultations and Assessments

#### 3.2.1. Second Opinion

Consultations to the issuer by an external party are highly encouraged by the GBP and entail coordination with an external environmental expert to select projects that duly qualify as ‘green’. The second party would assess the environmental criteria by which the project is selected for funding and advise the issuer on technical aspects of the project. This process helps support investors’ confidence that the issuer aims to invest the proceeds of the bond in a viable green project. Second opinions however, assess the use of proceeds criteria and do not typically follow up on the actual use of proceeds following the bond’s issuance. To that purpose, third party assurance is recommended by the GBP.

#### 3.2.2. Third Party Assurance

Third party assurance is a process that involves obtaining an entity, preferable independent, to assess and audit the issuance and post issuance processes of the green bond and related projects, including the bond’s criteria, project selection, processes for tracking proceeds, environmental targets and outcomes, and transparency of disclosure, potentially throughout the life of the bond. Third party assurance is also necessary to obtain a Climate Bonds Standard certification, which can be obtained pre-issuance for marketing purposes and in order to be maintained, has to undergo some post-issuance assurance. Third-party assurance provides investors with confidence that the bond issuer’s processes are legitimate, and provides high credibility to the issuer.

### 4. Are Green Bonds a Viable Option for Lebanon?

With the current regulatory framework, issuances of green bonds are limited to the sovereign and to the private sector, with constraints on the Public Private Partnerships (PPP), or the provision of public services by private entities, and a limitation on issuance of debt instruments by subnational public entities, such as municipalities.

#### 4.1. A Green Sovereign Issuance

As an issuer of international bonds and the main authority for the provision of public services, the Republic of Lebanon can issue green bonds for its climate financing needs. The fact that Lebanon is a regular and credited issuer of international bonds, in the form of Eurobonds, and has an established climate strategy in the form of its Intended Nationally Determined Contributions (INDC) commitments, are added benefits that would help simplify the process of structuring its green bonds in line with its climate strategy, and help with the accreditation and legitimacy of its projects. Potentially, this legitimacy would act as a demand driver for its prospective issuances, provided that the government pursues the recommended consultations, accreditations, and post implementation monitoring and evaluation.
4.1.1 Possible Projects for Issuing Green Bonds in Lebanon

Renewable Energy
Lebanon has committed itself to a 15% unconditional and 20% conditional target of meeting all the heating and power demand from renewable energy sources by 2030. To achieve these targets, Lebanon is in need of investments for medium and large scale infrastructure projects. Those can be partially or fully financed by green bonds issued by the sovereign, the private sector or through a structure that combines both.

Examples of possible low carbon energy projects that could be financed through Green bonds include hydropower power plants (at least 263 MW of additional cost-effective hydropower plants are possible), wind power (at least 1500 MW of potential exists in Lebanon), and large scale utility solar photovoltaic power.

Other green projects
Lebanon is still suffering from a large number of environmental challenges in various sectors, including solid waste management, water treatment, sustainable irrigation, water and air pollution, and transportation, which could be financed through capital raised via green bonds.

4.1.2 Lebanon’s Strengths for Issuing Green Bonds

1. The Republic of Lebanon (ROL) has an established record of issuing foreign currency denominated and rated international bonds. ROL has issued international sovereign bonds since 1997 and is now a recognized market player, weighted on emerging market bond indices.

2. Lebanon is a highly dollarized economy that attracts substantial foreign currency in the form of deposits and workers’ remittances. Dollarization of deposits in the local financial sector has steadied at around two thirds of total deposits in the five years to 2016. This has enabled the local market to support sovereign debt issuances and provide the needed confidence for international players to invest in sovereign debt, and attracted sufficient demand for foreign currency instruments to keep borrowing rates within an acceptable margin compared to international benchmark rates.

3. With sufficient liquidity in the market, and continued interest from international investors in the ROL debt instruments, Lebanon would be capable of attracting demand for green bond issuances from its local and diverse international investors, and by adopting a clear and verified structure, should be capable of attracting new green bond focused international investors.

4. With a longstanding environmental strategy in place, and a large number of studies and assessments of renewable energy potential, including among others wind, solar, and hydro power, Lebanon has several easily verifiable and legitimate green projects that fall in line with National Strategy and the technical capacities to structure green bond issuances and follow up diligently on the monitoring and evaluation of underlying projects.

5. The eligibility of the Republic for concessional loans from international organizations is an asset that can be used to supplement financing through green bonds for projects that may require the pooling of different sources of funds.

4.1.3 Issuance Considerations and Room for Improvement

1. Credit Rating: Lebanon’s sovereign rating was, as of June 2016, at B- (Standard and Poor’s and Fitch), and Ba2 (Moody’s), and has historically never fared better than B+. This negative feature could prove a deterrent to some international investors, especially without a rating support or guarantee from a higher rated entity, noting that only less than 6 percent of green bond are below BBB rating.

2. As an active issuer of international bonds that is largely dependent on local institutional investors, it could be argued that it would be a preferable option for the ROL to issue a bond and earmark the funds for a renewable energy project without branding the bond as a green bond and adding on the cost of consulting and assurance. With that in mind, the green bond would ideally have to hold additional benefits to a regular bond issuance, such as a lower coupon rate, a guarantee of third party technical or financial support, or an otherwise regulatory limitation on earmarking non-green sovereign bonds for project financing.

4.2 Issuances by the Private Sector

The current constraint of the private sector in the green bond market is the absence of regulation that allows private sector participation in the provision of public services. This constraint would be lifted in the event of the introduction of a Public Private Partnership (PPP) Law or an Independent Power Producer law (IPP) that specifically targets private
investment and the sale of renewable energy.

Until such a law is passed, the private sector would still be able to issue green bonds and use the proceeds for private ventures deemed as ‘green’. Those could cover a wide range of sectors, including agriculture, manufacturing, construction and real estate, energy efficient products. Similar investments in Lebanon are supported by NEEREA, which offers loans to the private sector through terms that are arguably more favorable than what could be obtained by a green bond issuance in terms of cost. However, a green bond can provide added value over existing instruments in terms of offering long tenors (time left for the repayment of a loan or the contract expiration), larger issuance size, as well as more vigorous environmental standards and oversight mechanisms.

5. Final Remarks

Whether or not a green bond can offer added value to the sovereign or the private sector above conventional bonds or existing climate financing mechanisms is to a large extent a question of its ability to attract new investors, and provide access to new financing opportunities. With standardized criteria on financial transparency and technical features of underlying projects, green bonds improve the credibility of issuers and allow them to better communicate their sustainability strategies, an attribute that could attract new international demand for sovereign issuances from ESG investors, and possibly draw financial and technical support. However, without the support of a guarantee from a higher rated institution, the bulk of demand would initially have to come from the local market given the sensitivity of international investors to credit ratings. For the private sector, a green bond provides the opportunity of larger size and longer term tenors compared to prevalent financing mechanisms, which would be more suitable for larger investments, for example in renewable energy in the event that a PPP law is passed allowing private sector provision of public services. As such, with adequate policies and diligence in execution, green bonds can be tailored to the preferences and needs of issuers and investors, and could carry advantages that outweigh the marginally higher cost to conventional bonds.
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