In past years the market for Green Bonds has seen an important growth in the world, and Mexico is starting to see its first green debt issuances in the local market. This is why HR Ratings, given the important position that it has in the local market, has decided to propose this Green Bonds Rating Methodology (GBRM).

The following GBRM describes the process used for the evaluation of Green Bonds. It is important to clarify that the evaluation proposed here is not a Credit Rating, instead it is a Green Rating which establishes a scale in order to classify projects related to Green Bonds.

The main purpose is to provide market participants interested in investing in these types of assets with a mechanism to rank the Green Bonds according to the environmental benefits of the project that is being financed by the bond, as well as to evaluate the ability of the issuer to comply with international standards of transparency and reporting.

The GBRM incorporates internationally recognized criteria for the evaluation of Green Bonds such as the Climate Bonds Standard developed by the Climate Bonds Initiative (CBI)\(^1\) and the Green Bond Principles (GBP)\(^2\). These two globally accepted guidelines establish clear criteria for the evaluation of the green quality of projects, as well as the transparency and reporting policies that contribute to the development of the Green Bond market.

The GBRM is divided into a two-part analysis that will provide all market participants with valuable information. Both analytical components are mainly based on the qualitative aspects of the projects, as well as transparency and reporting policies of the issuer. When feasible, it will incorporate quantitative metrics.

The first part consists of the environmental analysis in which HR Ratings will evaluate the sustainability of the projects in terms of their contribution to the goal of limiting global temperature rise this century to below 2 degrees Celsius and to drive efforts to limit the temperature increase even further to 1.5 degrees Celsius above pre-industrial levels. The second part consists of the evaluation of the issuer’s capability to comply with the GBP.

The result of GBRM is the Green Rating which is composed of a three level scale representing the environmental solution offered and a three level scale representing the level of GBP compliance. The final Green Rating is a nine level scale which clearly separates in its notation the results of each of the two analyses undertaken\(^3\).

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1 CBI is an investor-focused not-for-profit organization, promoting large-scale investments that will deliver a low-carbon global economy.

2 The GBP are a series of internationally accepted standards developed by the International Capital Market Association (ICMA) which is a group of financial institutions that supports and promotes the development and efficient functioning of the global capital markets.

3 See Chart 3 on Page 10.
Green Bonds Rating Methodology
Debt Securities

January 31, 2017

Introduction

Green Bonds (GB) are any type of fixed income asset whose proceeds are used to finance or re-finance, in part or in full, new and/or existing environmentally sustainable projects. That is, assets or activities with an environmental benefit, such as renewable energy, low greenhouse gas (GHG) emission transport, forestry projects, amongst others.

Green Bonds are mainly issued by corporations, financial institutions, development banks, governments and trusts (in the case of asset backed securities). Therefore, green bonds can be general obligations, project finance or revenue bonds, with or without recourse to the issuers, as well as asset backed securities.

In the past years the Green Bond market has increased rapidly within most developed economies. Since these Bonds were first introduced in 2007, with an issued amount of $0.8bn USD, the number of issuances all over the world has increased, reaching over $42bn USD in 2015, and expecting $100bn USD in 2016. The accumulated issuances from 2007 to 2015 were approximately $100bn. The first Mexican green bond issuer was Nacional Financiera (NAFIN), which in October 2015 placed $0.5bn USD of green notes in the international market, and in September 2016 $2.0bn MXP in the domestic market.

The market is expected to continue to grow at high rates, especially after the agreement reached in December 2015 in the United Nations Conference on Climate Change (COP21) in Paris. The main agreement is to keep a global temperature rise this century well below 2 degrees Celsius and to drive efforts to limit the temperature increase even further to 1.5 degrees Celsius above pre-industrial levels.

General Approach

Our GBRM has as its purpose the ranking of debt issuances, known as Green Bonds, whose proceeds are used to finance or re-finance projects that are considered to have a positive environmental impact. That is, physical assets that will contribute to limit global temperature rise this century well below 2 degrees Celsius and to drive efforts to limit the temperature increase even further to 1.5 degrees Celsius above pre-industrial levels.

The GBRM is not a credit rating and is independent of the credit quality of the asset. Therefore HR Ratings will be able to issue Green Ratings regardless of whether or not this agency has issued a Credit Rating of the bond.

This methodology incorporates internationally recognized criteria for the evaluation of green bonds such as the GBP and the Climate Bonds Standard developed by CBI. These two globally accepted guidelines establish clear criteria for the evaluation of the green quality of projects, as well as transparency and reporting policies that contribute to the development of the Green Bond market.

With the raising demand of the Green Bonds, market participants increasingly require more transparency and the introduction of robust standards regarding the process by which these bonds are labelled green. Therefore, the GBRM provides a scale for Green Bonds based mainly on two different perspectives that will add value to all interested participants in the market: i) Environmental Analysis and ii) Compliance with international standards.

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4 Theoretically, Green Bonds proceeds could be used for a wide variety of environmentally sustainable projects, such as development parks. However, as of the issuance of this methodology, the majority of their proceeds have gone to climate bonds projects.

5 The evaluation proposed may also apply to other types of debt, like credit loans.

6 Specific explanation on each bond type is contained in Appendix II.
standards (GBP). For the purpose of transparency and as each analysis focuses on different aspects, the rating process and its conclusions are carried out separately and their results will be separately identifiable in the final notation of the Green Rating.

Before starting the Green Rating process, we will have to verify if the project belongs to one of the industries contained in the Climate Bond Taxonomy developed by CBI, as well as if the issuer has adopted the four GBP. This verification is the Preliminary Phase of our methodology.

The environmental analysis is related directly to the specific characteristics of the project in terms of its contribution to limit temperature increase. This involves an analysis of GHG reductions, the durability of the environmental solution in terms of the project’s lifecycle and the level of technological innovation involved in the use of project’s physical assets. This analysis has to be complemented with the evaluation of the context that surrounds the project, thus, we will look at aspects related with the relative importance of the project in terms of their geographic location, compliance with International Standards relative to Environmental and Social Performance and possible side effects of the projects.

The transparency and reporting policies analysis refer to practices employed by the issuer. This analysis is based on the level of compliance with the four GBP: 1) Use of Proceeds, 2) Project Evaluation and Selection, 3) Management of Proceeds and 4) Reporting. Chart 1 below shows the steps of the evaluation process to determine a Green Rating.

The green bond ratings assigned by HR Ratings are dynamic, therefore HR Ratings monitors the issuer’s compliance with the procedures required by each principle as well as the results of environmental analysis carried out at least once a year. Different frequencies of revision may be applied at the express request of the qualified entity. If required by the authorities or in the opinion of HR Ratings, monitoring may also have a lower frequency.

It may be the case that one single issuance is financing more than one project and the projects also may be from different industries. This is seen for example in issuances from development banks where they usually diversify their wallet. In this case, the GBRM proposes to undertake the proposed evaluation per project and then weight them according to their share of the proceeds.
The contribution that a project can have to the development of a sustainable environment can be through either: 1) a direct impact on mitigating GHG emissions (Mitigation Projects) or 2) bolstering the Adaptation and Resilience (A&R) of existing infrastructure to the consequences of climate change. According to the CBI, A&R means the resilience of the physical assets themselves to potential climatic impacts and the extent to which the assets help or hinder the adaptation needs of any proximate or affected populations or ecosystems.

Considering that mitigation projects could be more important in limiting global temperature rise and that the evaluation of A&R projects is difficult due to limitations in terms of data availability relative to their climatic impact, the GBRM for now, will assess the mitigation impacts only. Despite this, our GBRM could change or grow in time, parallel to the development of science focused on environment, as well as the development of the green bond market.
Green Bonds Rating Methodology
Debt Securities

Green Rating Assignment Process

Preliminary Phase

As has been stated, the GBP are process guidelines that encourage best practices in terms of the transparency and reliability in the process of issuing and overseeing a Green Bond. In this framework, the CBI has developed the Climate Bonds Taxonomy (CBT) which provides scientifically oriented criteria for the identification of the different industries appropriate for the issuance of a Green Bond.

HR Ratings believes that these two criteria are the best in the market in order to identify eligible projects related to Green Bonds and to evaluate their use of proceeds. Therefore, in order to issue a Green Rating of a bond, HR Ratings will first have to verify if the underlying project complies with the CBT, as well as if the legal documentation of the bond clearly shows the adoption of the GBP.

First Stage – Environmental Analysis of Eligible Projects and Assets

Once HR Ratings has reviewed that the issuer fulfills the requirements to receive the Green Rating, the first stage of the evaluation consists in analyzing the project type in terms of the environmental solution offered. For example, reductions of GHG emissions, energy efficiency, waste management or any kind of project that contributes to the transition to a low carbon economy will be the cornerstone in this stage.

A basic step in the process of issuing a green bond is the selection of the project or asset in which the proceeds will be invested or refinanced. The projects here mentioned are regarded as contributing to the development of a low GHG emission and climate resilient economy and are in line with the CBT provided by CBI. Despite considering the whole range of industries provided by CBI, HR Ratings recognizes that there are some types of projects that are more predominant among the universe of Green Bonds issuances. These, for example, include projects related with energy, transport, buildings and water.

In the following chart, we show the types of projects that have most commonly received the Green Bond designation.
The evaluation intended in this methodology has the purpose of determining the environmental benefits of the project based on the objectives of global temperature reduction established in the Paris Agreement. For this, HR Ratings will develop an evaluation that will include not only the technical and qualitative characteristics of the project, but also the context surrounding it. This will allow us to evaluate in the most precise and comprehensive possible way the environmental footprint of the project.

Depending on the nature of the industry or the project, different measures of environmental impact could be used for each of them. Despite this, the GBRM will try to focus on the reduction in GHG emissions that the project will produce. The GBRM will try to make projects comparable despite their size.

Another important aspect of the project that will be considered in the evaluation is the project’s lifecycle. This is important because projects that offer a longer term environmental solution would be preferable to short term projects. However, the operation of a long-term project needs to demonstrate that the asset will be able to maintain its environmental benefits throughout its lifecycle, not simply at the initial stages. The long term vision will also be linked with the technology used in the investment. Projects using the latest technological developments in their field will likely be more capable of offering a longer term solution.

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7 HR Ratings could use external certifications such as the ones provided by LEED, BREEAM in the case of buildings.
8 HR Ratings will require a recognized and widely accepted measure of GHG emissions reductions.
While the project’s inherent impact is the main focus of this assessment, the reliability of this methodology is reduced were we not to consider the context in which the project is being developed. For this reason the evaluation will be complemented by external factors that could reduce or enhance the footprint of the project.

The geographic location of the project is an additional factor that will be taken into account. This is relevant because the marginal benefit of a project is higher in countries or regions that are in an early stage of sustainable transition than countries or regions that have made more progress toward that goal. For example, an investment in renewable energy in Norway where a large portion of energy is already produced through renewables would not be as valuable as if the project were implemented in Kuwait, which depends almost entirely on oil as a source of energy. In a more local case, another example could be an investment in massive transport made in a highly polluted city versus the same investment made in a less polluted one.

HR Ratings will also evaluate how well the project is considering international criteria on Environmental and Social (ES) performance such as the one provided by the International Finance Corporation (IFC Performance Standards on Environmental and Social Sustainability). The eight performance standards included by the IFC are: 1) Assessment and Management of Environmental and Social Risks and Impacts, 2) Labor and Working Conditions, 3) Resource Efficiency and Pollution Prevention, 4) Community Health, Safety, and Security, 5) Land Acquisition and Involuntary Resettlement, 6) Biodiversity Conservation and Sustainable Management of Living Natural Resources, 7) Cultural Heritage and 8) Indigenous Peoples.

In addition, the side effects of the projects will also be considered. Thus, HR Ratings will consider the immediate impact of the project itself. For example, an investment in the transportation field with the aim of substituting fossil-fueled vehicles with electric ones will have to be carefully evaluated because if the energy used in the country or in the region where the vehicles will be used is not clean, it would not be as effective as if the energy used were clean. Another side effect of the same project that could be evaluated is the use given to the cars replaced. It would be preferable were the vehicles destroyed rather than sold and used in another country or region. The evaluation of side effects will depend entirely on the type of industry.

The methodology will consider these factors, evaluating them on the basis of specific quantitative or qualitative metrics. This analysis will permit the comparison of the project in question with other Green Bond projects in terms of their relative contribution to global temperature reduction, without ignoring the project’s context and side effects. Therefore, in order to provide a clear distinction among evaluated projects, HR Ratings will weight each of the factors mentioned in this section and place the project within a three-level scale as presented below:

- **HR GB 1**: Bonds related to projects that, considering their nature and context, offer the superior environmental solution contributing to the limitation of global temperature increase in accordance with the terms of the Paris Agreement.

- **HR GB 2**: Bonds related to projects that, considering their nature and context, offer a good environmental solution contributing to the limitation of global temperature increase in accordance with the terms of the Paris Agreement.

- **HR GB 3**: Bonds related to projects that, considering their nature and context, offer an acceptable environmental solution contributing to the limitation of global temperature increase in accordance with the terms of the Paris Agreement.
Second Stage – Green Bond Principles® Compliance

Once the first stage has been finished and the project(s) related to the bond have been ranked within the scale previously presented, HR Ratings will proceed with the second stage that consists in differentiating the bonds within another three-level scale based on the issuer’s level of compliance with each of the following four GBP: 1) Use of Proceeds, 2) Process for Project Evaluation and Selection, 3) Management of Proceeds and 4) Reporting.

1) Use of Proceeds

The issuer has to clearly report the projects in which the proceeds are being invested in the legal documentation of the bond. This should include a statement on the environmental objectives of the bond that describes the projects in detail, as well as a quantitative estimation of the environmental benefits of the project.

As previously stated, in order for a project or asset to be eligible it has to be related to the aforementioned sectors and needs to prove that its funding will produce the desired environmental benefit. It is also possible to use the proceeds to refinance previous debt used to finance other projects, in this case, the issuer will have to clarify the portion used for it and a similar description of the projects previously financed.

The use of proceeds will be evaluated by HR Ratings taking in consideration the following:
   i) Transparency with which the issuer presents the investment plan, including the statement on the environmental objectives of the bond.
   ii) Effectiveness of the investment in terms of the time horizon.

2) Process for Projects Evaluation and Selection

The issuer shall establish and document the decision making process used to determine the eligibility of the Nominated Projects & Assets. This should include the argumentation of how the projects fit within the eligible Green Projects and the environmental sustainability objectives. HR Ratings will evaluate the following elements:
   i) The level of transparency and the efficiency with which the issuer documents and maintains a decision making process to determine the eligibility of the project.
   ii) Experience and historical performance of the issuer in the environmental sustainability and green bond industries. Or, should the issuer’s experience be limited, the presence of external consultants with such experience in the field.

3) Management of Proceeds

The management of proceeds criterion evaluates the transparency and efficiency of the allocation of bond proceeds. In this particular principle, the following elements will be taken in consideration:

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Some of the concepts used in this section are based on the Green Bond Principles developed by the International Capital Market Association (ICMA), as well as the Climate Bonds Standards developed by the CBI and are complemented by specific criteria developed by HR Ratings.
i) The establishment of a clear process to maintain the market informed of the administration of proceeds in terms of the investment plan in the project as well as the management of unallocated proceeds.

ii) Transparency in the accounts or trusts where proceeds are placed.

iii) Verify if temporary investments are placed in:
    a. Temporary investment instruments that are cash, or cash equivalent instruments, within a treasury function;
    b. Temporary investment instruments that do not include GHG intensive projects which are inconsistent with the delivery of a low carbon and climate resilient economy;
    c. Temporarily operations that reduce indebtedness of a revolving nature before being redrawn for investments or disbursements to Nominated Projects & Assets.

4) Reporting

Issuers will have to provide available information regarding the technical description of the project, along with information on the environmental implications of the project. Therefore, the evaluation will be based on the following:

i) The quality of the information provided in terms of qualitative and quantitative performance indicators (e.g. energy capacity, electricity generation, GHG emissions reduced / avoided, number of people provided with access to clean power, reduction in the numbers of cars required, etc.).

ii) Periodicity with which the issuer reports this information.

iii) External assurance or third party reviews of the reported information.

Taking into consideration the criteria mentioned in each of the GBP, HR Ratings will provide an indicator of the level of compliance with each of the four principles. As stated above, this evaluation is based on qualitative elements. The overall evaluation will inform the market on the basis of a three level scale of the effectiveness and transparency of the allocation and administration of proceeds, decision making process of eligible projects and the reporting of performance indicators.

Each of the relevant GBP considerations mentioned in the previous section will be evaluated on the basis of the following scale: i) Very Good, ii) Good and iii) Fair. Once HR Ratings has assigned one of the three labels to each of the four GBP, the final label of the Green Bond will be assigned taking into consideration the number of principles that the bond has either in Very Good, Good or Fair. Chart 2 shown below includes the entire range of scenarios. For example, if the issuer has three of the principles labelled as Very Good and one labelled as Fair, the Green Bond will be labelled as Very Good. On the other hand three in Fair and one in Very Good will result in Fair. There are four different combinations that result in a label of Very Good and Fair and seven that result in a label of Good.

In order to identify the label assigned to the Green Bond, the notation used in the GBRM will be a “+” sign for Very Good, no sign for Good and a “-” sign for Fair.
The scale assigned in this stage of the methodology will complement the scale assigned in the first stage. This means that the final Green Rating would allow the market to know how well the project is contributing to limit global temperature rise, taking into consideration the context and possible side effects, as well as the issuer’s ability to meet the four GBP. The final notation of the Green Rating, which incorporates both criteria, is presented in the following table.

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Source: HR Ratings

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<th>Chart 3. Final Scale</th>
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Source: HR Ratings
Appendix I: Glossary

Green Bonds (GB): Are any type of fixed income assets whose proceeds are used to finance or re-finance, in part or in full, new and/or existing environmentally sustainable projects.

Green Bonds Rating Methodology (GBRM): Is the methodology developed by HR Ratings which describes the process used for the evaluation of Green Bonds.

Green Bond Principles (GBP): Internationally recognized criteria that establishes the transparency and reporting policies that contribute to the development of the Green Bond market.

Climate Bonds Initiative (CBI): Globally accepted guidelines that establishes clear criteria for the evaluation of the green quality of projects.

Greenhouse gas (GHG): Any of the gases whose absorption of solar radiation is responsible for the greenhouse effect, including carbon dioxide, methane, ozone, and the fluorocarbons.

Climate Bonds Taxonomy (CBT): Developed by CBI, this taxonomy provides scientifically oriented criteria for the identification of the different industries appropriate for the issuance of a Green Bond.

Appendix II: Bond Types

In line with the Climate Bonds Standard, the types of assets that are eligible for evaluation are mentioned below.

- **Use of Proceeds Bond**: A standard recourse-to-the-issuer debt obligation for which the proceeds shall be credited to a sub-account, moved to a sub-portfolio or otherwise tracked by the issuer and attested to by a formal internal process that will be linked to the issuer’s lending and investment operations for Eligible Projects & Assets.

- **Use of Proceeds Revenue Bond**: A non-recourse debt obligation in which the credit exposure in the bond is to the pledged cash flows of the revenue streams, fees, taxes etc. The proceeds shall be credited to a sub-account, moved to a ring fenced security structure sub-portfolio or otherwise tracked by the issuer and attested to by a formal internal process that will be linked to the issuer’s lending and investment operations for Eligible Projects and Assets.

- **Project Bond**: A project bond for a single or multiple Eligible Projects & Assets to which the investor has direct exposure to the risk of the project(s) with or without potential recourse to the issuer.

- **Securitized Bond**: A bond collateralized by one or more specific Eligible Projects & Assets, including but not limited to covered bonds, Asset Backed Securities (“ABS”), Mortgage Backed Securities (“MBS”), and other structures. The first source of repayment is generally the cash flows of the assets. This type of bond covers, for example, asset-backed securitizations of rooftop solar PV and/or energy efficiency assets.
Green Bonds Rating Methodology
Debt Securities

January 31, 2017

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