Webinar

Green bonds – an innovative and efficient way of financing green investments

GIZ & SEB Strategic Alliance on Green Bond Market Development
The Strategic Alliance on Green Bond Market Development

**Objective**

Support the development of prosperous and sustainable green bond markets in G20 emerging economies

### Approach

- 25+ technical workshops, roundtables & conferences
- Dedicated bilateral advisory support
- Knowledge products: Green Bond publication, webinars & online learning videos, global SF e-learning platform

### Stakeholders

- Issuers
- Financial intermediaries
- Investors
- Policymakers & regulators
- External reviewers

### Partners

#### Regional implementation partners

#### Technical partner

- °CICERO
## The partners

<table>
<thead>
<tr>
<th><strong>SEB</strong></th>
<th><strong>giz</strong></th>
<th><strong>CICERO</strong></th>
</tr>
</thead>
</table>
| • Swedish bank is one of the leading underwriters & thought leader in the green bond market  
• co-developed the GB concept for institutional investors and supported the inaugural World Bank Green Bond.  
• One of the 14 founding banks that set up The Green Bond Principles (GBP)  
• Member of GBP Executive Committee and External Reviews Working Group | • German public-benefit federal enterprise providing international cooperation services for sustainable development  
• Works with governments, int’l organizations, businesses, research institutions & civil society in 120 countries  
• Implements the develoPPP.de partnership on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) | • CICERO is one of the world’s foremost institutes for interdisciplinary climate research  
• First and leading provider of second opinions for green bonds  
• Provided second opinions for the 1st green bond, 1st green muni bond, 1st corporate green bond, 1st green sukuk |
## Content and learning objectives

- Background: Why green bonds matter
- What is a green bond
- Green bond market development
- Why issue and invest in green bonds
- The Green Bond Principles & other standards
- How to set up a green bond framework
- The green bond issuance process
- External reviews
- Impact reporting
Part 1:
Why green bonds?
Global annual temperatures from 1850-2017

Colour-Code Global Annual Temperatures

Source: Ed Hawkins, Climate Lab
To stay well below 2°C, science tells us that…

…emissions must go to zero within a few decades, or we need large-scale negative emissions (with the associated risks) to compensate.
Climate risks are financial risks

**Physical risks**
- Flooding
- Drought
- Sea level rise
- Heat stress
- Wind
- Extreme weather events

**Transition risks**
- Policy
- Liability
- Technology

**Financial risks**
- Production / operation disruptions (e.g., power, transportation, worker availability)
- Supply chain disruptions
- Physical damage to assets (and raising insurance costs)
- Changes in resource / input prices (e.g., water, energy, food)
- Changes in demand for products / services

Source: CICERO: Shades of Climate Risk: Categorizing climate risk for investors
Transition to sustainable economies provides investment opportunities
Green solutions are scalable

New rail lines
ADIF-Alta Velocidad

Electric and hybrid cars
Volvofinans

Flood defenses
Nederlandse Waterschapsbank

Source: Reuters, GMO

Webinar: Green Bonds – an Innovative and Efficient Way of Financing Green Investments
Part 2: What is a green bond?
What is a green bond?

Green Bond Definition

Green bonds are any type of bond instrument

Same underlying mechanisms as regular bonds

where the proceeds will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible Green Projects

Main difference is that only pre-defined projects can be financed

and which are aligned with the four core components of the Green Bond Principles

Green Bond Frameworks ensure that green projects are defined and that the issuers deliver on their promise
The Green Bond Principles

- Use of Proceeds
- Project Evaluation and Selection
- Management of Proceeds
- Reporting

External Review
What do green bonds finance according to the GBPs?*

- Renewable Energy
- Environmentally Sustainable Management of Living Natural and Land Use
- Sustainable Water and Wastewater Management
- Energy Efficiency and inclusive Green Buildings
- Terrestrial and Aquatic Biodiversity Conservation
- Eco-Efficient and/or Circular Economy Adapted Products, Production Technologies and Processes
- Pollution Prevention and Control
- Clean Transport
- Climate Change Adaptation

* These are examples of green bond eligible project categories as outlined in the GBP 2018.
Part 3:
Green bond market development
Green Bond market surging – annual and cumulative issuance

Source: SEB analysis based on Bloomberg and SEB data
Green Bond market growth and sectors of the market shifting

Figure 3. Green bond market growth (USD Bn) by sector

Source: SEB analysis based on Bloomberg and SEB data. SSA: Sovereign, sub-sovereign (municipal/regional), Supranational and Agency.
Part 4:
Green bonds in Brazil
## Green bond emissions in Brazil

<table>
<thead>
<tr>
<th>Issuer</th>
<th>Sector</th>
<th>Issuance date</th>
<th>Volume (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPFL Renováveis</td>
<td>Energy</td>
<td>Oct 2016</td>
<td>R$ 200</td>
</tr>
<tr>
<td>Suzano</td>
<td>Paper &amp; celulose</td>
<td>Nov 2016</td>
<td>R$ 1,000</td>
</tr>
<tr>
<td>Ômega Energia</td>
<td>Energy</td>
<td>Mar 2017</td>
<td>R$ 42</td>
</tr>
<tr>
<td>Rio Energy</td>
<td>Energy</td>
<td>Abr 2017</td>
<td>R$ 112</td>
</tr>
<tr>
<td>Ômega Energia</td>
<td>Energy</td>
<td>Sep 2017</td>
<td>R$ 220</td>
</tr>
<tr>
<td>PEC Energia</td>
<td>Energy</td>
<td>Nov 2017</td>
<td>R$ 48</td>
</tr>
<tr>
<td>Enel Green Power</td>
<td>Energy</td>
<td>Dec 2017</td>
<td>R$ 22</td>
</tr>
<tr>
<td>ISA CTEEP</td>
<td>Energy</td>
<td>Apr 2018</td>
<td>R$ 621</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>International</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BRF</td>
<td>Consumo não cíclico</td>
<td>May 2015</td>
<td>€ 500</td>
</tr>
<tr>
<td>Fibria</td>
<td>Paper &amp; celulose</td>
<td>Jan 2017</td>
<td>US$ 700</td>
</tr>
<tr>
<td>BNDES</td>
<td>Financial</td>
<td>May 2017</td>
<td>US$ 1,000</td>
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</table>
Who deals with the green bond agenda in Brazil?
Part 5:
Why issue and invest in green bonds?
Incorporating sustainability in financial systems

**Investment Principles**
- Principles for Responsible Investments (PRI)
- Montreal Carbon Pledge
- Equator Principles

**Sustainable Financial Products**
- Green/social bonds
- Green/social loans
- Securitization
- Microfinancing
- Indices & ETFs
- Green funds
- Green listings
- YieldCos
- Venture Capital
- Crowdsourcing

**Policies & Regulation**
- European Commission’s Action Plan on Financing Sustainable Growth
- Brazil’s Resolution of E&S Responsibility for FIs (2014)

**Disclosure**
- Task Force on Climate-related Financial Disclosures (TCFD)
### Value proposition of green and sustainable bonds

#### Investors
- Risk-adjusted return with environmental impact
- Achieve intelligence on climate related issues inside existing management structure
- Risk management
- Climate stress
- Regulations
- Technology transition
- Live your values → competitiveness

#### Issuers
- Strengthen the financial position:
  - Investor diversification
  - Deepened dialogue
- Enhanced issuance flexibility
- Targeted internal dialogue between operations (projects), Finance and Management, extended to Investors
- Financial articulation of a sustainability strategy
- Live your values → competitiveness

#### Society
- Mobilize human capital inside finance for society goals
Part 6:
The five pillars of a green bond framework
# The Green Bond Principles

## Green Bond Framework – definitions & procedures

<table>
<thead>
<tr>
<th>Use of proceeds</th>
<th>Process for project evaluation and selection</th>
<th>Management of proceeds</th>
<th>Reporting</th>
<th>External review</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Definitions of eligible projects</td>
<td>• Key to obtain sufficient knowledge</td>
<td>• Traceability and monitoring</td>
<td>• Transparency • Impact reporting • At least annually</td>
<td>• Evaluation through an independent external assessment</td>
</tr>
<tr>
<td>• Mitigation • Adaption • Environmental</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Green Bond Principles

**Use of proceeds**

- Definitions of eligible projects
- Mitigation
- Adaption
- Environmental

**Process for project evaluation and selection**

- Key to obtain sufficient knowledge

**Management of proceeds**

- Traceability and monitoring

**Reporting**

- Transparency
- Impact reporting
- At least annually

**External review**

- Evaluation through an independent external assessment
Example of a green bond - Volvofinans Bank

**TRANSPARENCY**

To enable investors to follow the development and provide insight to prioritised areas, Volvofinans Bank will provide an annual Green Bonds investor letter which will include the following items:

1. A description of the Green Loan Portfolio including:
   (a) impact reporting at portfolio level;
   (b) information about the maturity profile of the Green Loan Portfolio;
   (c) information about the average share of the total value of the vehicles in the Green Loan Portfolio that has been financed by Volvofinans Bank; and
   (d) information about the share of Green Bond financing of the Green Loan Portfolio.


Volvofinans Bank recognises the importance of impact reporting. Volvofinans Bank undertakes to include information in the Green Bonds investor letter about the reduced carbon footprint of the funded Eligible Projects at portfolio level in relation to relevant reference values.

**SELECTION OF ELIGIBLE PROJECTS**

Projects selected in consensus by the Head of Treasury and the Head of Compliance (i.e. both departments have a veto). Approved loans and leases will be included in Bank’s green loan portfolio (“Green Loan Portfolio”). The ambition at all times will be larger than the amount of outstanding Green Bond. The share of Green Bond financing of the Green Loan Portfolio will be made publically available on Volvofinans Bank’s web page, www.volvofinans.se.

- All provide insight to prioritised areas;
- Entirely or partially by non-fossil fuels, i.e.:
  - biogas/natural gas vehicles
  - biogas/natural gas/petrol vehicles

Volvofinans Bank has developed a list of projects which are eligible for financing as Green Bonds based on criteria that promote sustainability and reduce the environmental footprint. The list includes but is not limited to:

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Part 7: External review
Webinar: Green Bonds – an Innovative and Efficient Way of Financing Green Investments

Who defines green?

Voluntary principles for issuing a green bond that the vast majority of issuers align with across all markets

Country level guidelines in some markets

Stock exchanges with green bond lists set criteria for listing

Green bond indices and funds have criteria for inclusion
Guidelines for external reviews of green bonds

1. Integrity
2. Objectivity
3. Professional Competence and Due Care
4. Confidentiality
5. Professional Behaviour

Source: https://www.icmagroup.org/green-social-and-sustainability-bonds/external-reviews/
## Range of external review approaches – pre-issuance

<table>
<thead>
<tr>
<th>Type</th>
<th>Pre-Framework</th>
<th>Pre-issuance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Framework consulting</td>
<td>Help issuer develop green bond framework</td>
<td>Most follow the GBP. Some follow accounting for proceeds only, some look into environmental criteria and governance</td>
</tr>
<tr>
<td>Second Opinions</td>
<td>Conflict of interest with fully independent second opinions</td>
<td>Some ratings allow only a portion of proceeds used for green projects, some take a broader climate risk approach</td>
</tr>
<tr>
<td>Green Scoring/ Ratings</td>
<td>Green Scoring/ Ratings</td>
<td>Certification against standard</td>
</tr>
<tr>
<td>Certification against standard</td>
<td>Current standards available only for carbon emissions in certain project types in energy, transport, utilities and buildings sectors</td>
<td>Possibility that standard locks out best practices (e.g. resiliency in mitigation projects), or new technology development necessary for transition (e.g. electric car battery development)</td>
</tr>
</tbody>
</table>

Adapted from: Clapp, Christa, “What is Green and the Developing Green Bond Standards”, Green Bond Evolution, Environmental Finance.

Notes: Table reflects author’s opinion based on: CICERO Second Opinion Framework, GBP 2017, and available methodology descriptions for CBI, Moody's, Oekom, Sustainalytics, S&P, and Vigeo.
## Range of external review approaches – post-issuance

<table>
<thead>
<tr>
<th>Type</th>
<th>Approaches</th>
<th>Potential challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verification of use of proceeds</td>
<td>Follow accounting of financial flows for green projects</td>
<td>Does not consider how green projects are</td>
</tr>
<tr>
<td>Verification of environmental impacts</td>
<td>Measure realized carbon emissions or other environmental metrics of projects</td>
<td>Can be overly focused on emission reduction accounting</td>
</tr>
<tr>
<td>Updates of ratings and second opinions</td>
<td>Annual renewals can result in upgrades or downgrades of ratings or opinions</td>
<td>Unclear if scope of updates includes realized impacts</td>
</tr>
</tbody>
</table>


Notes: Table reflects author’s opinion based on CICERO Second Opinion Framework, GBP 2017, and available methodology descriptions for CBI, Moodys, Oekom, Sustainalytics, S&P, and Vigeo.
The second opinion process
Green rating on climate risk

<table>
<thead>
<tr>
<th>SHADES OF GREEN</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dark green</strong> is allocated to projects and solutions that correspond to the long-term vision of a low carbon and climate resilient future.</td>
<td>Wind energy projects with a governance structure that integrates environmental concerns</td>
</tr>
<tr>
<td><strong>Medium green</strong> is allocated to projects and solutions that represent steps towards the long-term vision, but are not quite there yet.</td>
<td>Plug-in hybrid busses</td>
</tr>
<tr>
<td><strong>Light green</strong> is allocated to projects and solutions that are environmentally friendly but do not by themselves represent or contribute to the long-term vision.</td>
<td>Efficiency in fossil fuel infrastructure that decreases cumulative emissions</td>
</tr>
<tr>
<td><strong>Brown</strong> for projects that are in opposition to the long-term vision of a low carbon and climate resilient future.</td>
<td>New infrastructure for coal</td>
</tr>
</tbody>
</table>
Green projects come in all shades, but clear trends by sector

Fewer light green projects so far, these projects are essential to a successful transition
Part 8: Impact reporting
Why report on environmental impacts?

• Transparency is key to the integrity of the green bond market

• Pre-issuance external review provides insights on framework, post-issuance reporting on implementation and actual environmental impact

• Investors increasingly expect impact reporting for green bonds
Impact metrics

Numeric measurements of expected/actual impact. Issuer is encouraged to include "green metrics" in addition to emissions.

Examples:

- Mwh of electricity produced
- Reduction of CO₂-equivalents emissions
ICMA working groups have suggested metrics for some sectors.

Nordic Public Sector issuers 2017 Position Paper

MDBs Harmonized Framework for Impact Reporting from 2015
External reviews in Brasil

PEAX – A Brazilian Program to Promote the Structuring and External Evaluation of Green Bonds

• Companies interested in issuing green bonds may obtain financial support through this program
• Cover the costs of consultancy and external evaluation of the green credentials of the bond.

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Débora Masullo de Goes (dmasullo@sitawi.net)
Part 9: Wrap-up
**Further information**

- [ICMA: The Green Bond Principles 2018](https://www.icma.net/)
- SEB’s latest Green Bond research
- [CICERO’s climate finance work](https://www.cicero.org/)
- [ICMA: The Green Bond Principles 2018](https://www.icma.net/)
- [ICMA: Guidelines for Green, Social and Sustainability Bonds External Reviews](https://www.icma.net/)
- Climate Bonds Initiative: Green Bond Pricing in the Primary Market (Q4 2017)
- [ICMA: Guidelines for Green, Social and Sustainability Bonds External Reviews](https://www.icma.net/)
- CEBDS & Febraban: Guide for Issuing Green Bonds in Brazil
- [Laboratório de Inovação Financeira](https://lif.cefet.sp.br/)
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Part 10: Questions?