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

**SEB**
- 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

**giz**
- 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**
- 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
• Global green bond market development
• Green bonds in Mexico
• Why issue and invest in green bonds
• The Green Bond Principles & other standards
• How to set up a green bond framework
• External reviews
• Impact reporting
Part 1: Why green bonds?
Global annual temperatures from 1850-2017

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

Webinar: Green Bonds – an Innovative and Efficient Way of Financing Green Investments
Transition to sustainable economies provides investment opportunities

Green Bonds

Webinar: Green Bonds – an Innovative and Efficient Way of Financing Green Investments

Source: CICERO
Webinar: Green Bonds – an Innovative and Efficient Way of Financing Green Investments

Green solutions are scalable

New rail lines
ADIF-Alta Velocidad

Electric and hybrid cars
Volvofinans

Flood defenses
Nederlandse Waterschapsbank

Source: Reuters, GMO
Part 2:
What is a green bond?
What is a green bond?

Green Bond Definition

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

Same underlying mechanisms as regular bonds. Main difference is that only pre-defined projects can be financed. 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

Webinar: Green Bonds – an Innovative and Efficient Way of Financing Green Investments
What do green bonds finance according to the GBP's?

- 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

Figure 1. Total Cumulative Issuance (USD Bn)

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 Mexico
Green, social & sustainability bond issuances in Mexico

<table>
<thead>
<tr>
<th>Issuer</th>
<th>Issuance date</th>
<th>Volume (millions)</th>
<th>Term (years)</th>
<th>Oversubscription (times)</th>
<th>Coupon rate (%)</th>
<th>Type of bond</th>
<th>Use of proceeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAFIN</td>
<td>Nov 15</td>
<td>USD 500</td>
<td>5</td>
<td>5.0</td>
<td>3.41</td>
<td>Green</td>
<td></td>
</tr>
<tr>
<td>NAFIN</td>
<td>Sep 16</td>
<td>MXN 2 mil</td>
<td>7</td>
<td>3.0</td>
<td>6.05</td>
<td>Social</td>
<td></td>
</tr>
<tr>
<td>GACM</td>
<td>Sep 16</td>
<td>USD 2 mil</td>
<td>10 / 30</td>
<td>6.5</td>
<td>4.37 / 5.60</td>
<td>Green</td>
<td></td>
</tr>
<tr>
<td>CDMX</td>
<td>Dec 16</td>
<td>MXN 1 mil</td>
<td>5</td>
<td>2.5</td>
<td>6.02</td>
<td>Green</td>
<td></td>
</tr>
<tr>
<td>Rotoplas</td>
<td>Jun 17</td>
<td>MXN 2 mil</td>
<td>3 / 10</td>
<td>3.8</td>
<td>TIE + 68 / MBONO 27 + 189</td>
<td>Sustainability</td>
<td></td>
</tr>
<tr>
<td>Banobras</td>
<td>Aug 17</td>
<td>MXN 10 mil</td>
<td>3 / 7</td>
<td>3.4</td>
<td>TIE - 3 / MBONO24 + 49</td>
<td>Sustainability</td>
<td></td>
</tr>
<tr>
<td>GACM</td>
<td>Sep 17</td>
<td>USD 4 mil</td>
<td>10 / 30</td>
<td>5.0</td>
<td>3.88 / 5.50</td>
<td>Green</td>
<td></td>
</tr>
<tr>
<td>CDMX</td>
<td>Nov 17</td>
<td>MXN 2 mil</td>
<td>10.5</td>
<td>1.8</td>
<td>7.60</td>
<td>Sustainability</td>
<td></td>
</tr>
<tr>
<td>Banobras</td>
<td>Mar 18</td>
<td>MXN 10 mil</td>
<td>3 / 7</td>
<td>5.2</td>
<td>TIE - 5 / MBONO24 + 49</td>
<td>Sustainability</td>
<td></td>
</tr>
<tr>
<td>BBVA Bancomer</td>
<td>Sep 18</td>
<td>MXN 3.5 mil</td>
<td>3</td>
<td>1.3</td>
<td>TIE + 10</td>
<td>Green</td>
<td></td>
</tr>
<tr>
<td>FIRA</td>
<td>Oct 18</td>
<td>MXN 2.5 mil</td>
<td>3</td>
<td>2.0</td>
<td>TIE + 15</td>
<td>Green</td>
<td></td>
</tr>
</tbody>
</table>

Icon Source: thenounproject.com
→ Increased public interest and marketing benefits through green bonds

**Mexican green bonds in the media**

**BBVA Bancomer 2018**

**Cost equivalent MXN 3.40mn**

**# News: 82**

**NAFIN 2016**

- # News: 30
- Cost equivalent MXN 2.70mn

**NAFIN 2015**

- # News: 15
- Cost equivalent MXN 0.37mn

**AICM 2016 & 2017**

- # News: 49
- Cost equivalent MXN 2.70mn

Total = 52 notas por $13.1 MXN mil*

*Takes into account 3 news in radio and television, which amount to MXN 11.2 mil.

**Note:** The impact includes national newspapers, radio and TV stations, news agencies, the Internet, regional news and magazines. (i) The information for NAFIN was gathered in November 2015 and September 2016, because these were the months after the first and second issues, respectively. (ii) The information for AICM was gathered during September 2016 and 2017, which were the months of the first and second issues, respectively. (iii) The information for Bancomer takes into account the period between 27 September and 23 October 2018.

Source: Elaboración propia con datos de Comunicación Interna de BBVA Bancomer.
Issuing a green bond in Mexico

Certification
(2nd Opinion)
- Use of proceeds (project portfolio)
- Low cost (approx. USD25,000)

Reporting
- Not obligatory but highly recommended
- No minimum content requirements
- Can be included in the annual report
- Many issues follow the GBPs

Same regulation as regular bonds
- BMV & CNBV require reporting and certification for listings in its green bond segment
- Proposal for tax incentives (in progress)
Part 5:
Why issue and invest in green bonds?
## Incorporating sustainability in financial systems

<table>
<thead>
<tr>
<th>Investment Principles</th>
<th>Sustainable Financial Products</th>
<th>Policies &amp; Regulation</th>
<th>Disclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Principles for Responsible Investments (PRI)</td>
<td>• Green/social bonds</td>
<td>• European Commission’s Action Plan on Financing Sustainable Growth</td>
<td>• Task Force on Climate-related Financial Disclosures (TCFD)</td>
</tr>
<tr>
<td>• Montreal Carbon Pledge</td>
<td>• Green/social loans</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Equator Principles</td>
<td>• Securitization</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Microfinancing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Indices &amp; ETFs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Green funds</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Green listings</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• YieldCos</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Venture Capital</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Crowdsourcing</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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

<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</td>
<td>• Evaluation through an independent external assessment</td>
</tr>
<tr>
<td>• Mitigation</td>
<td>• Adaption</td>
<td>• Environmental</td>
<td>• Impact reporting</td>
<td></td>
</tr>
</tbody>
</table>

Green Bond Framework – definitions & procedures
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:
   - impact reporting at portfolio level;
   - information about the maturity profile of the Green Loan Portfolio;
   - 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
   - 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**

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

- Eligible Projects must meet the criteria which are valid at the time of approval of the loan or lease, see section 4.

Eligible Projects must provide an annual Green Bonds investor letter which will include the following items:

1. A description of the Green Loan Portfolio including:
   - impact reporting at portfolio level;
   - information about the maturity profile of the Green Loan Portfolio;
   - 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
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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.

**Carbon and climate**

- Entirely or partially by non-fossil fuels, i.e.:
  - electric vehicles
  - hydrogen vehicles
  - control hybrid vehicles
  - diesel hybrid vehicles
  - biogas/natural gas vehicles
  - biogas/natural gas/petrol vehicles

*Eligible Projects must meet the criteria which are valid at the time of approval of the loan or lease, see section 4.*
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
## Range of external review approaches – pre-issuance

<table>
<thead>
<tr>
<th>Pre-Framework</th>
<th>Pre-issuance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td></td>
</tr>
<tr>
<td>Framework consulting</td>
<td>Second Opinions</td>
</tr>
<tr>
<td><strong>Approaches</strong></td>
<td></td>
</tr>
<tr>
<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><strong>Potential challenges</strong></td>
<td></td>
</tr>
<tr>
<td>Conflict of interest with fully independent second opinions</td>
<td>Wide range of approaches and quality</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, Moodys, Oekonom, 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

- **Assessment begins**
  - Green Bond Framework
  - Sustainability Strategy and Reports
  - Other relevant documentation

- **Draft Second Opinion**
  - Climate Science
  - Use of Proceeds
  - Management of proceeds
  - Governance and Transparency
  - Impact Reporting

- **Final Second Opinion**
  - Clarifications with Issuer as needed
  - Relevant standards

- **Input from Issuer**
  - Week 1 - 2
  - Week 3 - 5
  - Second Opinion Report
Green rating on climate risk

**SHADES OF GREEN**

- **Dark green** is allocated to projects and solutions that correspond to the long-term vision of a low carbon and climate resilient future.
  - Examples: Wind energy projects with a governance structure that integrates environmental concerns

- **Medium green** is allocated to projects and solutions that represent steps towards the long-term vision, but are not quite there yet.
  - Examples: Plug-in hybrid busses

- **Light green** is allocated to projects and solutions that are environmentally friendly but do not by themselves represent or contribute to the long-term vision.
  - Examples: Efficiency in fossil fuel infrastructure that decreases cumulative emissions

- **Brown** for projects that are in opposition to the long-term vision of a low carbon and climate resilient future.
  - Examples: New infrastructure for coal
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 CO$_2$-equivalents emissions
Guidelines for impact reporting

ICMA working groups have suggested metrics for some sectors

Nordic Public Sector issuers 2017 Position Paper

MDBs Harmonized Framework for Impact Reporting from 2015
Part 9: Wrap-up
Further information

- UNEP Inquiry: The Financial System We Need (2015) & Annual Overview 2017
- High Level Expert Group’s Final Report & EU Action Plan on Financing Sustainable Growth
- ICMA: The Green Bond Principles 2018
- SEB’s latest Green Bond research
- CICERO’s climate finance work
- ICMA: The Green Bond Principles 2018
- ICMA: Guidelines for Green, Social and Sustainability Bonds External Reviews
- Climate Bonds Initiative: Green Bond Pricing in the Primary Market (Q4 2017)
- ICMA: Guidelines for Green, Social and Sustainability Bonds External Reviews
How to contact us

Ben Powell, Senior Banker, Climate & Sustainable Finance, SEB
T: +47 2282 6675
E: ben.powell@seb.no
I: www.seb.se/mb

Kristina Alnes, Senior Advisor, CICERO
T: +47 97 68 72 54
E: kristina.alnes@cicero.oslo.no
I: www.cicero.oslo.no

Christine Majowski, Project Manager, Sustainable Finance, GIZ
T: +49 6196 79 7277
E: christine.majowski@giz.de
I: www.emergingmarketsdialogue.org | www.develoPPP.de

Guillermo Bernal del Valle, Technical Secretary, Sustainability Committee, ABM
T: +52 55 5722 4367
E: gbernal@abm.org.mx
I: www.abm.org.mx
Part 10: Questions?