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

<table>
<thead>
<tr>
<th>Approach</th>
<th>Stakeholders</th>
</tr>
</thead>
</table>
| • 25+ technical workshops, roundtables & conferences  
• Dedicated bilateral advisory support  
• Knowledge products: Green Bond publication, webinars & online learning videos, global SF e-learning platform | • Issuers  
• Financial intermediaries  
• Investors  
• Policymakers & regulators  
• External reviewers |

**Partners**

- **Regional implementation partners**
  - [Image of logos]

- **Technical partner**
  - CICERO
### The partners

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

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

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 Bonds

Source: CICERO
Green solutions are scalable

New rail lines
ADIF-Alta Velocidad

Electric and hybrid cars
Volvo FINANS

Flood defenses
Nederlandse Waterschapsbank

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

**Green Bond Definition**

**ICMA**

*International Capital Market Association*

**The Green Bond Principles**

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 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

![Figure 1. Total Cumulative Issuance (USD Bn)](image)
Green Bond market growth and sectors of the market shifting

[Bar chart showing the growth of different sectors (Sovereigns, Municipal, Financials, Supranational, Government agencies, Corporates, ABS/MBS) from 2010 to 2019 YTD]
Part 4:
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

**Issuer**

- 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
Value proposition of green and sustainable bonds

"We’ve partnered on other sustainability projects in the past, but integrating our corporate sustainability strategy with a core part of our capital structure has raised our level of integration and cooperation."

Drew Wolff, Vice President of Treasury at Starbucks

"Markets are short-term, so they are pricing the likelihood of polluting companies being penalised at almost zero. People are beginning to ask if they can really make that bet... If you misprice those risks, then you’ve failed your fiduciary responsibility"

Frederic Samama, Amundi

“Local governments wield significant influence and authority that can drive environmental sustainability within their jurisdictions.”

The California Sustainability Alliance
Part 5:
The five pillars of a green bond framework
The 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

Green Bond Framework – definitions & procedures
Example of a green bond - Volvofinans Bank

1. ELIGIBILITY CRITERIA

An amount equal to the net proceeds of the green bonds ("Green Bonds") issued by Volvofinans Bank AB (publ) ("Volvofinans Bank") will be credited to a special account ("Special Account") that will support Volvofinans Bank’s Eligible Projects (as defined below). As long as the Green Bonds are outstanding and the Special Account has a positive balance, at the end of each fiscal quarter, funds will be debited from the Special Account and added to Volvofinans Bank’s lending pool in an amount equal to all debentures from that pool made during such quarter in respect of Eligible Projects. Until disbursement to Eligible Projects, the Special Account balance will be placed in Volvofinans Bank’s liquidity reserve. The cost majority of the reserve consists of covered bonds and municipal bonds.

2. ELIGIBLE PROJECTS

Eligible Projects mean a selected pool of loans and leases to vehicles that are funded, in whole or in part, by Volvofinans Bank and that promote the transition to low carbon and climate resilient growth, as determined by Volvofinans Bank.

Such vehicles shall represent sustainable transportation defined as passenger vehicles which:

- meet the criteria as specified in Paragraph 11:1 of Chapter 2 of the Swedish Road Traffic, Tax Act (See: Vägtrafikkontrolllagen 2006:40, "Environmental Friendly Care") (See: Regulations and):
- can be powered entirely or partially by non-fossil fuels, i.e.:
  - electric vehicles
  - fuel cell vehicles
  - electric/petrol hybrid vehicles
  - electric/diesel hybrid vehicles
  - petrol/gas hybrid vehicles
  - bio/gas natural gas vehicles
  - bio/gas natural gas/petrol vehicles

3. SELECTION OF ELIGIBLE PROJECTS

Eligible Projects will be selected in accordance with the Head of Treasury and the Head of Sustainability Department (i.e. both departments have an exit). Approved bonds and leases will be documented in an Eligible Projects documentation which includes the following aspects:

- Eligible Projects must meet the criteria which are valid at the time of approval of the loan or lease for inclusion in Volvofinans Bank’s Green Loan Portfolio (as defined below).
- Volvofinans Bank’s Green Bonds can be used to finance new Eligible Projects and to reference Eligible Projects in accordance with the Green Bonds Framework.

4. 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 have been financed by Volvofinans Bank;
   - (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.

The Green Bonds investor letter as well as the use of proceeds, tracking and management of funds will be assessed by Volvofinans Bank’s designated compliance functions. The Green Bonds investor letter and the opinion of the compliance function will be made publicly available on Volvofinans Bank’s web-page, www.volvofinans.se.
Use of Proceeds

**ELIGIBLE PROJECTS**

"Eligible Projects" means a selected pool of loans and leases to vehicles that are funded, in whole or in part, by Volvofinans Bank and that promote the transition to low carbon and climate resilient growth, as determined by Volvofinans Bank.

- can be powered entirely or partially by non-fossil fuels, i.e.:
  - electric vehicles
  - fuel cells vehicles
  - electric/petrol hybrid vehicles
  - electric/diesel hybrid vehicles
  - ethanol/petrol hybrid vehicles
  - biogas/natural gas vehicles
  - biogas/natural gas/petrol vehicles

**Process for project evaluation and selection**

**SELECTION OF ELIGIBLE PROJECTS**

Eligible Projects will be selected in consensus by the Head of Treasury and the Head of Sustainability Departments (i.e. both departments have a veto). Approved loans and leases will be included in Volvofinans Bank’s green loan portfolio ("Green Loan Portfolio"). The ambition is that the Green Loan Portfolio at all times will be larger than the amount of outstanding Green Bonds from Volvofinans Bank. The share of Green Bond financing of the Green Loan Portfolio will be specified in the annual Green Bonds investor letter, see section 4.
Example of a green bond - Volvofinans Bank

Management of Proceeds

EARMARKED ACCOUNT

An amount equal to the net proceeds of the green bonds ("Green Bonds") issued by Volvofinans Bank AB (publ) ("Volvofinans Bank") will be credited to a special account ("Special Account") that will support Volvofinans Bank’s Eligible Projects (as defined below). As long as the Green Bonds are outstanding and the Special Account has a positive balance, at the end of every fiscal quarter, funds will be deducted from the Special Account and added to Volvofinans Bank’s lending pool in an amount equal to all disbursements from that pool made during such quarter in respect of Eligible Projects. Until disbursement to Eligible Projects, the Special Account balance will be placed in Volvofinans Bank’s liquidity reserve. The vast majority of the reserve consists of covered bonds and municipal bonds.

Impact Reporting

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.

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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.
Part 6: External review
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><strong>Pre-Framework</strong></th>
<th><strong>Pre-issuance</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Framework consulting</strong></td>
<td><strong>Second Opinions</strong></td>
</tr>
<tr>
<td>Help issuer develop green bond framework</td>
<td>Help issuer develop green bond framework</td>
</tr>
<tr>
<td>Potential challenges</td>
<td>Potential challenges</td>
</tr>
<tr>
<td>Conflict of interest with fully independent second opinions</td>
<td>Conflict of interest with fully independent second opinions</td>
</tr>
</tbody>
</table>

### Second Opinions
- Most follow the GBP. Some follow accounting for proceeds only, some look into environmental criteria and governance
- Wide range of approaches and quality

### Green Scoring/Ratings
- Some ratings allow only a portion of proceeds used for green projects, some take a broader climate risk approach
- Wide range of approaches and quality

### Certification against standard
- Current standards available only for carbon emissions in certain project types in energy, transport, utilities and buildings sectors
- 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)

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

- Use of Proceeds
- Management of proceeds
- Governance and Transparency
- Impact Reporting

Final Second Opinion

- Clarifications with Issuer as needed

Input from Issuer

Week 1 - 2

Week 3 - 5

Second Opinion Report
## Green rating on climate risk

### SHADES OF GREEN

<table>
<thead>
<tr>
<th>Shade</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dark green</td>
<td>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>Medium green</td>
<td>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>Light green</td>
<td>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>Brown</td>
<td>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 7: 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
Guidelines for impact reporting

ICMA working groups have suggested metrics for some sectors

MDBs Harmonized Framework for Impact Reporting from 2015

Nordic Public Sector issuers 2017 Position Paper
Part 8: 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
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Part 9: Questions?