Online learning series: Green bonds – an innovative and efficient way of financing green investments

Module I: Green bonds – what, why & how

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**

<table>
<thead>
<tr>
<th>Regional implementation partners</th>
<th>Technical partner</th>
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<tbody>
<tr>
<td></td>
<td>&quot;CICERO&quot;</td>
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Webinar I: Green bonds – what, why & how
Selected engagements as thought leader in the field

- One of the 14 founding banks setting up **The Green Bond Principles** (GBP)
- Member of **GBP Executive Committee** and External Reviewer working group
- **Public private partnership** with German GIZ
- Key advisor for the **joint position paper** on green bonds impact reporting launched at the OECD Green Investment Financing Forum in Paris 2017

Green Bond structural advice

- Definition
- Selection
- Traceability
- Transparency

Green Bond research

- Monthly Green Bond research launched in January 2017

STA’s sustainable finance e-learning

- Sustainable finance e-learning to be launched in 2019

Webinar I: Green bonds – what, why & how

SEB’s green and sustainable finance platform
CICERO Center for International Climate Research

CICERO is one of the world’s foremost institutes for interdisciplinary climate research. The institute has played an active role in the IPCC since 1995. In recent years, CICERO has also been one of the pioneers of climate finance research.

Pioneers in Second Opinion Provision for Green Bonds

- First green bond (World Bank)
- First municipal green bond (Gothenburg)
- First corporate green bond (Vasakronan)
- First green sukuk (Tadau Energy)

CICERO’s Director Kristin Halvorsen

Halvorsen was Norway’s first female Minister of Finance.
GIZ – International Cooperation Services for Sustainable Development

• Public-benefit German federal enterprise providing services in international cooperation for sustainable development.

• Working with governments, international organizations, businesses, research institutions and civil society in around 120 countries.

**develoPPP.de programme**: GIZ on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) works with the private sector to support innovative projects in developing and emerging economies for sustainable development.
Webinar I: Green bonds – What, Why & How

Content & learning objectives

• Background: Why green bonds
• What a green bond is
• The Green Bond Principles
• Global green bond market development
• Why issue and invest in green bonds?
Part 1:
Background – Why Green Bonds?
Global Annual Temperatures 1850-2017 (Color-Coded)

Colour-Code Global Annual Temperatures

Source: Ed Hawkins, Climate Lab

1850 2017
Svalbard - the former Vantage Point of Glaciers
In Paris 2015, the world agreed to stay well below 2°C
To stay well below 2°C, science tells us that...

… greenhouse gas emissions must go to zero within a few decades, or we need large-scale negative emissions (with the associated risks) to compensate.
Investors expect increased losses from extreme weather

Global losses from extreme weather rose by 86 percent from 2007 to 2017 (EU Commission).
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
Business models need to change

Source: Task Force on Climate-related Financial Disclosures
Investors are increasingly paying attention to sustainability (ESG)

PRI Signatories’ Assets under Management (bn USD)  Absolute Volume of Issued Green Bonds (bn USD)

Source: PRI, CBI and SEB
Transition to sustainable economies provides investment opportunities

Webinar I: Green bonds – what, why & how
Greening electricity, heat and transportation is key
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
- Definitions of eligible projects

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
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
- 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.
Green Bond issuance by region and country

**Figure 7. Top 15 geography by issuance in 2018, incl.**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Geography</th>
<th>YTD 8/2018 (US Bn)</th>
<th>Rank Change YoY</th>
<th>Issuance Volume Δ YoY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>UNITED STATES</td>
<td>23.3</td>
<td>=</td>
<td>-3%</td>
</tr>
<tr>
<td>2</td>
<td>CHINA</td>
<td>11.4</td>
<td>=</td>
<td>-25%</td>
</tr>
<tr>
<td>3</td>
<td>SNAT</td>
<td>9.6</td>
<td>+1</td>
<td>23%</td>
</tr>
<tr>
<td>4</td>
<td>FRANCE</td>
<td>9.3</td>
<td>-1</td>
<td>-37%</td>
</tr>
<tr>
<td>5</td>
<td>BELGIUM</td>
<td>6.1</td>
<td>NEW</td>
<td>∞</td>
</tr>
<tr>
<td>6</td>
<td>SPAIN</td>
<td>4.9</td>
<td>+4</td>
<td>124%</td>
</tr>
<tr>
<td>7</td>
<td>SWEDEN</td>
<td>4.6</td>
<td>=</td>
<td>57%</td>
</tr>
<tr>
<td>8</td>
<td>CANADA</td>
<td>3.8</td>
<td>+5</td>
<td>139%</td>
</tr>
<tr>
<td>9</td>
<td>NORWAY</td>
<td>3.5</td>
<td>+18</td>
<td>1869%</td>
</tr>
<tr>
<td>10</td>
<td>GERMANY</td>
<td>3.4</td>
<td>-5</td>
<td>-11%</td>
</tr>
<tr>
<td>11</td>
<td>NETHERLANDS</td>
<td>2.8</td>
<td>-5</td>
<td>-16%</td>
</tr>
<tr>
<td>12</td>
<td>INDONESIA</td>
<td>2.0</td>
<td>NEW</td>
<td>∞</td>
</tr>
<tr>
<td>13</td>
<td>SOUTH KOREA</td>
<td>1.7</td>
<td>+7</td>
<td>322%</td>
</tr>
<tr>
<td>14</td>
<td>JAPAN</td>
<td>1.6</td>
<td>+1</td>
<td>176%</td>
</tr>
<tr>
<td>15</td>
<td>ITALY</td>
<td>1.5</td>
<td>-3</td>
<td>-19%</td>
</tr>
</tbody>
</table>

Source: SEB analysis based on Bloomberg and SEB data

**Figure 8. Regional distribution of green bond issuance**

Source: SEB analysis based on Bloomberg and SEB data. SNAT: Supranational
Global Green Bond market by currency

Figure 11. 2018 YTD green bond issuance by currency

- USD: 33.8%
- EUR: 39.6%
- CNY: 8.5%
- SEK: 6.3%
- GBP: 0.9%
- CAD: 4.4%
- AUD: 2.0%
- CHF: 0.7%
- Other: 2.6%

Source: SEB analysis based on Bloomberg and SEB data

Figure 12. Cumulative green bond issuance by currency 2007-2018

- USD: 40.8%
- EUR: 31.6%
- CNY: 13.0%
- SEK: 4.6%
- BRL: 4.5%
- AUD: 4.3%
- JPY: 1.7%
- INR: 0.5%
- NOK: 0.5%
- CAD: 0.4%
- Other: 2.2%

Source: SEB analysis based on Bloomberg and SEB data. SNAT: Supranational
Part 4: Why issue and invest in green bonds?
Implementing 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)

**Reporting**
- Task Force on Climate-related Financial Disclosures (TCFD)
The green bond market ecosystem

- Investors
- Issuers
- NGO’s
- External reviewers
- Regulators & standard-setters
- Society
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 4: Wrap-up
Webinar I: Green bonds – what, why & how

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<th>What’s next</th>
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<td>• Webinar 2: Setting up a green bond framework</td>
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<tr>
<td>• Webinar 3: Safeguarding: Definitions, impact reporting &amp; external review</td>
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</table>
Webinar 2: Setting up a green bond framework

More information

• UN Sustainable Development Goals
• Paris Climate Agreement & Nationally Determined Contributions
• UNEP Inquiry: The Financial System We Need (2015) & Annual Overview 2017
• Task Force on Climate-related Financial Disclosures (TCFD): Final Report & 2018 Status Report
• 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
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