Green Bonds

Mumbai, January 2017
Senior Adviser Harald Francke Lund
Independent non-profit climate change research center

Link between climate science and financial community
CICERO’s involvement and motivations

World-leading provider of second opinions on green bonds

Expert Network on Second Opinions
Global temperature change (1850–2016)

Jan
2.0°C
Feb
1.5°C
Mar
0.0°C
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

HadCRUT4
@ed_hawkins
Pledges to the Paris Agreement avoid the worst effects of climate change (4-5°C) but still far from 2°C.
Climate change will increase extreme events

- Sea level rise
- Droughts
- Extreme precipitation
Physical impacts & policy measures could have major impacts on investors

Task Force on Climate-related Financial Disclosures (TCFD) launched its report in December 2016 on voluntary, consistent climate-related financial risk disclosures

Source: IPCC AR5 WG3 2014
How can investors better secure the value of their portfolios against climate change risk?
Climate finance flows in last five years have been significant despite economic crisis

Total climate finance in 2014: $391 billion

Global climate finance increased by 18% in 2014, more money than ever

New Climate Economy Report 6,000 bn USD is needed a year

Source CPI
Green bonds use of proceeds 2012-2016ytd

USD BILLIONS

- Adaptation
- Sustainable Land Use and Forestry
- Waste Management
- Water Management
- Low Carbon Transport
- Energy Efficiency/Low Carbon Buildings
- Renewable Energy

Source: Climate Bonds Initiative

2016 81 billions
What is Green – and Who Decides?

Voluntary Principles

Recommends external review

Second Opinions

Stock Exchanges

Require independent second opinions

Funds & Indices

Standards

Center for International Climate and Environmental Research - Oslo
**Green Bond Framework**

1. Use of proceeds (definitions)
2. Selection process (governance)
3. Management of proceeds
4. Reporting
KBN GREEN BOND FRAMEWORK

The purpose of this document is to describe KBNs Green Bond Framework built on KBNs overall environmental strategy. KBN is a member of ICMA’s Green Bond Principles (GBP) and is also aiming to comply with the “Harmonized Framework for Impact Reporting” developed by 11 Multilateral Development Banks in December 2015. The framework has four components:

1. Use of Proceeds
2. Process for Project Evaluation and Selection
3. Management of Proceeds
4. Reporting

1. Use of Proceeds

"Eligible Projects" means a selected pool of projects determined as eligible according to this Framework. Projects might be funded in whole or in part by KBN. Eligible Projects promote the transition to a low-carbon and climate resilient Public Sector. Such projects may target (a) mitigation of climate change through reduction of emissions from buildings, transportation and energy production, (b) adaptation to climate change such as investments in climate-resilient infrastructure, or (c) to a smaller extent (limited to 10%), projects related to a sustainable environment on a local scale.

Eligible Project categories

Please refer to “KBN Green Bonds: Supplementary guidelines for project selection, documentation and reporting” for detailed criteria and requirements of the Eligible Project categories.

- Renewable energy (a): to reduce the use of fossil fuel, KBN is financing installations for production of renewable energy. Please note that if the installation is part of a new construction project, it will fall under the "Green buildings" category.
- Energy efficiency (a): KBN is promoting projects aiming to lower the emissions from energy production and energy bills for the municipal sector by upgrading to higher energy standards or installing more energy-efficient technology such as heating and control systems.
- Green buildings (a): new buildings or additions to buildings with an energy performance superior to current energy standards according to the supplementary guidelines may qualify for KBNs green bond.
- Waste management (a/b/c): sustainable waste management is an important environmental initiative that it both reduces emissions and returns scarce resources to the value chain. KBN finances either new or upgrading of plants.
- Land use (b/c/d): projects including sustainable redevelopments of recreational and other areas.
- Low-carbon transportation (a): low emission or emission free public transportation. The category also includes pedestrian and bicycle lane projects.
- Water and wastewater management (b): a robust water and wastewater infrastructure is important to handle increased pressure on existing systems due to heavy rainfall and population growth. Projects include replacing and upgrading of water and sewage pipes in addition to financing equipment of handling and treatment.
- Climate change adaptation (b/c/d): natural disaster warning systems, landslide security systems, climate research and development programs.

2. Process for Project Evaluation and Selection

For a project to be included in the Eligible Projects pool, it shall comply with a) the categories listed in section 1 above and in the "KBN Green Bonds: Supplementary guidelines for project selection, documentation and reporting", b) the Municipality’s Environmental Plan and c) Norway’s Intended Nationally Determined Contributions (INDCs) according to the Paris Agreement. Applicants are required to describe eligibility by filling in a designated section in the loan document. Additionally, relevant documents including the Project’s estimated environmental performance shall be provided. A project’s eligibility is assessed by the Lending Department and approved by two Climate controllers. Approved Green Projects are entitled to KBN’s Green Lending Discount and included in the bank’s portfolio of Green Projects.

3. Management of Proceeds

An amount equal to the net proceeds of the issue of the Notes will be credited to a special budget account that will support KBN’s Eligible Projects, according to section 5 in the GBP. KBN will carefully manage the balance between green funding outstanding and green lending to make sure the green funding is disbursed in a timely manner. KBN aims to direct the predominant part of net proceeds to new projects. However, refinancing of selected projects with particularly high environmental or climate benefits is considered if in line with this framework.

4. Reporting

To enable investors to follow the development and provide insight into prioritized areas KBN will provide an annual SRIR report linked to the annual financial results report. The SRIR report will include a section on the progress of the Green Bond program. KBN will also keep the dedicated Green Bond websites continuously updated with: 1) a list of projects financed; 2) a selection of project examples "Green Bond Stories" and; 3) a summary of the KBN Green Bond development including statistics on our Green Project portfolio impact reporting, aiming to comply with the issuer group “Harmonized Framework for Impact Reporting” (Dec 2016).

KBN has appointed an advisory board, "The Green Committee", whose mandate will be to provide advice and guidance in matters related to the Bank’s Green Bond Framework. The committee will primarily draw on external expertise in related fields, but will also include members of the KBN staff. Our Green Bond process will be audited by KBN’s internal auditor, currently KPMG.
Flexible Frameworks vs. Standards

1. How to capture that both science and green bond market are dynamic in nature?

2. Could issuer specific frameworks be combined with international and regional standards with more fixed definitions (building standards etc.)?
CICERO’s Second Opinion Methodology
Review of Green Bonds

59% - 66% of green bonds have received an external review

- $50 bn
  - No review
  - External review
- $40 bn
  - External review
- $30 bn
  - External review
- $20 bn
  - External review
- $10 bn
- $0 bn

2013 2014 2015 2016 YTD

www.climatebonds.net
External Reviews

- Second Opinions
- Certifications
- Verifications
- Ratings

Source: CBI
Environmental Finance: Cicero is biggest second opinion provider in 2016

<table>
<thead>
<tr>
<th>Second Opinion Provider</th>
<th>Total Value of issuances for second opinions provided over 2016 ($billions)</th>
<th>Number of issuances in 2016</th>
<th>Value of new second opinions provided in 2016 ($billions)</th>
<th>Number of new issuers</th>
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<tbody>
<tr>
<td>Cicero</td>
<td>14.106</td>
<td>56</td>
<td>2.762</td>
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<tr>
<td>Sustainalytics</td>
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<td>Oekom</td>
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<td>DNV</td>
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Second Opinion Process

Issuer’s information
- Green bond framework
- Sustainability reports
- Information on selection & reporting

CICERO’s assessment criteria
- Use of Proceeds
  - Technologies and project types
  - Consideration of macro-impacts
- Management of proceeds
- Governance
  - Project selection and evaluation
  - Transparency
  - Reporting

Clarifications

CICERO recommendations and rating
- Light green
- Medium green
- Dark green
CICERO’s Shades of Green

<table>
<thead>
<tr>
<th>Color</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Dark green</td>
<td>Implementing a long-term solution</td>
</tr>
<tr>
<td>Medium green</td>
<td>On the way to a long-term solution</td>
</tr>
<tr>
<td>Light green</td>
<td>Short-term benefits, but not a long-term solution</td>
</tr>
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</table>
Figure 4: Number of CICERO second opinions by Shade of Green for each project type
Emerging Best Practice

• Improved internal dialogue between finance and environmental experts
• Increased focus on supply chains
• Impact reporting – beyond emission reductions

Looking forward: further harmonization or regionalization of second opinions and standards?
Standard structure of a second opinion report (~10 pages)

- Summary and recommendations (a concise overview for investors)
- Introduction and background (aim and approach of the second opinion)
- Disclaimer (CICERO is not liable for specific project validation)
- List of documents and brief description of green bond framework
- Assessment of framework in terms of
  - Strengths
  - Weaknesses, and
  - Pitfalls (areas where issuer should be aware of potential challenges)
- References
www.cicero.oslo.no/greenbonds

Harald Francke Lund
Senior Advisor
CICERO Climate Finance