Safeguarding integrity in the green bond market

Mumbai, India
16 November 2017

Kristina Alnes
Senior Advisor Climate Finance
CICERO is Norway’s foremost institute for interdisciplinary climate Research. Our areas of expertise include: the effects of manmade emissions on the climate, society’s response to climate change, and the formulation of international agreements. We have played an active role in the IPCC since 1995. In recent years we have also been one of the pioneers of climate finance research.

Halvorsen was Norway’s first female Minister of Finance. Her other posts include deputy Prime Minister and Minister of Education and Research.

CICERO Climate Finance Center

Estimating climate-related material risks (scenarios, Shades of Risk, detailed analysis)

Climate scientists and financial decision-makers working together

Clearing house of latest science

CICERO Climate Finance Advisory Board
Climate risks have financial impact

Physical climate risks and the transition to a low carbon world are associated with significant financial risks.

There is no agreed upon methodology for translating climate risk into financial risk.
Which climate scenarios are most likely?

Achieving approximately 3°C degrees in 2100 is more likely than 2°C, given current information.

Political and/or technological events can influence the temperature increase, pushing it up to 4-5°C or pulling it lower towards 2°C

Push factors
- India and/or China fail to implement their NDCs
  - Half of global savings due to energy efficiency happen in these two countries
- Carbon Capture and Storage (CCS) deployment is delayed due to cost and public opposition

Pull factors
- CCS is deployed rapidly at large-scale
  - CCS plants are built at the historical pace of coal plants in China or nuclear plants in Europe
- The US recommits to Paris and ambitious ratcheting every 5 years

Notes: 2°C is considered to be somewhat more likely than 4-5°C, given the possibility of tightening ambition under the Paris Agreement design, and the possibility of deploying CCS on a large scale. No climate policy reaching approximately 4-5°C would mean that current climate policies would be rescinded or relaxed.
Investors should expect losses from extreme weather

- Flooding and extreme events can have significant impacts in combination with extreme weather and sea level rise.

- Single events can have a significant impact, economic losses from Hurricane Harvey are estimated at 80 - 100 billion USD.

- All sectors can be impacted by flooding risk. Flooding in non-urban areas can have costly indirect impacts on supply chains.

“Everybody should expect more extreme storms, no matter where they live.”
- Michael Wehner, a senior staff scientist at Lawrence Berkeley National Laboratory in California.
Transition to climate resilience provides investment opportunities
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 have criteria for inclusion
External Review is market practice

Types of External Review 2016 (note: some overlap)

- Verification based on China Green Bond Catalogue (28%)
- Second Opinions (approx. 50%)
- CBI (9%)
External reviews open communication channel to investors

- **Assessment of a green bond issuer’s framework for selecting projects and investments to be eligible for green bond funding**

- Investors value an independent environmental quality review highlighting strengths, weaknesses and pitfalls

- Should be produced by an independent entity with environmental expertise and no economic interests in the outcome of investment
# Green Bond Rating on Climate Risk

## Shades of Green

<table>
<thead>
<tr>
<th>Color</th>
<th>Description</th>
<th>Examples</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>
Impact reporting builds investor trust

- Investors are beginning to expect impact reporting for green bonds
- GHG emissions is an important indicator, however, other indicators might be relevant as well
- Transparency on methodologies and assumptions is important

Source: CBI (2017)