Green Bonds for Renewable Energy

Energy Community Secretariat, Hungarian National Bank & Western Balkans Green Center: Webinars on Green Bonds
May 2022
AGENDA

1. IRENA background
2. Renewable energy investment trends
3. Energy transition investment needs
4. Unused capital pools: Institutional investors
5. Innovative instruments: Green bonds
6. Green bonds for renewable energy
7. Recommendations for stakeholders
IRENA: the only intergovernmental agency dedicated to renewables

- Near universal membership (160+ countries)
- Helping members transition to a sustainable energy system
- Principal platform for international cooperation on renewables
- Repository of knowledge on renewable energy:
  - Statistics
  - Policy
  - Technology
  - Finance
Renewable energy power capacity additions

Source: (IRENA, 2022)
Renewable energy power investments: past & present (excl. large hydro, USD billion, 2006-2021)

Source: (BNEF, 2022)
Renewable energy investments: the future?

Source: (IRENA, 2022)
Mobilising all capital pools: Spotlight on institutional investors

The split between indirect and direct investments, by investor type.

Institutional investors in the sample are more likely to have made indirect investments in renewable funds, as opposed to direct investments in projects. In total, 26% of sovereign wealth funds, 25% of pension plans, and 24% of insurance companies had made investments in renewables-focused funds. For direct investments in renewable energy projects, all the figures are extremely low: 8% of SWFs, 2% of insurance companies, and 1% of pension plans (Figure 2.3). Foundations and endowments trail the group with respect to both modes of investment, possibly due to their smaller average size and hence lower internal capacity for investments in renewables.

<table>
<thead>
<tr>
<th>Type of Investor</th>
<th>Number of firms</th>
<th>AUM (USD billion)</th>
<th>Firms with investments in infrastructure</th>
<th>Firms with investments in energy funds</th>
<th>Firms with direct energy investments</th>
<th>Firms with investments in renewable energy funds</th>
<th>Firms with direct renewable investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sovereign wealth funds</td>
<td>84</td>
<td>697</td>
<td>(13%)</td>
<td>(29%)</td>
<td>(13%)</td>
<td>(26%)</td>
<td>(8%)</td>
</tr>
<tr>
<td>Pension plans</td>
<td>2</td>
<td>898</td>
<td>(36%)</td>
<td>(63%)</td>
<td>(37%)</td>
<td>(44%)</td>
<td>(1%)</td>
</tr>
<tr>
<td>Insurance companies</td>
<td>711</td>
<td>31</td>
<td>(48%)</td>
<td>(44%)</td>
<td>(26%)</td>
<td>(24%)</td>
<td>(2%)</td>
</tr>
<tr>
<td>Sovereign wealth funds</td>
<td>8</td>
<td>8</td>
<td>(10%)</td>
<td>(74%)</td>
<td>(64%)</td>
<td>(54%)</td>
<td>(11%)</td>
</tr>
<tr>
<td>Endowments and foundations</td>
<td>1</td>
<td>416</td>
<td>(2%)</td>
<td>(25%)</td>
<td>(19%)</td>
<td>(0%)</td>
<td>(11%)</td>
</tr>
</tbody>
</table>

Number of institutional investors with renewable investments (via funds or direct), 1990 – Q2 2019, by investor type

Source: (IRENA, 2020) analysis based on Preqin (2019) data
How to activate institutional capital

**Main stakeholder(s):** Institutional investors
**Recommended actions:**
- Engage in internal education on renewables and climate risks
- Review long-term investment goals and adopt sustainability targets
- Build internal capacities in financial, legal and technical structuring
- Invest initially indirectly via funds, bonds and co-investment trades
- Join groups of institutional investors to share best practices

**Policy and regulatory actions**
- Deploy direct, integrating and enabling policies to support the growth and integration of renewables
- Review regulation of institutional investors
- Incorporate sustainability into fiduciary standards and investment mandates that apply to institutional investors
- Adopt sustainable finance principles:
  - Take up new investment principles including sustainability/ESG
  - Join sustainable finance co-operation initiatives
  - Require climate risk analysis and disclosure

**Main stakeholder(s):** Policy makers, public capital providers (e.g., DFIs)
**Recommended actions:**
- Lower project risks through instruments such as guarantees, political risk insurance, currency hedges, insurance products
- Standardise contractual agreements, aggregate projects to create scale
- Deploy blended finance mechanisms between public and private providers of capital such as co-financing transactions

**Capital market solutions**
- Policy makers, capital market regulators, ‘green’ standard-setters, public capital providers (e.g., DFIs)
**Recommended actions:**
- Develop desirable capital market instruments, such as project bonds/funds, green bonds/funds
- Develop a green bond framework via collaboration between policy makers, green standard-setters, capital markets and issuers
- Align with leading green standards
- Standardise and streamline the issuance process
- Incentivise issuance and certification, co-fund demonstration issuances
Green bond market - Annual issuances (2007-2021, USD bn)

Source: (Environmental Finance database, 2022)
Green bond market - Cumulative issuances (2007-2021, USD bn)

Source: (Environmental Finance database, 2022)
Green bonds as a percentage of the entire bond market

- Green bond market (2021)
- Global bond market (2020)

Source: (Environmental Finance database, 2022), (SIFMA, 2021)
Use-of-proceeds categories

- Renewable energy: 245 USD billion
- Green buildings: 177 USD billion
- Clean transportation: 90 USD billion
- Sustainable water management: 34 USD billion
- Energy efficiency: 22 USD billion
- Climate change adaptation: 7 USD billion
- Pollution prevention and control: 5 USD billion
- Eco-efficient products, production technologies and processes: 3 USD billion
- Sustainable management of living natural resources: 2 USD billion
- Terrestrial and aquatic biodiversity conservation: 1 USD billion

Source: (Environmental Finance database, 2022)
Green bonds for renewables

Source: (Environmental Finance database, 2022)
Green bonds for renewables

- Larger issuance size
  - Renewables-only = USD 230 million
  - All green bonds = USD 100 million

- Slightly longer maturity
  - Renewables-only vs All green bonds: 13 years vs 10 years

- Similar regional distribution:

<table>
<thead>
<tr>
<th>Region</th>
<th>Renewables-only</th>
<th>All green bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>0.4%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Asia–Pacific</td>
<td>24%</td>
<td>23%</td>
</tr>
<tr>
<td>Europe</td>
<td>50%</td>
<td>45%</td>
</tr>
<tr>
<td>Latin America</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>North America</td>
<td>23%</td>
<td>22%</td>
</tr>
<tr>
<td>Supranational</td>
<td>-</td>
<td>7%</td>
</tr>
</tbody>
</table>
Green bonds for renewables

➢ Top 5 issuing countries:

Renewables-only

1. United States $51 bn
2. Germany $35 bn
3. China $28 bn
4. Spain $20 bn
5. Netherlands $18 bn

All green bonds

1. United States $322 bn
2. China $215 bn
3. France $178 bn
4. Germany $153 bn
5. Netherlands $71 bn
Green bonds for renewables

**Renewables-dedicated Green Bonds**
(2007-2021, in USD)
- Agency: 14%
- Corporate: 13%
- Financial Institution: 71%

**All Green Bonds**
(2007-2021, in USD)
- Agency: 17%
- Corporate: 37%
- Financial Institution: 22%
- Municipal: 37%
- Sovereign: 10%
- Supranational: 8%
Corporate bond issued for renewables

EBRD invests EUR 5 mln in Lithuanian Green Bond

The European Bank for Reconstruction and Development said it is investing EUR 5 million in a EUR 25 million Green Bond issued by UAB Atsinaujinančios Energetikos Investicijos (AEI).
National Bank of Greece raises EUR 500 million via green energy bonds

The European Bank for Reconstruction and Development revealed it invested EUR 50 million in a six-year senior preferred green debt issuance by the National Bank of Greece (NBG). The Greek lender sold the country’s first green energy bonds, worth EUR 500 million and with an interest rate or coupon of 2.75% and a yield of 2.875%.

NBG sold the securities within the green bond framework that it adopted in April. They are compliant with the International Capital Market Association’s (ICMA) Green Bond Principles, which recommend transparency and disclosure.

The Athens-listed bank said it can use the funds only to finance or refinance equipment, development, manufacturing, construction, operation, distribution and maintenance of hydropower projects up to 20 MW, onshore wind energy projects and solar power plants in Greece.

Pioneering move for Greece

NBG is the country’s first lender in five years to issue senior notes. Senior preferred bonds have the highest priority in payback. The debt is callable in five years, which means the bank has the right to redeem it one year before maturing.

Eighty institutional investors pledged EUR 1.2 billion or 2.4 times more than NBG needed to sell the green energy bonds.
Agency bond issued for renewables

Vattenfall issues EUR 500 million green bond

Vattenfall has issued a new EUR 500 million green senior bond. The issue was oversubscribed by more than 3.5 times. Vattenfall now has three green bonds outstanding with a total size of EUR 1.5 billion.

The proceeds from the bond issue will be earmarked for investments in the four eligible categories specified in Vattenfall’s Green Bond Framework: Renewable energy and related infrastructure, energy efficiency, electrification of transport and heat, and industrial projects. Barclays, BNP Paribas, MUFG and Nordea acted as joint bookrunners on the bond issue.

Vattenfall’s CFO Kerstin Ahlfors comments on the strong demand for the bond: “I am happy to say that we have once more seen a very strong interest among European investors when issuing our new green bond and that so many have chosen to contribute to our goal of enabling fossil-free living within one generation.”

The settlement date is 12 February 2021.

Facts green bond:

<table>
<thead>
<tr>
<th>Size:</th>
<th>EUR 500 million</th>
</tr>
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<tbody>
<tr>
<td>Interest spread:</td>
<td>ms+36bps</td>
</tr>
<tr>
<td>Yield:</td>
<td>0.155%</td>
</tr>
<tr>
<td>Coupon:</td>
<td>0.125%</td>
</tr>
<tr>
<td>Price:</td>
<td>99.762%</td>
</tr>
<tr>
<td>Listing:</td>
<td>Nasdaq Stockholm</td>
</tr>
<tr>
<td>Documentation:</td>
<td>EMTN</td>
</tr>
<tr>
<td>Governing law:</td>
<td>Swedish law</td>
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</tbody>
</table>
### How to further grow the ‘green bonds for renewables’ market?

<table>
<thead>
<tr>
<th><strong>Policy makers</strong></th>
<th><strong>Development banks</strong></th>
<th><strong>Institutional investors</strong></th>
<th><strong>Others</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Supporting policies for renewable energy</td>
<td>Capacity building for green bond programmes</td>
<td>Internal capacity building for climate-related risks</td>
<td>Commercial banks</td>
</tr>
<tr>
<td>Development of the green/ sustainable finance sector</td>
<td>Economic support for green bond programmes and issuances</td>
<td>Review and revision of investment targets and incentives</td>
<td>Ratings agencies</td>
</tr>
<tr>
<td>Review of institutional investors green mandates and restrictions</td>
<td>De-risking of renewable energy projects</td>
<td>Cooperation with public and private financiers</td>
<td>International organisations</td>
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<td></td>
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<td></td>
<td>Individual investors</td>
</tr>
</tbody>
</table>
Thank you!
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Links: