Investing in Energy Efficiency and Renewable Energy

Update of the Activity of the Green for Growth Fund (GGF)

Vienna, Austria, Energy Community Secretariat Meeting, November 11, 2016
Agenda

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02 Organization of the GGF
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04 RE Project Finance Requirements
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About the GGF

Mission Statement

The mission of the Fund is to contribute, in the form of a public-private partnership with a layered risk/return structure, to **enhancing energy efficiency and fostering renewable energies** in the Southeast Europe region including Turkey (SEE) and the European Eastern Neighbourhood region (ENR) and in the Middle East and North Africa (MENA), predominantly through the provision of dedicated financing to businesses and households via partnering with financial institutions and direct financing.
About the GGF

History

Domicile: Luxembourg SICAV-SIF

First closing: December 2009

Current Investors

Initiators

KFW

European Investment Bank

BMZ

Federal Ministry for Economic Cooperation and Development

IFC
International Finance Corporation

OEEB
Österreichische Entwicklungsbank AG

FMO
Entrepreneurial Development Bank

GLS Bank

das macht Sinn

Church of Sweden

financenmotion

TA Facility Donors

BMZ
Federal Ministry for Economic Cooperation and Development

OEEB
Österreichische Entwicklungsbank AG
About the GGF

Regions the GGF Serves

Albania
Bosnia and Herzegovina
Croatia
Kosovo*
FYR Macedonia
Montenegro
Serbia
Turkey

Armenia
Azerbaijan
Georgia
Moldova
Ukraine

Egypt
Jordan
Lebanon
Morocco
Palestinian Territories
Tunisia

* This designation is without prejudice to positions on status, and is in line with UNSC 1244 and the ICJ Opinion on the Kosovo Declaration of independence.
02 Organization of the GGF
Flow of Funds – How GGF Investments Provide Impact

Organization of the GGF

Investors

Different Share Classes or Notes
Interest or Dividend

Technical Assistance and Training

Loans
Market Rate Interest, Principal and Information on Impact

Financial Institutions

EE/RE Loans
Market Rate Interest + Principal

Direct RE/EE Investments

Interest, Principal and Information on Impact

Households

Commerce

Industry

Agriculture
GGF’s Tiered Structure is Attractive to Private Investors

- **Private Investors**
- **Development Finance Institutions and International Financial Institutions**
- **Donors**

**Subordination Waterfall**

**Income Waterfall**

**Notes**
EUR 72 million – 18%

**Senior A Shares**
EUR 221.1 million – 54%

**Mezzanine B Shares**
EUR 26.4 million – 6%

**Junior C Shares**
EUR 89.9 million – 22%

As of October 2016
Organization of the GGF

Partners and Eligibility Criteria

Eligibility Criteria

- Minimum 20% reduction in primary energy consumption
- Minimum 20% reduction in CO₂ emissions
- Promotion of renewable energy

Partners

- Financial Institutions (> 70% of assets)
  - local commercial banks
  - non-bank financial institutions, such as microfinance institutions and leasing companies
  - other selected financial institutions
- Direct Investments in renewable energy and energy efficiency (≤ 30% of assets)
  - renewable energy projects
  - energy service companies
  - other non-financial institutions
Organization of the GGF

Financing Instruments

- Medium to long-term senior loans
- Subordinated loans
- Letters of credit
- Guarantees
- Mezzanine debt instruments
- Local debt securities
- Equity
Organization of the GGF

Improving Energy Efficiency via Partner Institutions with a broad spectrum of measures

Insulation Improvement: often below EUR 1,000
Process Machinery Replacement: EUR 50,000 – 250,000
Process Improvements: often over EUR 1 million
Street Lighting: up to EUR 10 million

Retail

Boiler Replacement: typically between EUR 2,000 – 5,000

SME

Agri-equipment Replacement: EUR 15,000 – 250,000

Corporate

Renewable Energy Projects: up to EUR 10 million

Municipalities

District Heating: up to EUR 10 million
Organization of the GGF

Providing Direct Financing for Renewable Energy (RE) Projects

Targeted RE Technologies
- Hydro Power
- Wind farms
- Solar (thermal and photovoltaic)
- Biogas / Biomass (no food crop replacement)
- Geothermal

One major criteria for the eligibility of projects is their adherence to GGF's environmental and social impact requirements.

GGF conditions for financing (senior debt)
- Long-term tenors possible (max. 15 years)
- Grace period possible during construction period
- GGF's contribution limited to twice the equity contributed
- Minimum EUR 7-10 million GGF contribution
- Hydropower limitations for dam height (15m) and reservoir volume (3 million m³)
The GGF Portfolio Overview
The GGF in Figures

Outstanding Investment Portfolio and Number of PIs

As of 30 September 2016
The GGF in Figures

Portfolio Outstanding

Investment Portfolio Outstanding per PI Type

- Large Banks: 33%
- Small Banks: 33%
- Leasing Companies: 26%
- MCOs: 1%
- Projects: 5%
- Corporates: 2%

Investment Portfolio Outstanding per Country

- Turkey: 31%
- Georgia: 15%
- Azerbaijan: 3%
- FYR Macedonia: 5%
- Bosnia and Herzegovina: 3%
- Albania: 10%
- Serbia: 11%
- Croatia: 12%
- Egypt: 6%
- Ukraine: 1%
- Armenia: 3%
- Moldova: 1%
- Bosnia and Herzegovina: 3%

As of 30 September 2016
The GGF in Figures

Impact Performance

CO2 Reduction (tCO2/yr)

- Buildings, 45%
- Use of RE for commercial energy generation, 22%
- Complex heat supply, 2%
- Use of RE by households and businesses, 3%
- Agri-equipment, 9%
- Others, 2%
- Improvements in processes, process related equipment, 17%

As of 30 September 2016
GGF Portfolio in Commercial Renewable Energy Projects

**FI RE Portfolio per Technology**
- Hydro: 64%
- Solar: 26%
- Biomass: 10%

**FI RE Portfolio per Country**
- Albania: 43%
- Turkey: 36%
- Georgia: 12%
- Croatia: 5%
- BiH: 2%
- Macedonia: 2%
Renewable Energy Project Finance

**Example of Project Finance Deal: Lengarica Hydropower Project (Albania)**

- **Project Sponsor:** Enso Hydro Energji sh.p.k.
- **Lenders:** GGF and OeEB
- **Project Size:** 8.9 MW
- **Total Project Cost:** EUR 22 million
- **Total Debt:** EUR 14.1 million (GGF EUR 9.1 million; OeEB EUR 5 million)
- **Loan Signing:** October 2013
- **Financial Close:** June 2014
- **Start of Operation:** December 2015
Renewable Energy Project Finance

Example of Project Finance Deal: Dariali Hydropower Project (Georgia)

- **Project Sponsors:** PERI Ltd., The Robbins Company, the Georgian Energy Development Fund, and Energy LLC
- **Lenders:** EBRD (A-Lender), FMO and GGF (B-Lenders)
- **Project Size:** 108 MW
- **Total Project Cost:** USD 132.6 million
- **Total Debt:** USD 80 million (EBRD USD 40 million; FMO USD 30 million, GGF USD 10 million)
- **Loan Signing:** August 2014
- **Financial Close:** January 2015
Renewable Energy Project Finance

Example of Project Finance Deal: Gori Wind Project (Georgia)

- **Project Sponsors:** Georgian Energy Development Fund (GEDF) and Georgian Oil and Gas Corporation (GOGC)
- **Lenders:** EBRD (A-Lender), GGF, Oikocredit, and Triodos Groenfonds (B-Lenders)
- **Project Size:** 20.7 MW
- **Total Project Cost:** USD 33.5 million
- **Total Debt:** USD 22 million (EBRD USD 10 million (A-Loan); GGF USD 4 million, Triodos USD 4 million, Oikocredit 4 million (B-Loan)
- **Loan Signing:** October 2016
- **Financial Close:** October 2016
04 RE Project Finance Requirements
Financing RE Projects in the Region: Key Drivers of Bankability

1. Clear Energy Strategy
Country has a clear energy strategy regarding the amount of capacity needed, its affordability, and how offtake arrangements will be financed. Environmental and social matters should form the core of this strategy.

2. Stable and transparent regulatory framework
Legislation provides for the necessary framework to ensure stable/predictable revenue stream; clear permitting process (including concessioning process, if any); connection to grid and clear rules for grid operation; transparent dispute resolution mechanisms (other).

Ideally, countries should develop a clear E&S framework to ensure the sustainability of the energy sector and its minimal impact on the environment and on communities. This also creates an “equal playing field” for investors (ex. environmental flow for hydropower).

3. Project Specific Aspects
Resource assessment, terms of contracts, availability and cost of finance, etc.
Project finance cash flows: Typically limited or non-recourse, with planned cash flows for project life (disruptions unforeseen)

**Corporate Finance**

- Bank(s)
  - Provision of investor data for corporate due diligence
  - Disbursement of funds
- Sponsor
  - Historical performance, Prognosis, Management
- RE Project
  - Investor develops the project and/or evaluates the project risk

**Project Finance**

- Bank(s)
- GGF
  - Provision of project data for project due diligence
- Sponsor
  - Equity Investment
  - Check of assumptions, Cash flow waterfall
- RE Project
  - Equity
  - Debt
  - Disbursement of senior and/or mezzanine funds directly to the SPV
05 The GGF Technical Assistance Facility
**What Other Tools Can GGF Offer?**

**Technical Assistance in context of Renewable Energy Investments**

Technical Assistance can be any kind of support to enhance a Partner Institution (Bank or Project) in implementing the investment according to required standards. Typical examples can be the

- Update of Environmental studies to GGF standard
- Development of an Environmental & Social Action and Monitoring Plan
- Additional studies to achieve higher quality of *existing* data (e.g. wind study)

**Pre-Bankability Technical Assistance**

Renewable Energy Projects may be awarded in a selective process for TA even if the project is not yet bankable. The Fund can support the projects with financial, legal, technical and environmental experts.
The GGF Technical Assistance Facility

Example: RE project finance workshop

Target group: Government officials, local financial institutions, other stakeholders

Potential modules:

• Technical aspects of RE technologies (photovoltaic, small hydro energy, biomass/biogas, wind energy, geothermal)
• RE regulatory framework
• Principles of Project Finance
• Cash-flow modelling with case studies and practical exercises
• Checklist for project due diligence
• Introduction to project finance documentation

Project Duration: 1 or 2 days training
Thank you for your attention!
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