



**GREEN FOR
GROWTH FUND**
INVESTING IN ENERGY EFFICIENCY
AND RENEWABLE ENERGY

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

- 01** About the GGF
- 02** Organization of the GGF
- 03** The GGF Portfolio Overview
- 04** RE Project Finance Requirements
- 05** The GGF Technical Assistance Facility



01 About the GGF





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.



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About the GGF

History

Domicile: Luxembourg SICAV-SIF

First closing: December 2009

Current Investors

Initiators



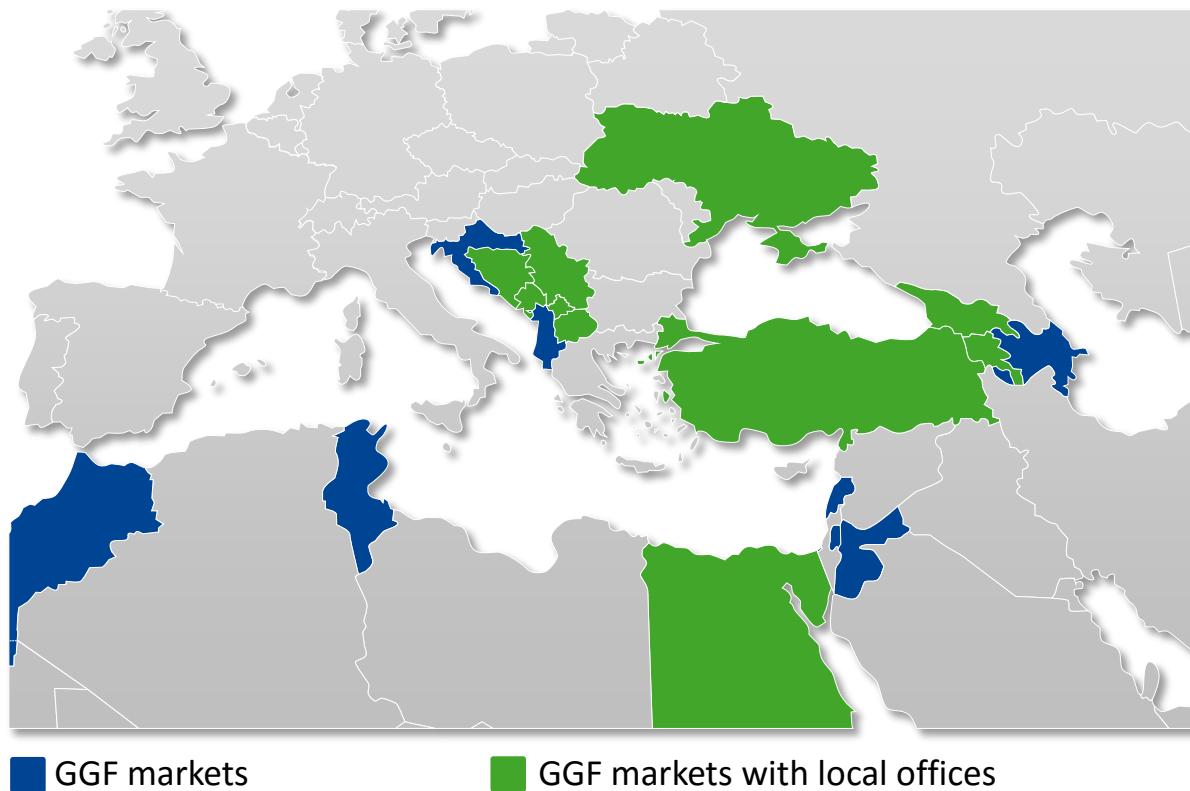
TA Facility Donors





About the GGF

Regions the GGF Serves



- Southeast Europe**
 - Albania
 - Bosnia and Herzegovina
 - Croatia
 - Kosovo*
 - FYR Macedonia
 - Montenegro
 - Serbia
 - Turkey
- European Eastern Neighbourhood**
 - Armenia
 - Azerbaijan
 - Georgia
 - Moldova
 - Ukraine
- MENA**
 - 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.



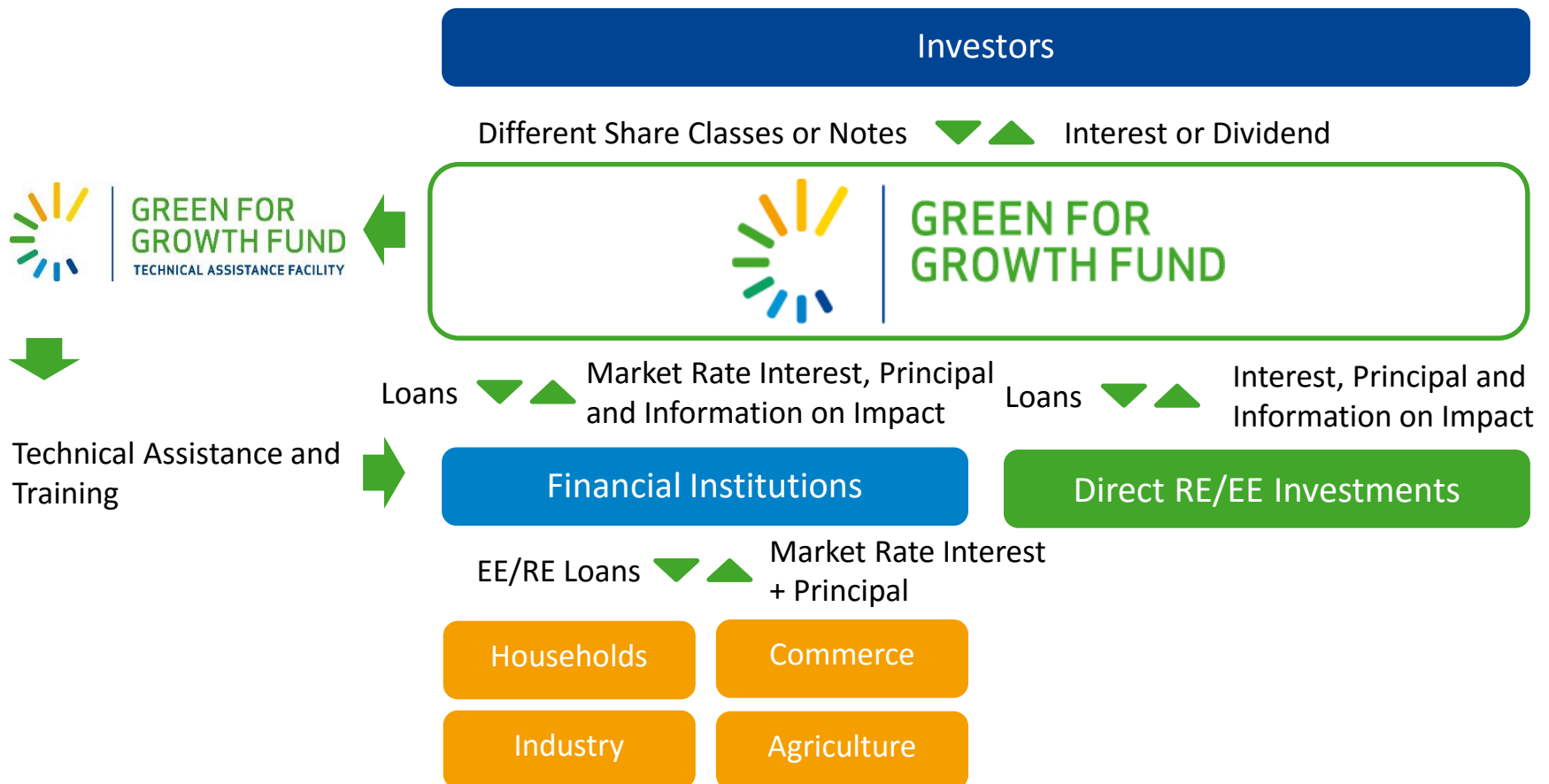
02 Organization of the GGF





Organization of the GGF

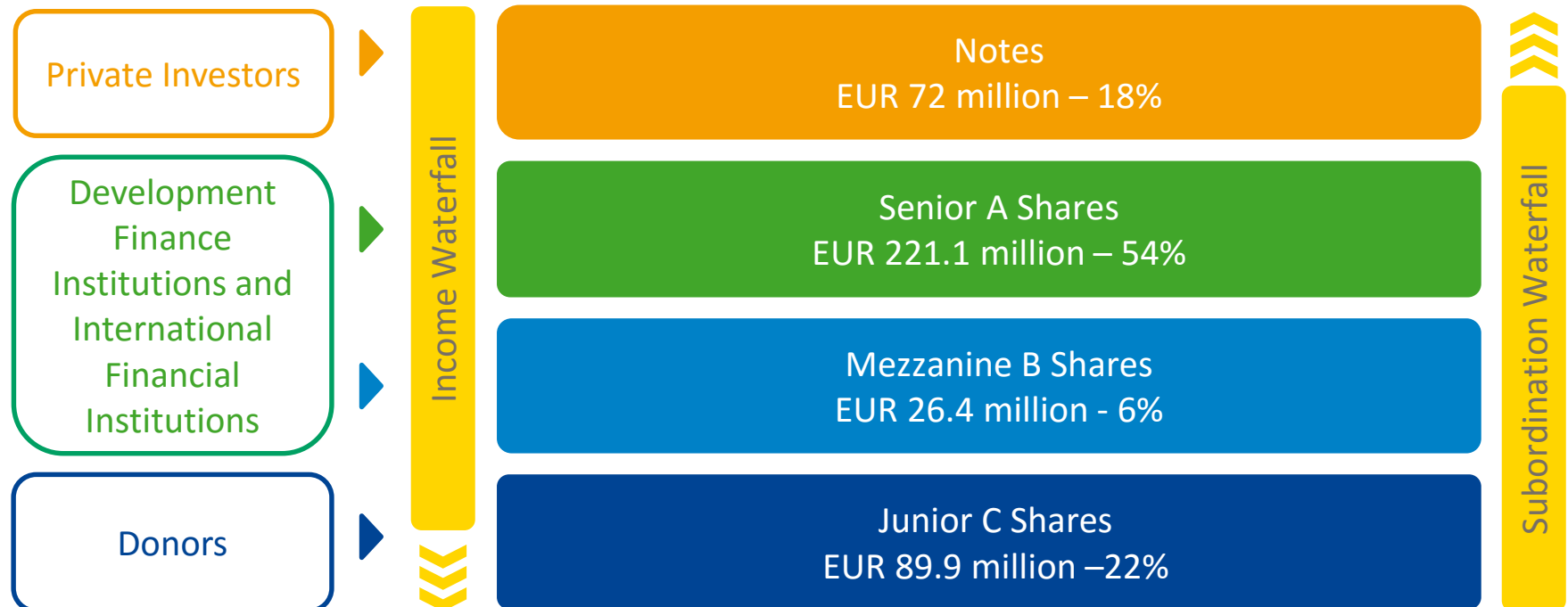
Flow of Funds – How GGF Investments Provide Impact





Organization of the GGF

GGF's Tiered Structure is Attractive to Private Investors





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 ($\geq 70\%$ 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 ($\leq 30\%$ 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

SME

Corporate

Municipalities

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

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

Renewable Energy
Projects:
up to EUR 10 million

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)



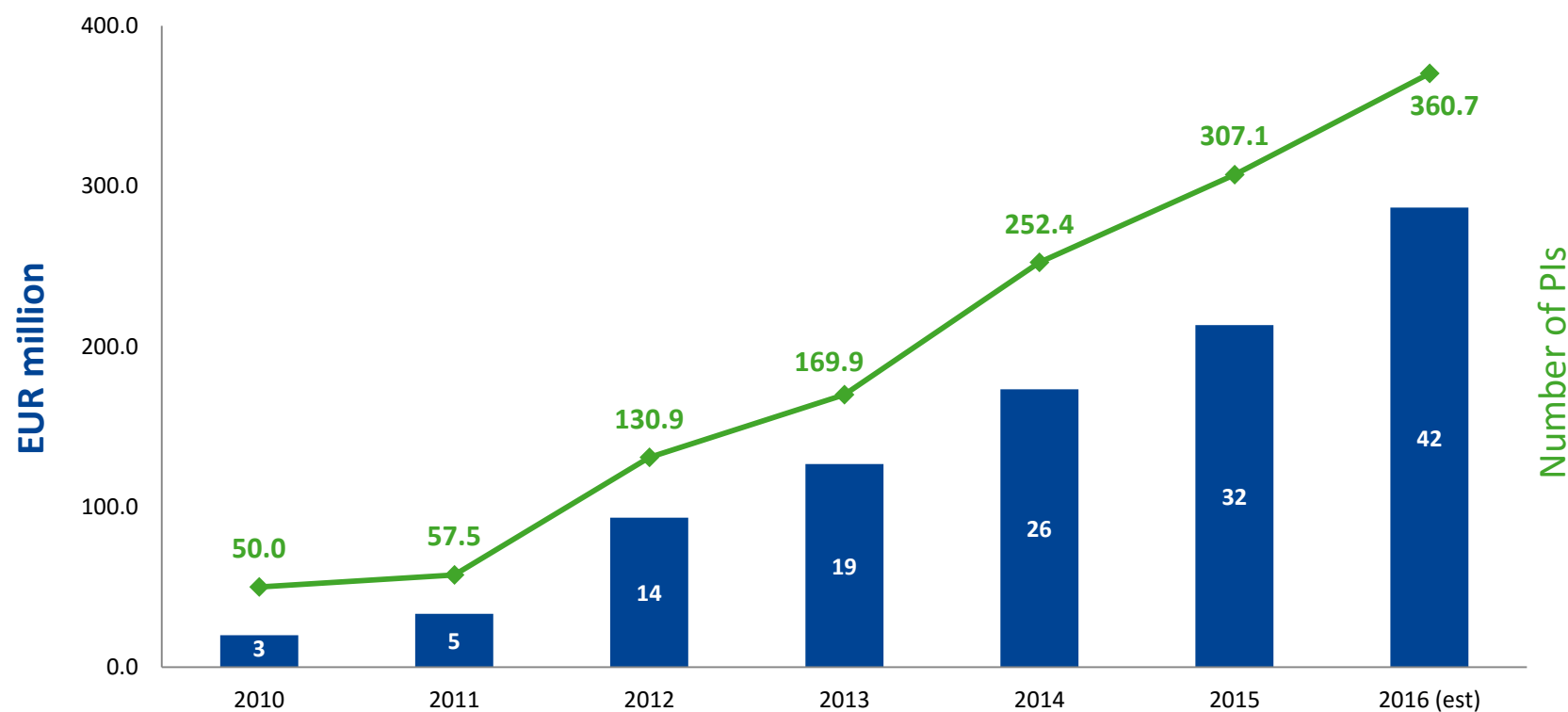
03 The GGF Portfolio Overview





The GGF in Figures

Outstanding Investment Portfolio and Number of PIs

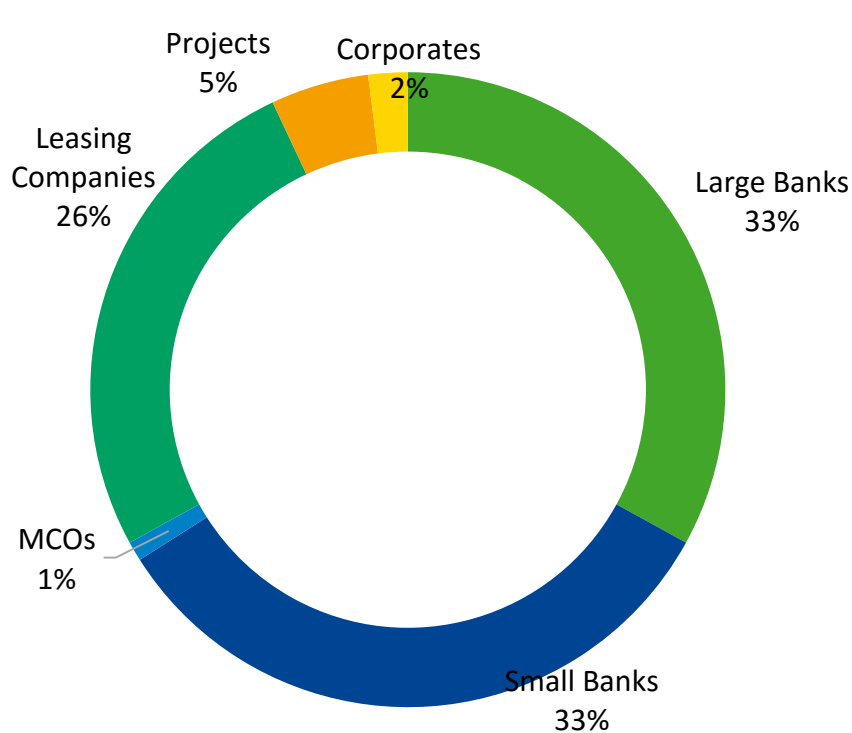




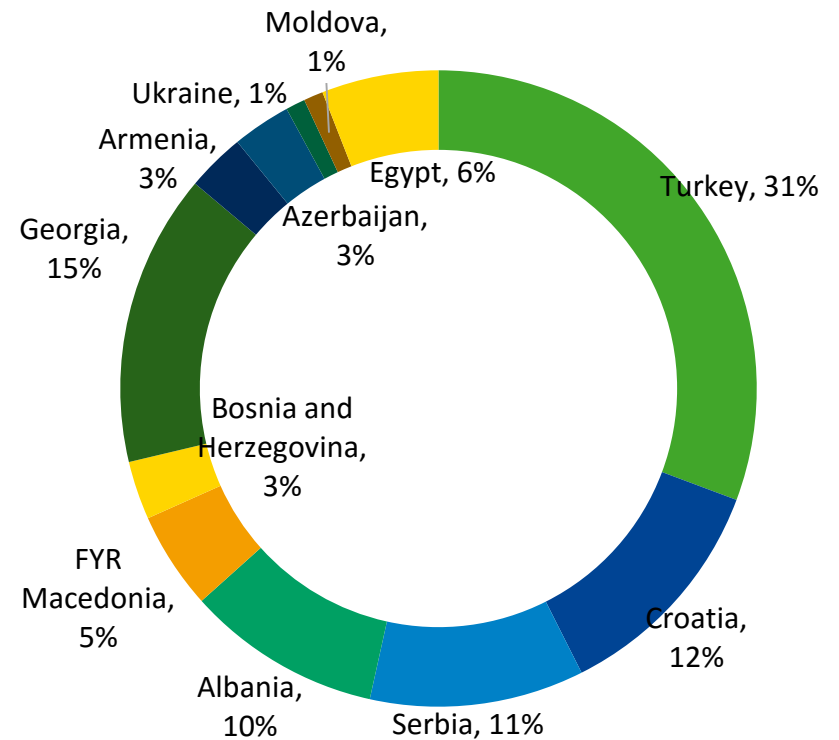
The GGF in Figures

Portfolio Outstanding

Investment Portfolio Outstanding per PI Type



Investment Portfolio Outstanding per Country

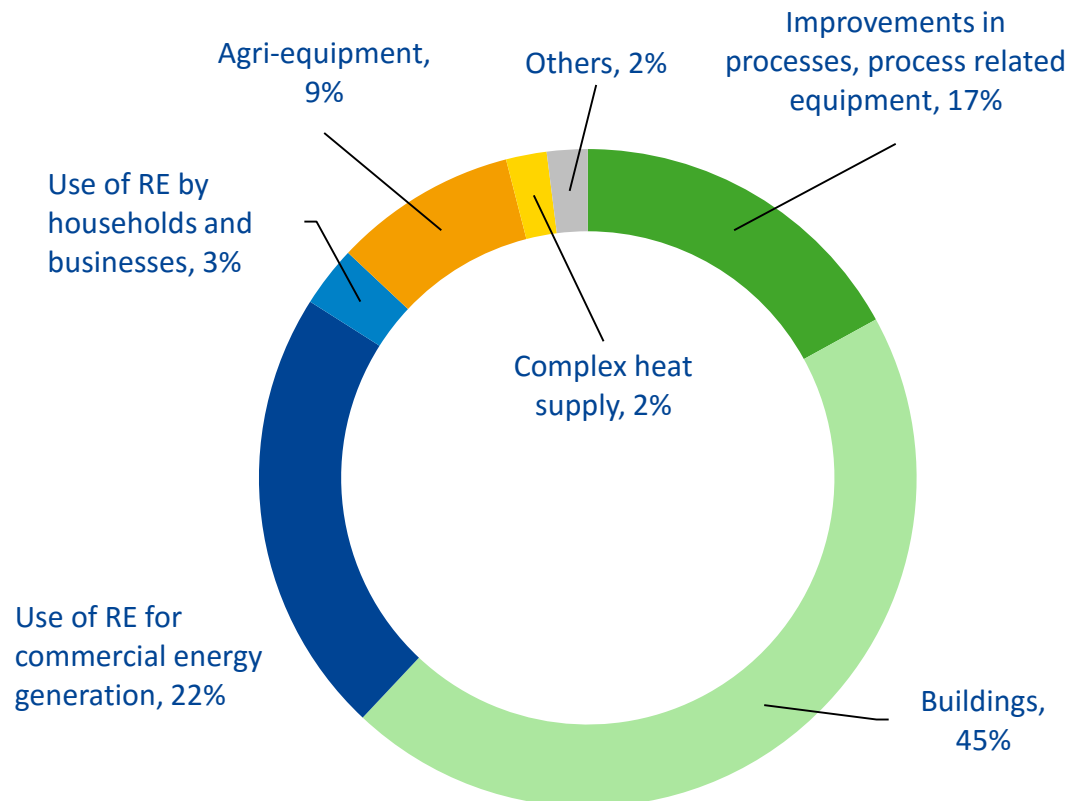




The GGF in Figures

Impact Performance

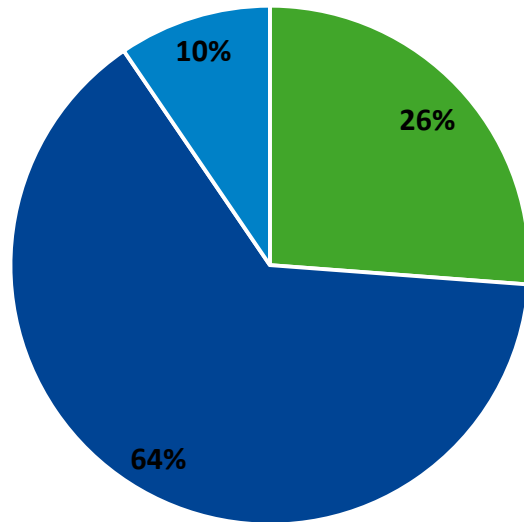
CO2 Reduction (tCO2/yr)





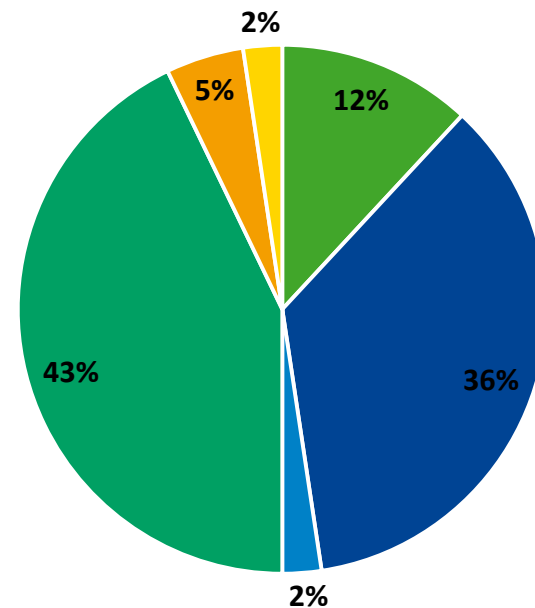
GGF Portfolio in Commercial Renewable Energy Projects

FI RE Portfolio per Technology



■ Hydro ■ Solar ■ Biomass

FI RE Portfolio per Country



■ Albania ■ Turkey ■ Georgia
■ Croatia ■ BiH ■ Macedonia



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).

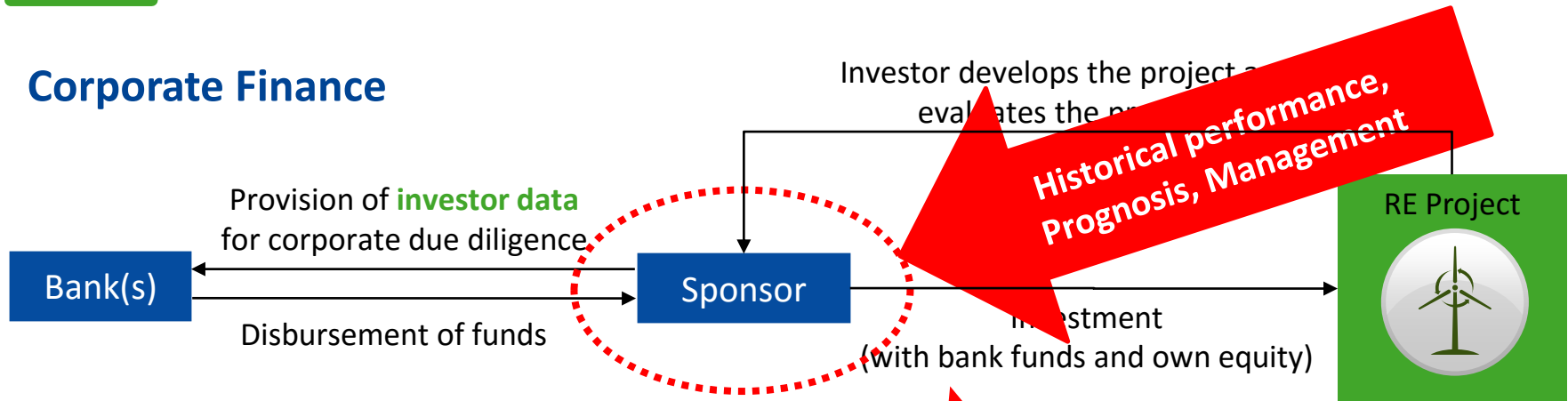
3. Project Specific Aspects

Resource assessment, terms of contracts, availability and cost of finance, etc.

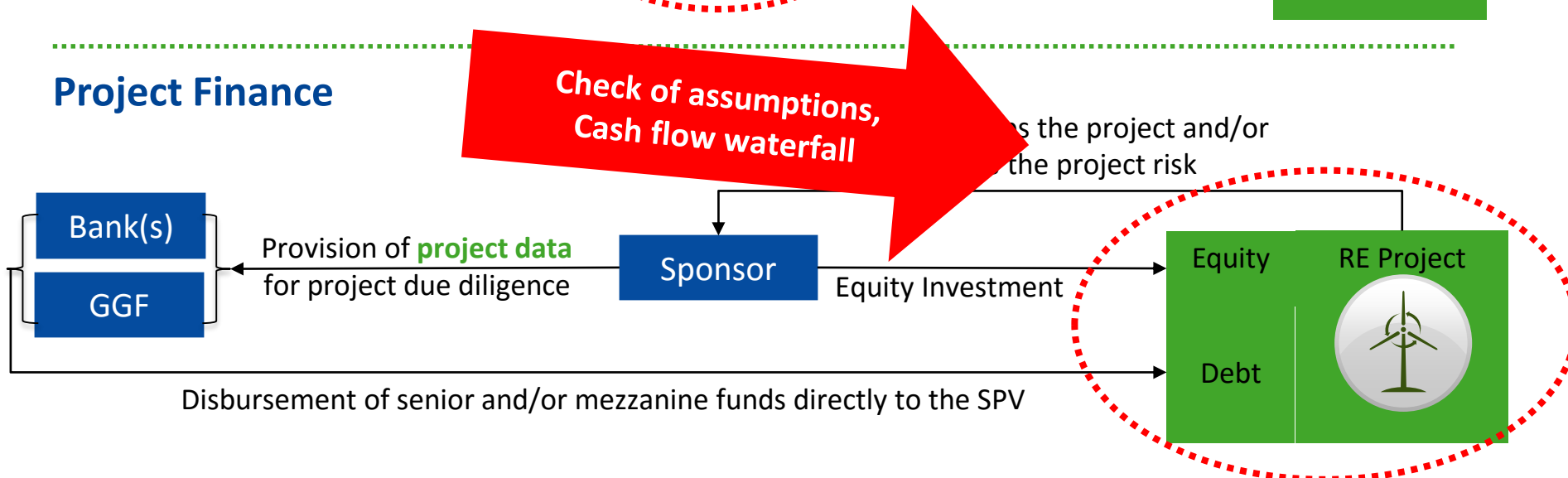


Project finance cash flows: Typically limited or non-recourse, with planned cash flows for project life (disruptions unforeseen)

Corporate Finance



Project Finance





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





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Thank you for your attention!



KFW



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Oesterreichische Entwicklungsbank AG



Church of Sweden 

SAL. OPPENHEIM





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