

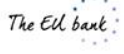


GEEREF IMPACT REPORT 2015

Catalysing EUR10 billion
of clean power



European
Investment
Bank



The EIB bank



GEEREF
Global Energy Efficiency and Renewable Energy Fund



EUROPEAN INVESTMENT FUND

Last updated: August 2016

ABBREVIATIONS

AML	Anti-money laundering
AREF	Africa Renewable Energy Fund
BEE	Black Economic Empowerment
CO2	Carbon dioxide
DFI	Development finance institution
EC	European Commission
EE	Energy Efficiency
EELAF	Emerging Energy Latin America Fund
EIB	European Investment Bank
EIF	European Investment Fund
EPC	Engineering, procurement and construction
E&S	Environmental and social
ESG	Environmental, social and governance
ESIA	Environmental and social impact assessment
ESMS	Environmental and social management system
GEEREF	Global Energy Efficiency and Renewable Energy Fund

GHG	Greenhouse gas
IFC	International Finance Corporation
IPP	Independent power producer
KYC	Know Your Customer
MENA	Middle East and North Africa
MSEF	MGM Sustainable Energy Fund
MW	Megawatt
MWh	Megawatt hour
PPA	Power purchase agreement
RE	Renewable energy
REAF	Renewable Energy Asia Fund
RFSF	Regional Fund Support Facility
SCAF	Seed Capital Assistance Facility
SDG	Solar distributed generation

GEEREF PORTFOLIO IN NUMBERS

AS AT END OF DECEMBER 2015

GEEREF HAD BACKED
10 FUNDS¹

10 **48**
FUNDS PROJECTS

GEEREF FUNDS HAVE INVESTED
IN 48 PROJECTS

GEEREF HAD MADE
UNCONDITIONAL COMMITMENTS
OF EUR 99M TO 8 FUNDS¹

COMMITMENTS COMMITTED
EUR **EUR**
99M **334M**

GEEREF FUNDS COMMITTED
EUR 324M TO PROJECTS

¹At the end of 2015, GEEREF had 10 funds in its portfolio, including conditional commitments to two funds: REAF II and Caucasus Clean Energy Fund. The amounts committed to these two funds, given their conditional character, are not reflected in the total 'commitments' figure in line with the Q4 2015 GEEREF Investor Report. As of July 2016, GEEREF has signed the Catalyst MENA Clean Energy Fund (EUR 15m) and a Pan-African fund.

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AKIIRA, KENYA (FRONTIER)





GEEREF IMPACT OVERVIEW

Catalysing EUR10 billion of clean power

NV VOGT, INDIA (SOLARARISE)



GEEREF IMPACT OVERVIEW

INTRODUCTION BY CYRILLE ARNOULD, HEAD OF GEEREF

Dear Investor,

Thank you for reading GEEREF's second annual Impact Report. Impact is at the heart of what we do at GEEREF. We exist to catalyze investment into clean electricity capacity in developing countries and to maximize the positive impact of those projects in environmental, social and developmental areas.

We consider Impact both as a whole and as a continuum. A whole, leading us to examine holistically how our investments affect the environmental and social context in which they are developed, built and operated. A continuum, because we try to anticipate, in our action plans, how, over the many years of operation, our projects can be catalytic for the communities involved.

The GEEREF team will continue to focus on backing emerging investment teams who share its values and who implement the highest international standards for responsible investment through their businesses and projects. By catalysing nascent managers and by continuing to support growing ones, GEEREF is able to have a profound bearing upon its funds' strategies and, particularly, their approaches to impact investing.

In this Impact Report we highlight some of the ways in which our funds have been strengthened by implementing the most ambitious standards in the global investment industry.

We again present the key impact metrics that both we and our funds track across our portfolio of investments. They fall within four pillars: Energy, Environment, Sustainable Development and Financial Leverage. The metrics are calculated both on the actual results of portfolio projects for 2015 and for their projected economic lifetimes. As our reporting system evolves, we seek to find additional means of quantifying GEEREF's impact. To that end, this year's report comprises a broader range of metrics, particularly in the third pillar of Sustainable Development.

Here we now include deeper analysis of project beneficiaries at the level of local SMEs, households and individual jobs created, as well as capturing gender-sensitive employment data. More details on our methodology are included in this report and publically available on our website (www.geeref.com).

At the end of 2015, GEEREF had made commitments of EUR 99 million to eight fund managers (as well as additional 2 conditional commitments) who had raised EUR 672 million in total. From this we derive a 'fund level multiplier' of 6.8x. At the end of 2015, our portfolio of projects had secured total financing commitments of EUR 2,187 million for EUR 333 million of fund equity commitments to those projects, yielding a 'project level multiplier' of 6.6x. Our 'GEEREF level multiplier' for 2015 is essentially the project level multiplier times the fund level multiplier, ie 45x. Our 2015 run-rate multipliers continue above this level as funds reach their targets and we expect the strength of GEEREF's catalysing effect to be maintained throughout its life.

At the end of this Report we also feature a thematic study of gender issues and climate, illustrating some of the main issues our fund managers face through the development and operations process and how they are addressed in best practice.

As ever, we know that impact investing is an interactive and continuously evolving sphere. We greatly appreciated the feedback we received on the 2014 Impact Report and welcome any comments or questions you may have on this year's Report.

Yours faithfully,

CYRILLE ARNOULD
HEAD OF GEEREF



GEEREF IMPACT OVERVIEW

THE IMPACT APPROACH

“Our investments are only as good as their impacts on the ground. The combination of EIB’s qualitative environmental and social standards with GEEREF’s metrics gives depth to the approach and enriches the dialogue with fund managers. This way, risks are better managed and best practices can be applied.”

Monica Scatasta , Head of Environmental, Climate and Social Policy, EIB



The GEEREF team from left to right: David Pin, Jenia Ganzen, Dunja Dolanjski, Mélanie Martin, Cyrille Arnould, Ioannis Tsakiris, Aglaé Touchard-Le Drian, Mervin Chaumiere, Gunter Fischer, Mónica Arévalo, Quirin Sluijs, Eleni Zioga, Nicolas Panayotopoulos, Eva Chrysanthou, Eugene Howard. Not pictured: Lucie Bernatkova and Xiaoshu Tang.

GEEREF IMPACT OVERVIEW

GEEREF QUALITATIVE AND QUANTITATIVE IMPACT ASSESSMENT

QUALITATIVE EIB IMPACT STANDARDS	QUANTITATIVE GEEREF IMPACT METRICS
1. ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS	A. CLEAN ENERGY
2. POLLUTION PREVENTION AND ABATEMENT	B. ENVIRONMENT
3. BIODIVERSITY AND ECOSYSTEMS	C. SUSTAINABLE DEVELOPMENT
4. CLIMATE-RELATED	D. FINANCIAL LEVERAGE
5. CULTURAL HERITAGE	
6. INVOLUNTARY RESETTLEMENT	
7. RIGHTS AND INTERESTS OF VULNERABLE GROUPS	
8. LABOUR STANDARDS	
9. OCCUPATIONAL AND PUBLIC HEALTH, SAFETY AND SECURITY	
10. STAKEHOLDER ENGAGEMENT	

GEEREF IMPACT OVERVIEW

EIB IMPACT STANDARDS: IMPLEMENT AND COMPLY

EIB STANDARDS	EIB STANDARDS (CONTINUED)
1. Assessment and Management of Environmental and Social Risks	7. Rights and Interests of Vulnerable Groups
2. Pollution Prevention and Abatement	8. Labour Standards
3. EIB Standards on Biodiversity and Ecosystems	9. Occupational and Public Health, Safety and Security
4. EIB Climate-related Standards	10. Stakeholder Engagement
5. Cultural Heritage	
6. Involuntary Resettlement	



EIB ENVIRONMENTAL AND SOCIAL HANDBOOK:

<http://www.eib.org/infocentre/publications/all/environmental-and-social-practices-handbook.htm>

Release date: 03 December 2013 (208 pages)

The EIB Group's impact standards are set out in Volume I of its Environmental and Social Handbook, which complements the Bank's Statement of Environmental and Social Principles and Standards. These standards are widely judged to be among the most comprehensive and rigorous in the world. A comparison with the IFC Performance Standards is available.

GEEREF IMPACT OVERVIEW

GEEREF IMPACT METRICS: QUANTIFY AND MEASURE ¹

A) CLEAN ENERGY	UNIT	DEFINITION	C) SUSTAINABLE DEVELOPMENT	UNIT	DEFINITION
1. Clean energy sector	%	Clean electricity generation or technology / equipment company	1. Beneficiary households	#	Equivalent number of households gaining new/improved access to clean energy
2. Installed capacity	MW	Installed operating electricity generation capacity	2. Beneficiary SMEs	#	Number of energy-related small and medium-sized enterprises involved in the investment projects
3. Electricity generated	MWh/yr	Annual electricity output across portfolios/funds	3. Jobs created	#	Number of permanent and temporary male and female jobs created by the projects
4. Energy efficiency savings	MWh/yr	Annual electricity savings across portfolios/funds	4. Training	Hours	Number of hours of training provided to temporary and permanent employees of the projects
B) ENVIRONMENT	UNIT	DEFINITION	D) FINANCIAL LEVERAGE	UNIT	DEFINITION
1. Environmental sector	%	Emissions reductions projects or environmental technologies	1. Fund Multiplier	EUR m x	Total amount raised by Funds divided by GEEREF's total fund commitments (eg EUR 672m divided by EUR 99m)
2. Emissions reduced	Tonnes	Annual tonnes of CO2 reductions across portfolios/funds	2. Project Multiplier	EUR m x	Gross capital invested (including co-investment and debt) at project level divided by equity committed by fund manager (eg EUR 2,101m divided by EUR 315m)
3. Pollution	%	Level of investment reducing non-CO2 pollution			

¹ Further details on the metrics and impact methodology are included in 'GEEREF Impact Metrics' section (slide 16) of this Report.



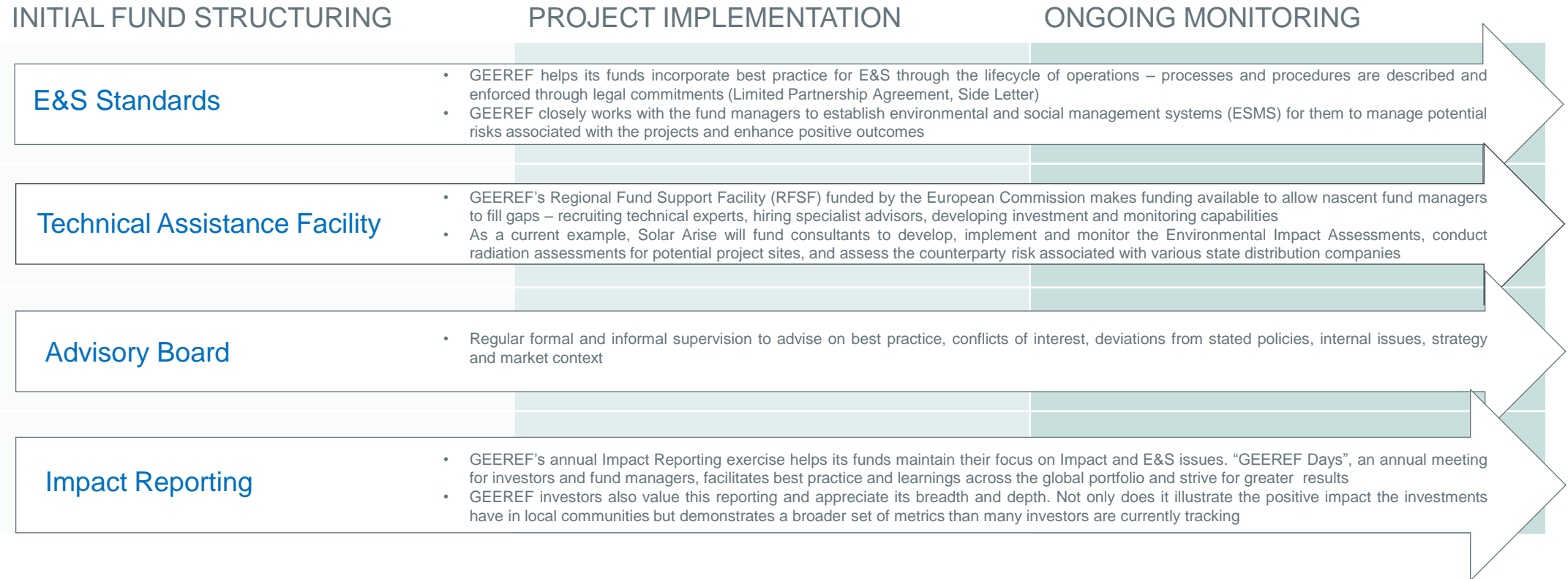
GEEREF IMPACT STANDARDS

Catalysing EUR10 billion of clean power

KOUGA WIND FARM, SOUTH AFRICA (EVOLUTION ONE)

GEEREF VALUE-ADDED

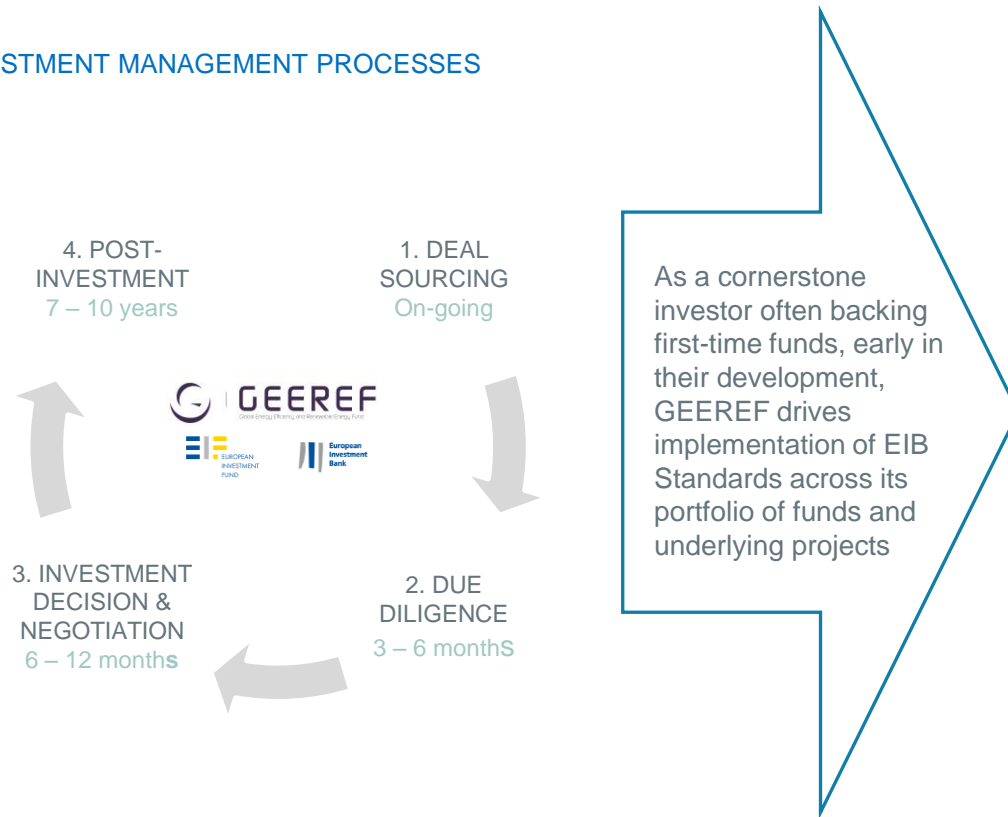
SUSTAINABLE VALUE FOCUS THROUGHOUT THE INVESTMENT LIFECYCLE



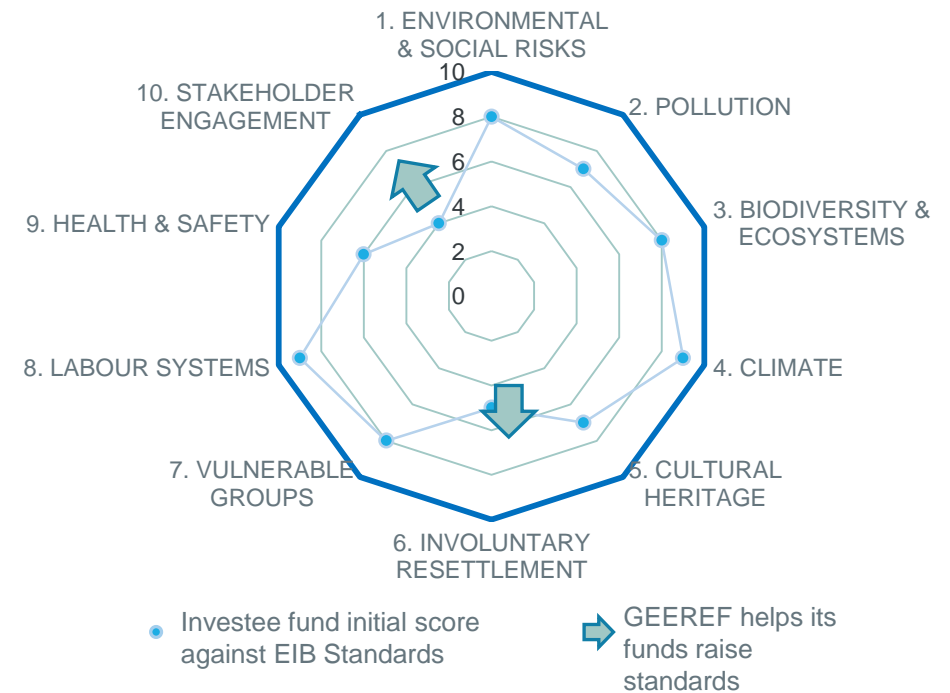
GEEREF IMPACT STANDARDS

INTEGRATING BEST PRACTICE: CREATING SUSTAINABLE VALUE

INVESTMENT MANAGEMENT PROCESSES



EXAMPLE OF FUND EVALUATION AGAINST EIB STANDARDS



GEEREF IMPACT STANDARDS

INTEGRATING BEST PRACTICE: CREATING SUSTAINABLE VALUE

EIB STANDARDS

SELECTED EXAMPLES

3. Biodiversity and Ecosystems

- REAF's Panama wind energy project carries out tree replanting to offset the adverse impact associated with the construction of the project. In 2015 the project initiated a revegetation programme on slopes to prevent erosion.

5. Cultural Heritage

- On its Achwa project, AREF has identified cultural sites that could be impacted by the hydro power plant construction. Based on a cultural heritage assessment carried out by a third party consultant, four distinct cultural sites have been identified which will be avoided during construction. The fifth site, Kut Oyuku, is a traditional fishing site which will be inundated. The local community representative and person responsible for cultural heritage within this site has accepted compensation on behalf of the community. The project will continue to engage the relevant stakeholders to ensure any potential adverse impact is avoided.

6. Involuntary Resettlement

- On Frontier's Siti 1 and Lubilia Kawembe hydro projects, Frontier initiated the implementation of Livelihood Restoration Plans subsequent to the completion of the process of land acquisition and compensation. The Plans were designed on the basis of individual households affected to accommodate their varying requirements. For some households where it was observed that the land they owned was not economically viable, the replacement land that the Project Companies bought for them was slightly larger than what was acquired for the projects. There have been cases where the affected households were provided food support, and a few cases where cash was handed out to those that needed seed money to continue with their livelihoods. In some instances, the project companies have rented land for critically affected households for a period of one year, and provided them with labour, seeds and fertilizers to ensure that they can continue farming and enjoy a higher standard of living than before the project was implemented.

7. Vulnerable Groups and 10. Stakeholder Engagement

- Frontier's Akiira One geothermal project has been working with two surrounding Maasai communities to put in place a community engagement structure composed of four committees: Grievance Committee to handle any issues and grievances arising, a Feedback Committee to report on the work progress, an Economic Committee which aims to help in allocation of resources to the community, and an Environment Committee to address any environmental issues arising as well as to seek the communities' assistance in environmental monitoring. The Maasai communities are involved on a 50-50 basis in the four committees to ensure full inclusion. The same principle is applied to provision of available jobs during the current stage of drilling of exploration wells.



GEEREF IMPACT METRICS

Catalysing EUR10 billion of clean power

SYMBIOR, THAILAND (ARMSTRONG)



The EIB bank



GEEREF IMPACT METHODOLOGY

All Impact data are collected annually from GEEREF's fund managers and are analysed by the GEEREF team. The team collects data for the entire projects, rather than a pro rata share of them, with the underlying assumption that the projects would not have been financed without GEEREF' support.

The analysis comprises three layers of data:

1. **Actual reported values** from the relevant financial year from each of the investments in each portfolio in that time period. This may include assets that have been fully operational for the whole financial year, partially operational or still in development or construction. Please note that for the 2014 Report we tracked **deployed** capital whereas for 2015 we track **committed** capital in order to reflect the expected mobilisation of capital.
2. **'Run-rate' metrics** for the existing portfolio and extrapolates for the assumption that all existing investments in the portfolio are fully operational for 12 months.
3. **Modelled metrics** for the fully deployed portfolio, whereby each fund has fully invested all that capital committed to projects and these are fully operational. This third approach makes a number of assumptions including total capital commitments, project sizes and technologies, capex and capacity factors in order to derive a set of metrics for what the whole GEEREF portfolio will deliver over its lifetime. Please note that in the 2014 Report lifetime values were only shown for projects that were actually in the portfolio. These modelled metrics in the 2015 Report aim to reflect the full impact of the funds' investment over their lifetimes.

The data collection exercise is divided into four Pillars: **Energy, Environment, Sustainable Development** and **Financial Leverage**. For the first three Pillars there are certain metrics that can be considered "**eligibility criteria**" for GEEREF. Others require quantitative inputs from the fund managers. For the fourth Pillar, Financial Leverage, GEEREF reports on the mobilisation of private funding at three layers: project level, fund level and GEEREF level.

The **project level** multiplier assesses the total project capex (including fund equity, co-investment and debt) relative to the equity invested by the fund manager. The **fund level** multiplier assesses the total commitments that a fund has raised from all of its limited partners relative to the initial commitment made by GEEREF. The **GEEREF level** multiplier is essentially the project level multiplier times the fund level multiplier.

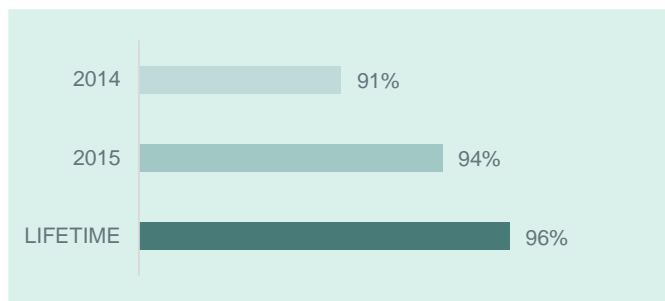
A final calculation (*ODA impact*) can be made for the impact achieved by the ODA investors in GEEREF who catalysed the private sector limited partners. This calculates the ratio of public to total commitments and derives a final multiplier for all capital invested through GEEREF's portfolio projects relative to the initial ODA commitments to GEEREF.

A more detailed explanation of the GEEREF Impact Methodology can be found on GEEREF's website here:
<http://geeref.com/assets/documents/GEEREF%20Impact%20Methodology%20June%202016.pdf>

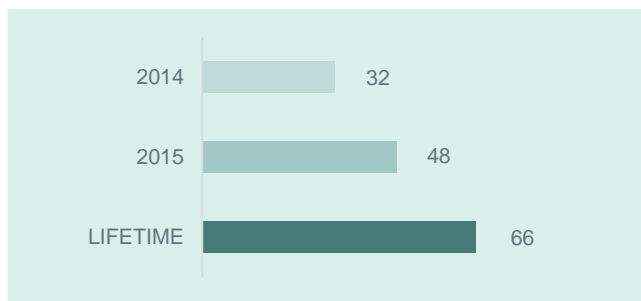
GEEREF IMPACT METRICS

PORTFOLIO SUMMARY: A) CLEAN ENERGY

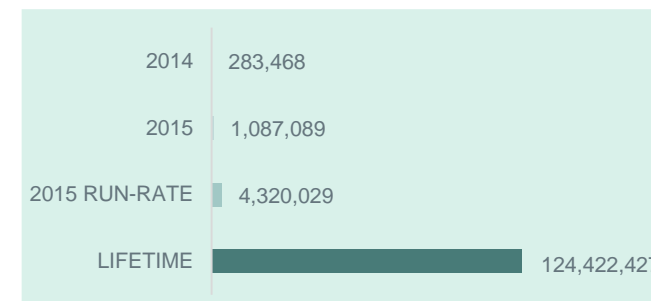
PERCENT INVESTED IN CLEAN ENERGY



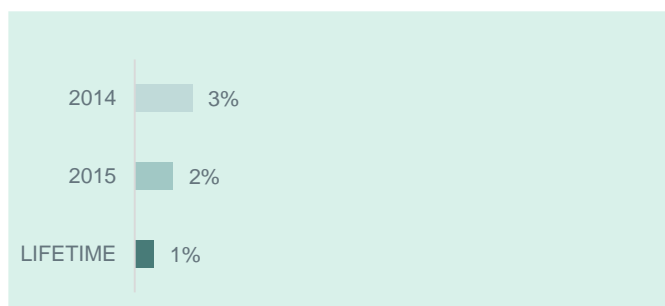
NUMBER OF PROJECTS



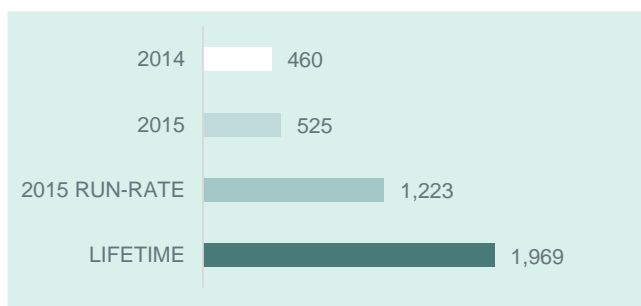
ELECTRICITY GENERATED (MWH)



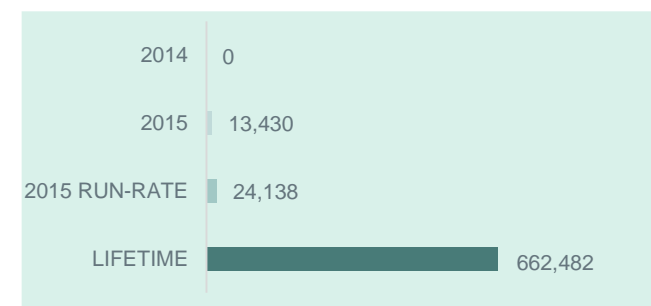
PERCENT INVESTED IN OTHER CLEANTECH¹



INSTALLED CAPACITY (MW)



ELECTRICITY SAVED (MWH)

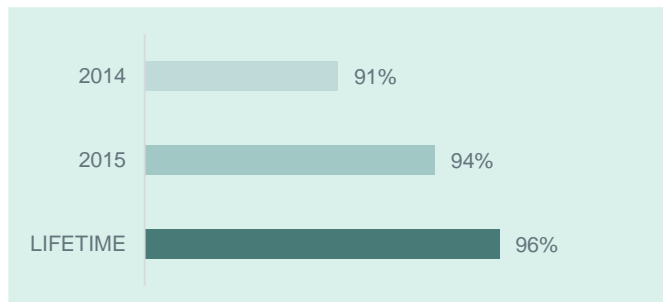


¹ These cleantech deals are Abagold, Acapulco and EnviroServ in Evolution One's portfolio. **RUN-RATE:** 12 months full operations assumed for each portfolio project. **LIFETIME:** 20 years full operations assumed for each portfolio project (10 years for EE projects)

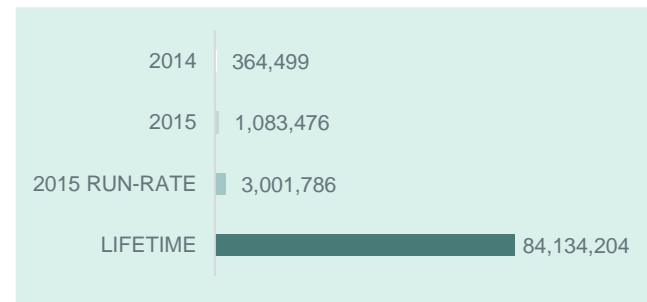
GEEREF IMPACT METRICS

PORTFOLIO SUMMARY: B) ENVIRONMENT

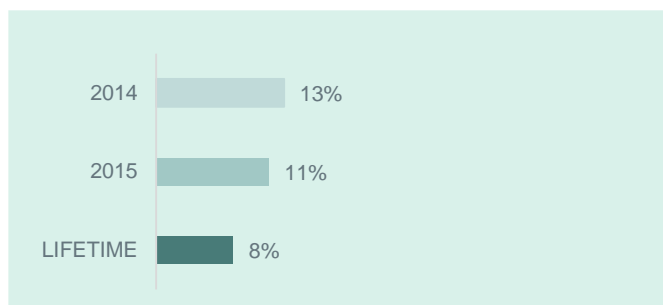
PERCENT INVESTED IN GHG REDUCTION



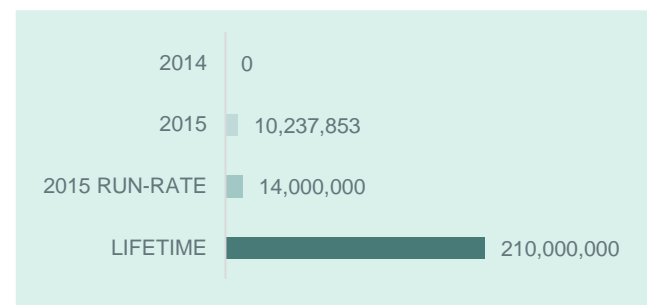
EMISSIONS REDUCED (TONNES)



PERCENT INVESTED IN OTHER ENVIRONMENTAL¹



OTHER POLLUTION REDUCED (TONNES)

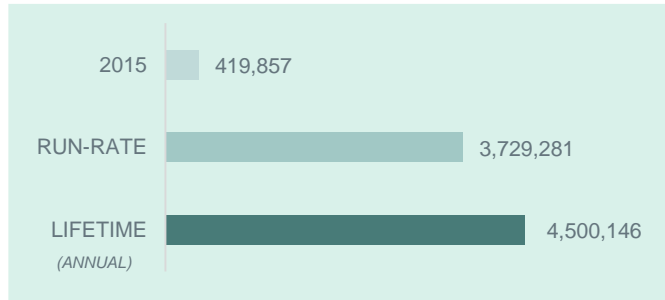


¹ These cleantech deals are the 3 in Evolution One's portfolio plus Colanta Biogas (MSEF) and Montalban (REAF). **RUN-RATE:** 12 months full operations assumed for each portfolio project. **LIFETIME:** 20 years full operations assumed for each portfolio project (10 years for EE projects)

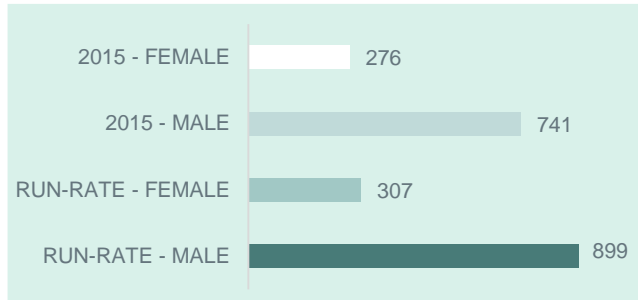
GEEREF IMPACT METRICS

PORTFOLIO SUMMARY: C) SUSTAINABLE DEVELOPMENT

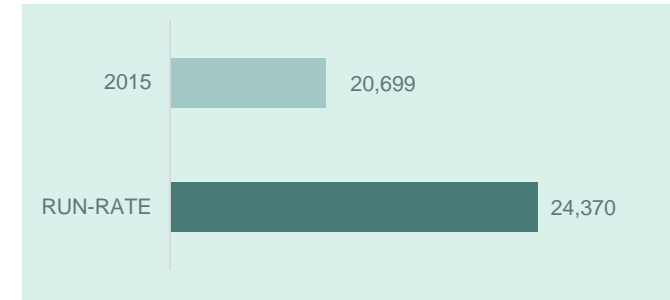
BENEFICIARY HOUSEHOLDS



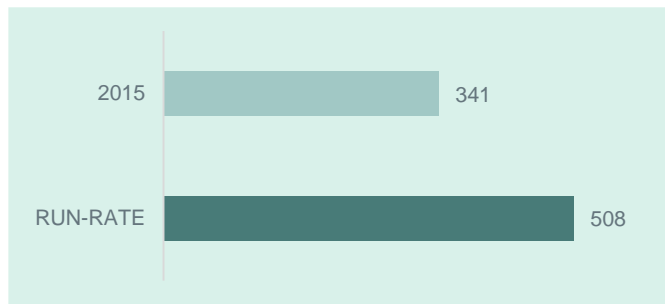
PERMANENT JOBS CREATED



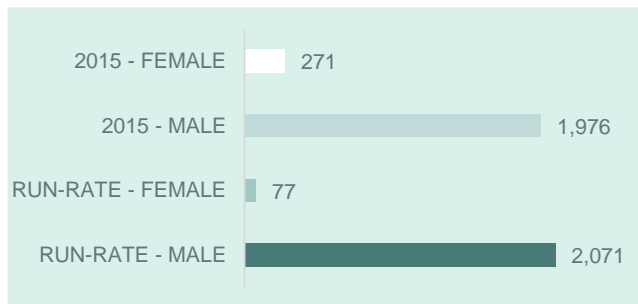
TRAINING PROVIDED (HOURS)



BENEFICIARY SMES



TEMPORARY JOBS CREATED



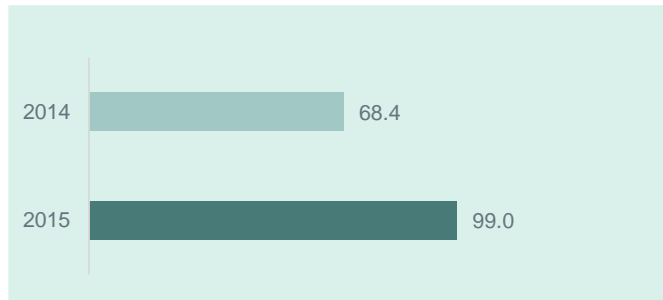
TAXES PAID (EUR M)



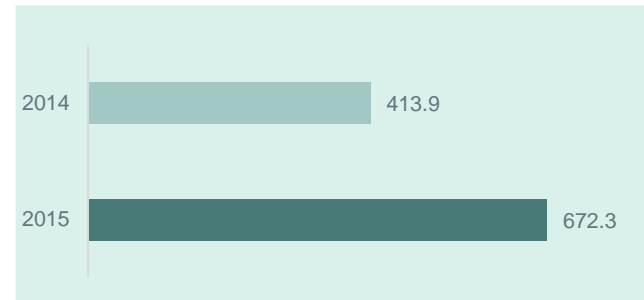
GEEREF IMPACT METRICS

PORTFOLIO SUMMARY: D) FINANCIAL LEVERAGE

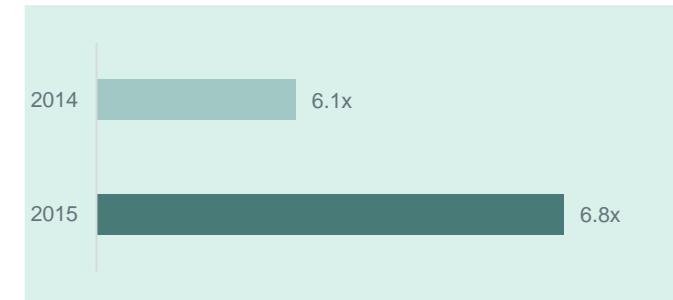
GEEREF COMMITMENTS TO FUNDS (EUR M)



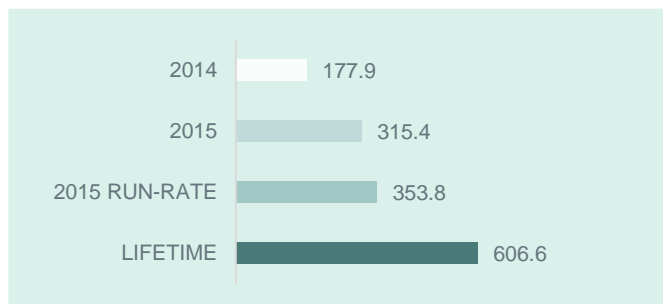
TOTAL RAISED BY GEEREF FUNDS (EUR M)



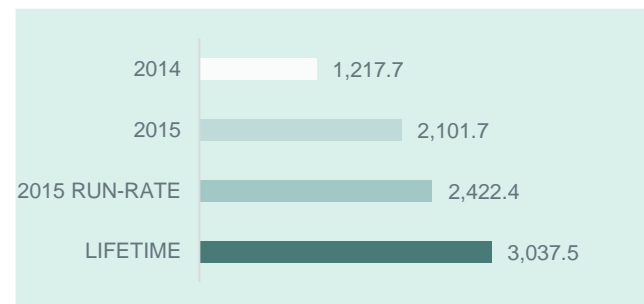
FUND MULTIPLIER



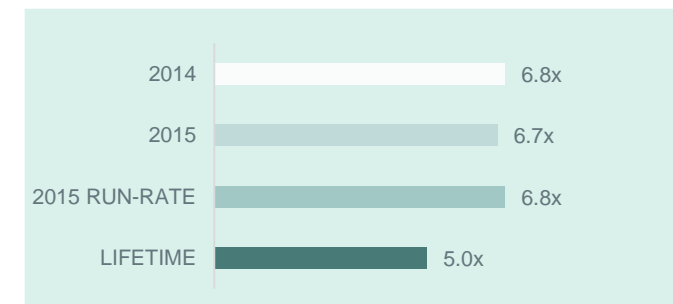
FUNDS' COMMITMENTS TO PROJECTS (EUR M)



TOTAL PROJECT FINANCE COMMITTED (EUR M)



PROJECT MULTIPLIER¹



¹ The lifetime project multiplier currently looks lower than the 2015 run-rate multiplier as a number of funds are assuming all-equity projects in their pipeline (36% gearing compared with 14% for 2015). However, as these projects will be refinanced in due course with debt, the lifetime multiplier will return to actual and historic levels.



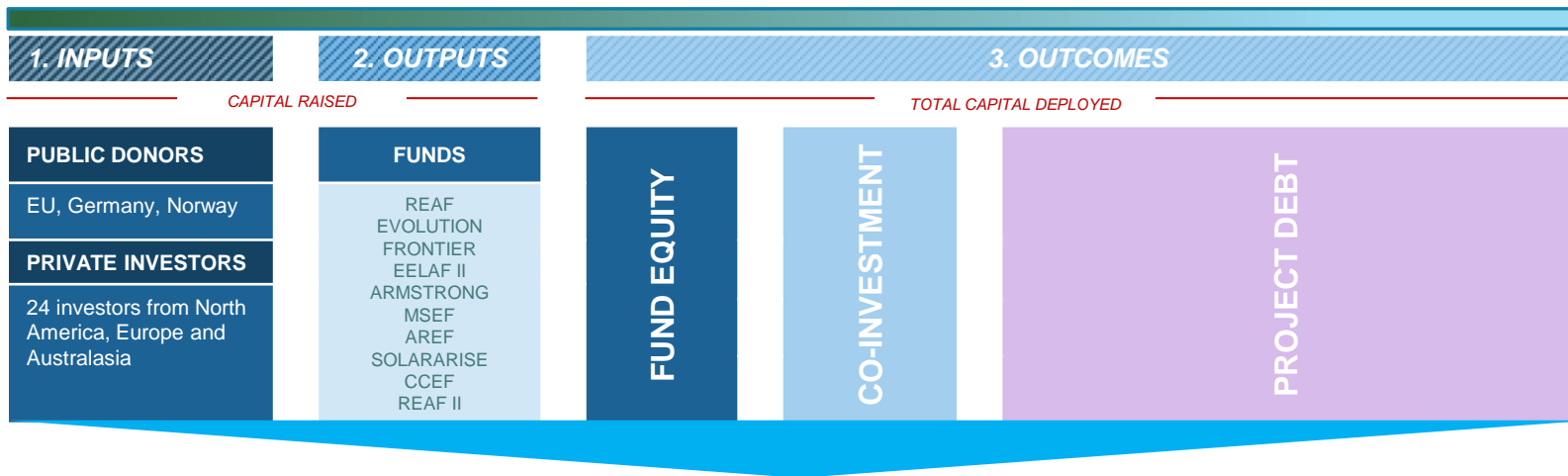
GEEREF DIFFERENTIATOR

Catalysing EUR10 billion of clean power

AKIIRA COMMUNITY MEETING, KENYA (FRONTIER)

GEEREF MULTIPLIER

THEORY OF CHANGE MODEL: GEEREF'S 7x7 MULTIPLIER



4. IMPACTS (RUN-RATE)

1.2 GW CLEAN ENERGY CAPACITY

4.3 GWHS OF ELECTRICITY PRODUCED PER ANNUM

3.0 MILLION TONNES OF CARBON EMISSIONS REDUCED PER ANNUM

3.7 MILLION BENEFICIARY HOUSEHOLDS PER ANNUM

DELIVERED IN ACCORDANCE WITH EIB STANDARDS FOR ESG

GEEREF MULTIPLIER

1. GEEREF COMMITMENTS

- EUR 112m of public commitments (A Shares) attract a further EUR 110m of private investor commitments (B Units)

2. 7X FUND MULTIPLIER

- GEEREF is the cornerstone investor for funds that then raise a multiple of its initial commitment
- GEEREF's initial investment may range from EUR 10m to EUR 15m and has catalyzed EUR 672m from EUR 99m commitments to funds (6.8x)

3. 7X PROJECT MULTIPLIER

- GEEREF's funds construct 10-15 projects each, using their own fund equity, co-investor equity and debt finance.
- In 2015, EUR 2,187m was catalyzed from EUR 333m (6.6x)



GEEREF FUNDS PORTFOLIO

Catalysing EUR10 billion of clean power

Site Safety

- No admittance for unauthorised personnel
- This is a hard hat area
- Protective footwear must be worn
- High visibility jackets must be worn

SAFETY FIRST



H&S SIGNAGE AT SITI CAMP, UGANDA (FRONTIER)

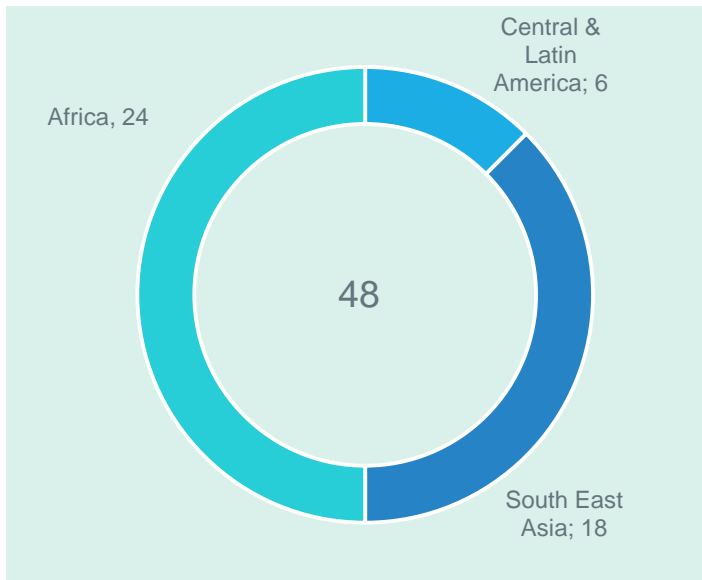


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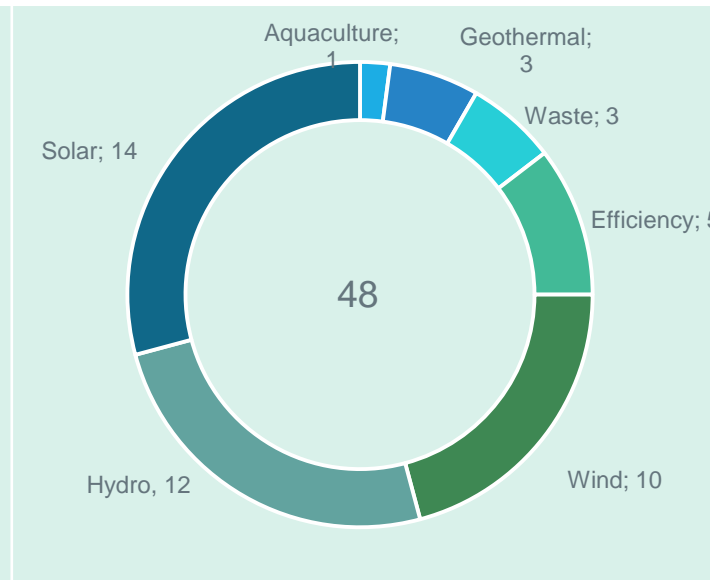


PORTFOLIO ALLOCATION: GEOGRAPHY, SECTOR AND STATUS OF PROJECTS

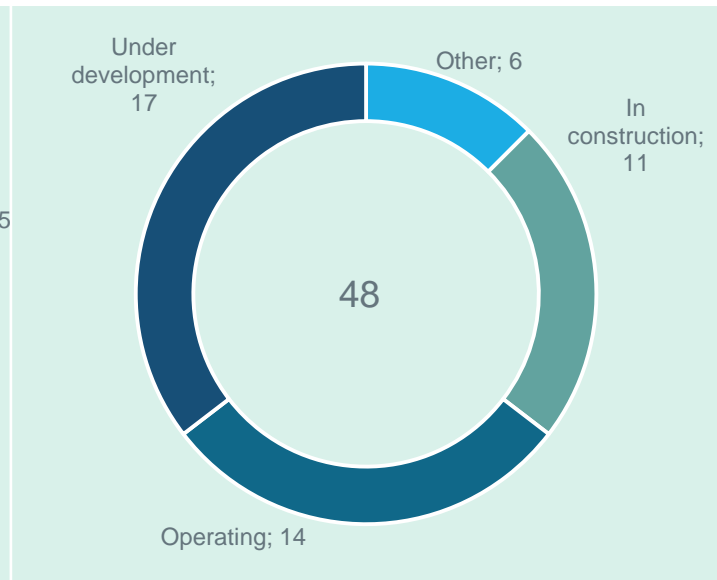
BY REGION



BY SECTOR



BY STATUS





GEEREF IMPACT THEME

Catalysing EUR10 billion of clean power

H&S BRIEFING AT SITI, UGANDA (FRONTIER)



FEMALE EMPOWERMENT AND RENEWABLE ENERGY INTRODUCTION

WHAT IS AT STAKE?

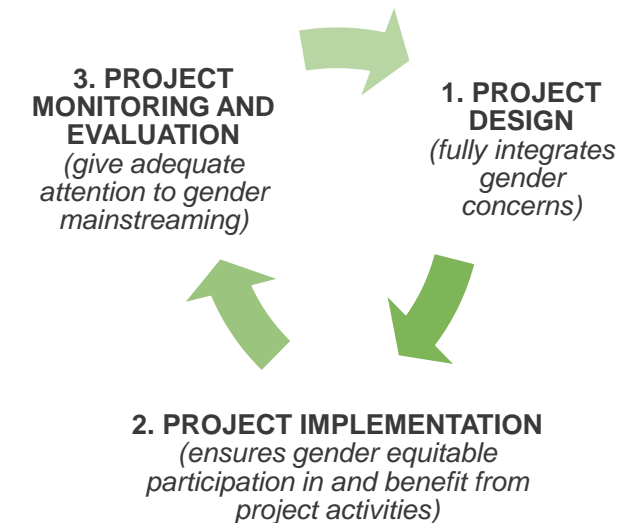
Negative impacts

- Women are usually more directly affected by climate change impacts, augmenting gender inequalities.
- Women's role as primary caregiver to their families means that environmental impacts upon social goods such as food, clean water, health and education are borne more heavily.

Positive outcomes

- Equally, the opportunity for project developers to empower women is greater – projects that improve communities' access to essential services can have a transformational effect on female livelihoods and life chances.
- Female empowerment should be a guiding principle for renewable energy fund manager as increased gender awareness can actually improve projects' sustainability.

MAINSTREAMING FEMALE EMPOWERMENT AWARENESS THROUGH THE PROJECT CYCLE



FEMALE EMPOWERMENT AND RENEWABLE ENERGY: COMMON CHALLENGES AND ACTIONS – EXAMPLES FROM FUNDS

PROJECT	DISADVANTAGES FOR FEMALES IN COMMUNITIES	DEVELOPER-LED OUTCOMES
Siti I&II <i>Frontier</i>	Lack of natal care: Only one midwife was stationed at the Chesower Health Centre and she covered a 30 km radius.	Recruitment and training: In response to requests made by women in the immediate project area, Frontier is helping 35 midwives undergo a 1 year training course.
Lubilia-Kawembe <i>Frontier</i>	Lack of water: Women in the community were spending 45-60 minutes daily fetching water.	Agreement with water utility: Frontier agreed to draw water for a community supply that will serve 300-400 households. The water will be piped to the village centres so that at the very most, women will have to walk 10 minutes to access the water point, freeing up valuable time for education, work or family life.
Lubilia-Kawembe <i>Frontier</i>	Financial disempowerment: Finances are managed by the men in a household giving women limited say how cash is spent. As women lack collateral, they find it difficult to open bank accounts which is a particular problem if project developers are seeking to pay compensation to affected households.	Financial inclusion: Compensation payments were only discussed with both husband and wives present and financial training was given to both equally. Frontier then ensured that female heads of households were able to open and operate bank accounts into which their compensation payments were made.

FEMALE EMPOWERMENT AND RENEWABLE ENERGY: CONCLUSION

1) MAINSTREAMING GENDER AWARENESS

- The EIB and GEEREF are currently developing a gender strategy aiming at mainstreaming gender awareness across all of the investments that they participate in.
- GEEREF's fund managers shall seek to integrate the gender dimension across the full project cycle and take actions to promote gender equality, including giving equal voice among women and men in the decision-making processes of the project.
- Mainstreaming gender awareness through commitments to funds and projects in this way will allow GEEREF to increase the effectiveness of its investment in sustainable projects and in meeting its People-Planet-Profit goals globally.

2) TRACKING GENDER-SENSITIVE METRICS

- GEEREF's fund managers have started to collect sex-disaggregated data and qualitative information to track the real gender impacts of their projects on an annual basis.
- Through the annual impact reporting cycle, GEEREF continues to develop with its fund managers specific gender metrics that will allow it to track progress in implementing the gender strategy.
- Indicators will be tracked across the full project cycle (project design/development, construction and operations) and will include data on local job creation, local public participation and decision making as well as training received.





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