



SITI, UGANDA (FRONTIER)



GEEREF IMPACT METHODOLOGY

Last update: September 2017

INTRODUCTION

The GEEREF team focuses on backing emerging investment teams active in the renewable energy and energy efficiency sectors who share its values and who implement the highest international standards for responsible investment through their businesses and projects. By catalysing nascent managers, GEEREF is able to have a profound bearing upon its funds' strategies and, particularly, their approaches to impact investing.

GEEREF's approach to impact is two-fold: 1) implement and comply and 2) quantify and measure. GEEREF requires all its fund managers to implement and comply with the EIB's environmental and social standards, which are outlined in detail in the EIB's [Environmental and Social Practices Handbook](#). GEEREF collects impact data from all its fund managers and reports them to investors.

This document sets out the key impact metrics that GEEREF and its funds track across their portfolio of investments. These metrics fall within four categories in line with GEEREF's policy objectives:

PILLAR 1: ENERGY

PILLAR 2: ENVIRONMENT/CLIMATE MITIGATION

PILLAR 3: SUSTAINABLE DEVELOPMENT

PILLAR 4: FINANCIAL LEVERAGE

The metrics are calculated both on the actual results of portfolio projects in the reporting year and for the projected economic lifetimes of the projects. The metrics are reported annually in the GEEREF's impact report with additional quantitative information on the impacts of the projects financed.

GEEREF is committed to the continued pursuit of best practice in impact reporting and welcomes all feedback.

Sincerely,

The GEEREF team



METHODOLOGY

All Impact data are collected annually from GEEREF's fund managers and are analysed by the GEEREF team. The report accounts for data and results for the entirety of each project, rather than a pro rata share of them, with the underlying assumption that the projects would not have been financed without GEEREF' support. The data is reported on an annual basis as a snapshot of the status at year end 2016.

The analysis comprises three layers of data:

Actual reported values from the relevant financial year from each of the investments in each portfolio in the reporting 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 as of the 2015 we have tracked committed capital in order to reflect its expected mobilisation impact. The 'actual' figures present total realized figures as of the end of the year.

Current portfolio assumes that all projects in the existing portfolio (under development, construction and in operation) are fully operational for a full year. The figure provides a snapshot of the expected annual impact of the projects that are in the portfolio in 2016 once operational.

Targeted portfolio assumes that all projects in the current portfolio and in pipeline are fully operational for a full year. It provides a snapshot of the expected annual impact of all the projects that GEEREF's funds will end up supporting.

Both current portfolio and targeted portfolio metrics are modelled and use total capital commitments, project sizes and technologies, capex and capacity factors in order to derive a set of notional values for the portfolio. It is to be noted that these figures are very sensitive to the evolution of some of the assumptions, including the grid factor and the average consumption per household per country. We update these assumptions on an annual basis.

The data collection exercise is divided into four Pillars: Energy, Environment, Sustainable Development and Financial Leverage. While some metrics in Energy, Environment and Sustainable Development Pillars are reported as provided by the fund managers, others are calculated by the GFO based using inputs from fund managers and from external resources. The latter category includes these indicators: households impacted and emissions reduced. The number of households impacted is calculated by dividing total electricity generated (as reported by fund manager) by average household consumption in a country (as provided by the World Bank). The amount of emissions reduced is calculated by multiplying electricity generated (as reported by fund manager) by a country grid emission factor (as provided by the EIB). For the fourth pillar, Financial Leverage, GEEREF reports on the amount of capital mobilized (both private and public) 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 investors relative to the initial commitment made by GEEREF. The GEEREF level multiplier is the project level multiplier times the fund level multiplier.

A final calculation (ODA impact) shows the impact achieved by ODA investors 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.

Please note, GEEREF reports to the OECD on the amount of private finance mobilised by its investments on an annual basis. The OECD methodology can be found [here](#). The above described GEEREF methodology differs from the OECD methodology in few important aspects. The OECD methodology focuses on private capital mobilisation while GEEREF accounts both for public and private capital mobilisation. In addition, the OECD only accounts for capital mobilised on the fund level and ignores the mobilization effect on the project-level.

PILLAR 1: ENERGY

IMPACT METRICS	
INSTALLED CAPACITY	<p><u>Definition:</u> The amount of energy generating capacity installed and operational (in MWs).</p> <p><i>Actual 2016</i> refers to known figures for the financial year 2016.</p> <p><i>Current portfolio</i> refers to the expected capacity installed once all the projects that are currently under development and construction are fully operational. <i>Future portfolio</i> refers to the expected capacity installed for the full portfolio once all current portfolio and pipeline projects are operational.</p>
TOTAL ELECTRICITY PRODUCED	<p><u>Definition:</u> Renewable energy output (in MWhs) annually.</p> <p><i>Actual 2016</i> refers to known figures for the financial year 2016 as reported by fund managers.</p> <p><i>Current portfolio</i> refers to expected annual output once the existing projects are fully operational.</p> <p><i>Targeted portfolio</i> refers to the expected annual output once all current portfolio and pipeline projects are operational.</p> <p>The <i>current portfolio</i> and <i>targeted portfolio</i> figures are calculated by GEEREF by multiplying installed capacity by project's capacity factor and the number of hours in a year (8,760 hours). Fund managers provide capacity factors for each of the underlying projects.</p>
TOTAL ENERGY EFFICIENCY IMPROVEMENT	<p><u>Definition:</u> The amount of energy savings produced (<i>in MWhs</i>) annually.</p> <p><i>Actual 2016</i> refers to known figures for the financial year 2016 as reported by fund managers.</p> <p><i>Current portfolio</i> refers to expected savings once the existing projects are fully operational.</p> <p><i>Targeted portfolio</i> refers to the expected annual savings once all current portfolio and pipeline projects are operational.</p> <p>The <i>current portfolio</i> and <i>targeted portfolio</i> figures are provided by fund managers.</p>

PILLAR 2: ENVIRONMENT/CLIMATE MITIGATION

IMPACT METRICS

NET CO2 EMISSIONS REDUCED

Definition: The amount of net tonnes of CO2 equivalent reduced annually.

GEEREF uses the [EIB Carbon Footprint Methodology](#) to calculate this metric. It is calculated by multiplying total energy generated by a project by the fossil fuel grid emissions factor of the country where the project is located (see page 34-42 of the Methodology). Any emissions associated with its operations (e.g. CO2 emissions from some geothermal power technologies) are subtracted.

Actual 2016 refers to the figure calculated for the financial year of 2016 and based on the amount of energy generated by a project as reported by the fund manager.

Current Portfolio refers to the expected yearly figure once the existing projects are fully operational.

Targeted portfolio refers to the expected annual savings once all current portfolio and pipeline projects are operational.

PILLAR 3: SUSTAINABLE DEVELOPMENT

IMPACT CRITERIA

BENEFICIARY HOUSEHOLDS

Definition: The estimated total number of beneficiary households that potentially gain new and/or improved access to modern renewable energy supply as a result of the project.

This figure is calculated by dividing total annual electricity generation of the project by the average annual household electricity consumption in the country of project location, using data provided by the World Bank and, where not available, country statistics.

Actual 2016 refers to number of households benefitting from new/improved energy access figures for the financial year.

	<p><i>Current Portfolio</i> refers to the expected yearly figure once the existing projects are fully operational. <i>Targeted Portfolio</i> refers to the expected annual figure for the full portfolio once all current portfolio and pipeline projects are operational.</p>
<p>BENEFICIARY SMES</p>	<p><u>Definition:</u> The estimated total number of small and medium-sized businesses with fewer than 250 employees that were involved in the project (including the investee companies of the funds) through a commercial agreement with the investee project company, as reported by fund managers.</p> <p><i>Actual 2016</i> refers to known figures for the calendar year 2016. <i>Current Portfolio</i> refers to the expected yearly figure once the project is fully operational. <i>Targeted Portfolio</i> refers to the expected annual figure for the full portfolio once all current portfolio and pipeline projects are operational.</p>
<p>PERMANENT JOBS CREATED (MALE AND FEMALE)</p>	<p><u>Definition:</u> The number of personnel hired on a full-time basis by the investee project company (this would typically include asset management services such as O&M, accounting and the like), as reported by fund managers.</p> <p><i>Actual 2016</i> refers to known figures for the calendar year 2016. <i>Current Portfolio</i> refers to the expected yearly figure once the project is fully operational. <i>Targeted Portfolio</i> refers to the expected annual figure for the full portfolio once all current portfolio and pipeline projects are operational.</p>
<p>TEMPORARY JOBS CREATED (MALE AND FEMALE)</p>	<p><u>Definition:</u> The number of personnel hired on a temporary basis by the investee project company (this would typically include technical services ahead of construction, construction work and the like), as reported by fund managers.</p> <p><i>Actual 2016</i> refers to known figures for the calendar year 2016. <i>Current Portfolio</i> refers to the expected yearly figure once the project is fully operational. <i>Targeted Portfolio</i> refers to the expected annual figure for the full portfolio once all current portfolio and pipeline projects are operational.</p>

TRAINING PROVIDED	<p><u>Definition:</u> The number of person-hours of work-related training provided by the investee project company, as reported by fund managers.</p> <p><i>Actual 2016</i> refers to known figures for the calendar year 2016.</p> <p><i>Current Portfolio</i> refers to the expected yearly figure once the project is fully operational.</p> <p><i>Targeted Portfolio</i> refers to the expected annual figure for the full portfolio once all current portfolio and pipeline projects are operational.</p>
TAXES PAID	<p><u>Definition:</u> The total amount of local corporate tax paid at the level of the investee project company.</p> <p><i>Actual 2016</i> refers to known figures for the calendar year 2016.</p> <p><i>Current Portfolio</i> refers to the expected yearly figure once the project is fully operational.</p> <p><i>Targeted Portfolio</i> refers to the expected annual figure for the full portfolio once all current portfolio and pipeline projects are operational.</p>

PILLAR 4: FINANCIAL LEVERAGE

IMPACT METRICS	
FUND MULTIPLIER	<p><u>Definition:</u> The multiple of capital invested by GEEREF into underlying funds to the total capital raised by these funds.</p> <p>The fund multiplier is calculated by dividing the amount of total capital raised by GEEREF's investee funds and dividing the commitments made by GEEREF to investee funds</p> <p>As of the end of 2016, GEEREF made commitments of EUR 154m to its investee funds. These funds raised a total of EUR 906m. This translates into a multiplier of 5.9x.</p> <p><i>Actual 2016</i> refers to known figures for the calendar year 2016.</p> <p><i>Targeted Portfolio</i> refers to the expected figure for the full portfolio once all current portfolio and pipeline projects are operational.</p>

PROJECT MULTIPLIER

Definition: The multiple of capital invested by investee funds over the total final cost of the project.

The project multiplier is calculated by dividing the total final cost of a project (equity and debt) by the amount of equity invested by investee funds.

As of the end of 2016, GEEREF's investee funds committed EUR 474m to their underlying projects and raised additional equity and debt to finance these projects for a total amount of EUR 2.4bn. This translates into a multiplier of 5.1x.

Actual 2016 refers to known figures for the calendar year 2016.

Targeted Portfolio refers to the expected figure for the full portfolio once all current portfolio and pipeline projects are operational.