

# GLOBAL ENERGY EFFICIENCY AND RENEWABLE ENERGY FUND IMPACT REPORT 2019

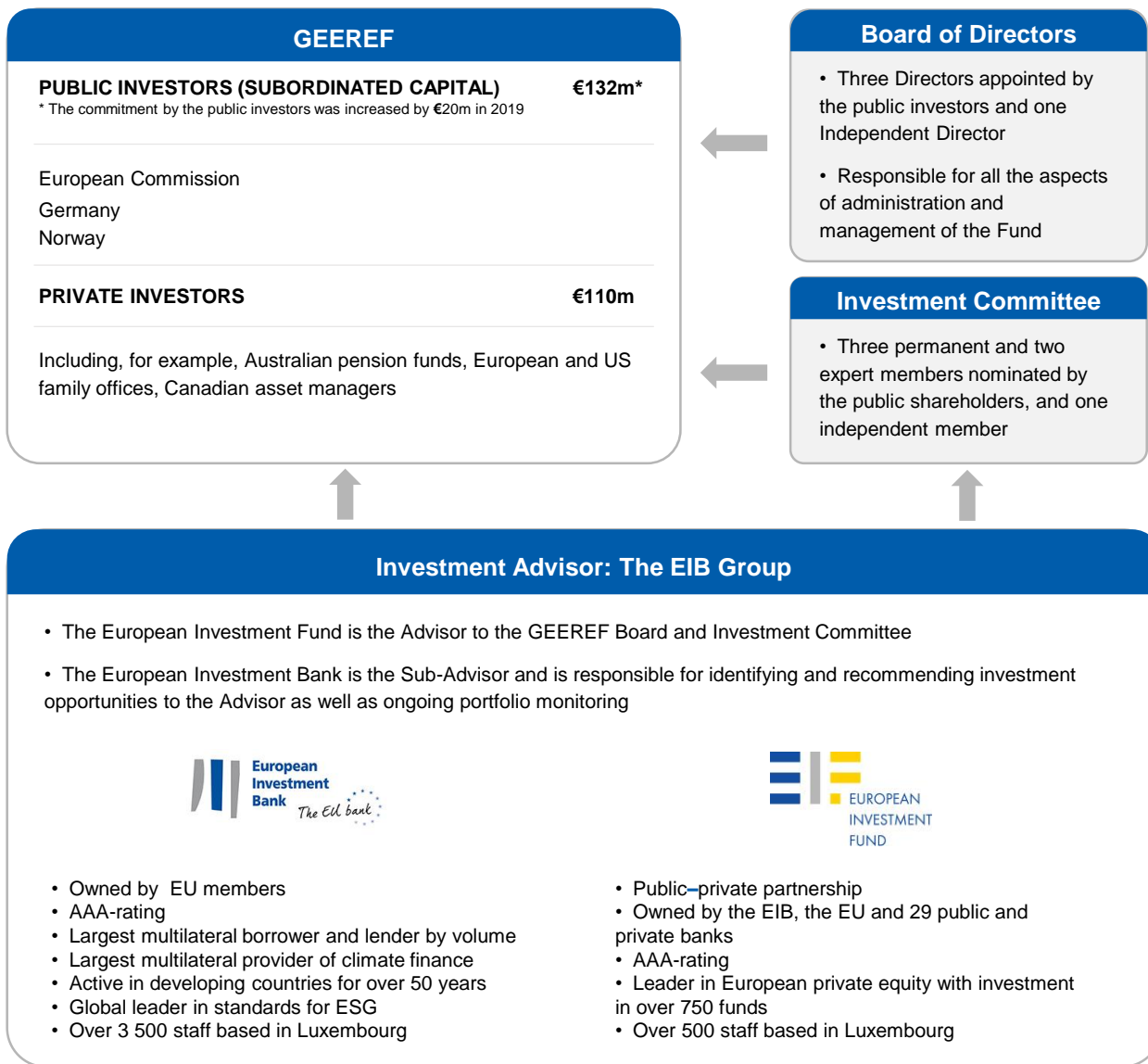
**A CATALYST FOR CLEAN POWER**



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# GEEREF—A PUBLIC–PRIVATE PARTNERSHIP



THE EUROPEAN INVESTMENT BANK GROUP HEADQUARTERS IN LUXEMBOURG

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# GEEREF IMPACT STRATEGY

A CATALYST FOR CLEAN POWER



# GEEREF: IMPACT STRATEGY

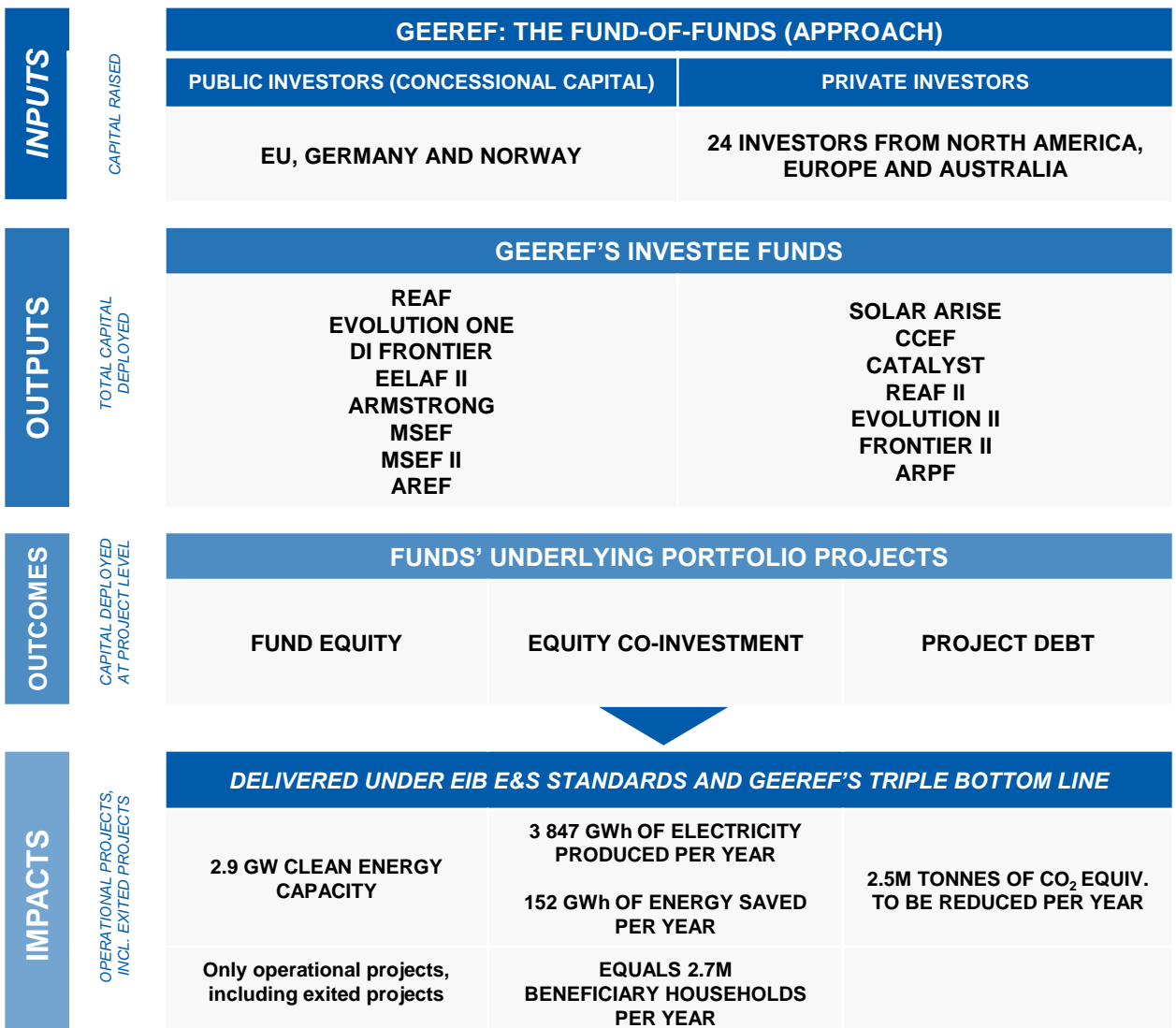
## MOBILISING CAPITAL FOR CLEAN ENERGY

**GEEREF's Strategy:** GEEREF is a vehicle that invests in renewable energy and energy efficiency-focused private equity funds and directly into companies. GEEREF's aim is to generate both financial and social returns for its investors and stakeholders.

It follows a triple bottom line strategy: People–Planet–Profit.

GEEREF reached the end of its investment period in May 2019 and is fully invested. The last investments made were commitments to the two funds, MSEF II and ARPF. As of the end of 2019, GEEREF had 15 funds, of which 14 were still active, in its portfolio across emerging markets in Africa, Asia and Latin America. These have, in turn, developed a total of 146 renewable energy and energy efficiency projects, out of which 86 were operational end of 2019. GEEREF's approach to financing clean energy expansion combines patient capital investment into infrastructure with specialised technical help supporting fund managers and developers. This approach is complemented by a comprehensive impact approach that maximises the returns for all of its stakeholders—GEEREF's investors as well as the local communities that host each of GEEREF's projects.

**Mobilisation of Capital:** GEEREF was designed to mobilise high amounts of investment, in particular from private investors, into its underlying projects. GEEREF has a blended structure where public capital has been used to attract private sector investors. The fund-of-funds approach enables further leverage on the public capital at the investee fund level as well as further down, at the project level.



# GEEREF: IMPACT STRATEGY

## COMBINING QUALITATIVE AND QUANTITATIVE IMPACT ASSESSMENT

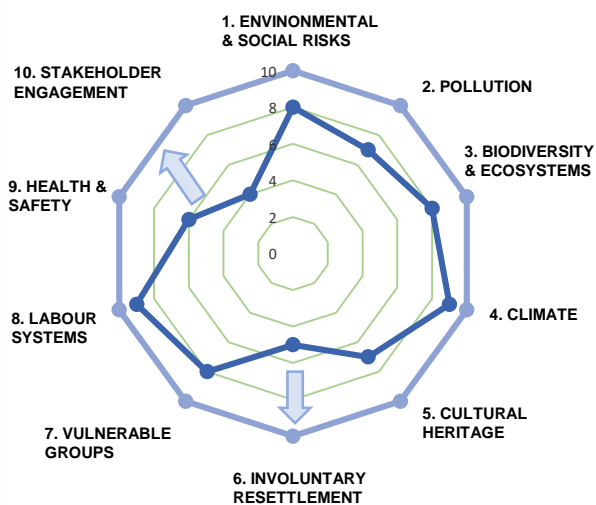
**Impact Assessment:** GEEREF carries out a twofold approach, which combines qualitative and quantitative assessments, to ensure that its impact objectives and the triple bottom line approach are achieved in all of its investment activities.

### 1. QUALITATIVE EIB STANDARDS

*Implement and Comply with Standards and Processes*

GEEREF requires its portfolio funds to carry out social and environmental due diligence in their new projects, using EIB’s Environmental and Social Standards, and subsequently monitor the projects in compliance with the standards. This is institutionalised in the contractual framework with the fund managers. GEEREF’s early participation as a cornerstone investor supports the implementation of EIB Standards from the onset of a fund’s structuring and portfolio construction.

**EIB STANDARDS<sup>1</sup>**



● Investee fund initial score      ➔ GEEREF helps its funds raise standards

<sup>1</sup>Figure only illustrative.

### 2. QUANTITATIVE GEEREF IMPACT METRICS

*Quantify and Measure*

GEEREF measures and monitors quantifiable, realised impact on the ground on an annual basis to assess ESG performance, share results with investors and the wider investment community. These impact indicators were agreed upon between GEEREF and the fund managers.

#### GEEREF IMPACT METRICS AS PROVIDED IN THIS REPORT

PILLAR 1: CLEAN ENERGY	PILLAR 2: ENVIRONMENT/ CLIMATE CHANGE
INSTALLED CAPACITY (MW)	NET EMISSIONS REDUCED (tonnes of CO <sub>2</sub> equiv.)
ELECTRICITY GENERATED (MWH)	
ENERGY EFFICIENCY SAVINGS (MWH)	
PILLAR 3: SUSTAINABLE DEVELOPMENT	PILLAR 4: FINANCIAL LEVERAGE
BENEFICIARY HOUSEHOLDS (#)	FUND MULTIPLIER
BENEFICIARY SMES (#)	PROJECT MULTIPLIER
NUMBER OF PEOPLE EMPLOYED (#)	
TRAINING (HRS)	

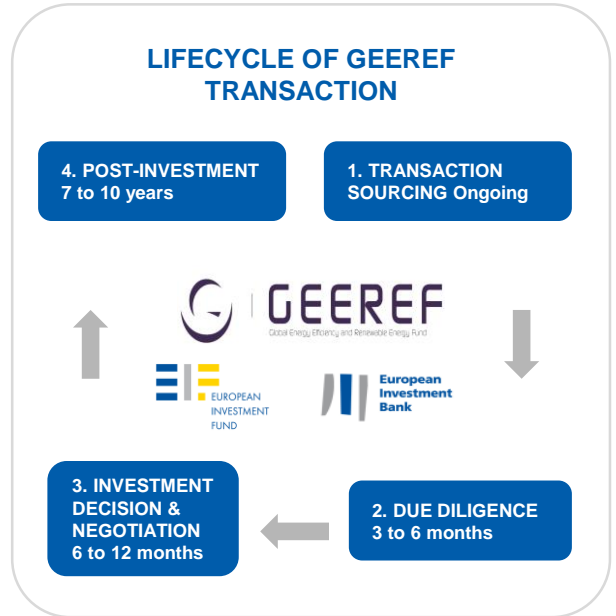
# GEEREF: IMPACT STRATEGY

## VALUE ADDED THROUGHOUT THE PROJECT VALUE CHAIN

**Value added:** GEEREF works closely with fund managers at each stage of the transaction development. GEEREF provides input on the structuring and strategy to the funds' teams.

During the due diligence and negotiations phase, GEEREF provides feedback on terms and conditions to ensure the fund's marketability to private investors. In addition, EIB technical experts review the fund's environmental and social processes, standards and staffing plan to ensure alignment with best international practices. GEEREF's technical help facility (RFSF) supported fund managers in upgrading their practices in case of gaps.

Finally, following a fund's inclusion into GEEREF's portfolio, GEEREF provides continuous feedback to the fund managers through an active role in the Advisory Board and site visits when necessary. EIB's technical experts review and enhance the funds' E&S practices via monitoring.



STEPS OF GEEREF TRANSACTION	INITIAL FUND STRUCTURING	PROJECT IMPLEMENTATION	ONGOING MONITORING
<b>E&amp;S STANDARDS</b>	E&S best practice through the lifecycle of operations. E&S obligations, processes and procedures are listed and described in relevant contractual documents (Limited Partnership Agreement, Side Letter and other).	Environmental and Social Management Systems (ESMS) are built within each fund's management system to manage risks associated with projects and enhance positive outcomes.	
<b>TECHNICAL HELP FACILITY</b>	GEEREF's Regional Fund Support Facility (RFSF), funded by the European Commission, helped nascent fund managers address gaps with recruitment of qualified professionals and the development of investment and monitoring capabilities. The RFSF is now fully deployed and finished operation.		
<b>ADVISORY BOARD</b>	Regular formal and informal supervision to tell on best practice, conflicts of interest, deviations from stated policies, internal issues, strategy and market context.		
<b>IMPACT REPORTING</b>	GEEREF's annual impact reporting exercise helps funds maintain focus on Impact and E&S issues. GEEREF's Impact Report supports greater transparency in Impact Investment and knowledge sharing.		

# GEEREF: IMPACT STRATEGY

## CONTRIBUTING TO SUSTAINABLE DEVELOPMENT GOALS IN DEVELOPING COUNTRIES

**GEEREF's Approach and Sustainable Development Goals** : GEEREF has a triple bottom line approach: People–Planet–Profit. Underpinning its investment strategy, there is a fundamental commitment to financial, environmental and social sustainability principles which are mutually reinforcing and create value for GEEREF's shareholders.

Importantly, GEEREF is in a unique place to influence and drive the strategy of funds and their underlying projects via the use of private equity as a long-term investment instrument.





GEEREF mapped its portfolio to Sustainable Development Goal (SDG) targets. Its activities directly contribute to four SDGs. GEEREF contributes to the expansion of clean energy capacity in developing countries and climate change mitigation and as such, directly contributes to SDG 7: Affordable and Clean Energy and SDG 13: Climate Action. Given the labour-intensity associated with construction of infrastructure assets, GEEREF also contributes to employment opportunities and skills training in markets where it operates (SDG 9). As a public-private partnership, GEEREF also directly contributes to SDG 17 (partnerships for the goals).

In addition, as expansion of clean energy promotes the broader development objectives of economic prosperity, well-being and a healthy environment, GEEREF's activities contribute at least to even more SDGs.



**Measuring Sustainable Development Goal impact:** Assessing the exact contribution to SDGs that GEEREF can claim remains a challenge because of the wide range of SDGs, underlying targets and key performance indicators, all of which are set at national level. As a result, the figures and findings of this report may not capture the entirety of the impact generated.

GEEREF has tried to track its direct contribution to SDGs via its existing metrics, as illustrated later.

GEEREF'S DIRECT SDG CONTRIBUTION	GEEREF'S METRICS	GEEREF'S IMPACT
<p><b>GEEREF BUILDS UP NEW CLEAN ENERGY CAPACITY</b></p> 	<p>Capacity installed (MW<sup>2</sup>) Electricity generated and saved (MWh<sup>2</sup>)</p>	<p>1 GW in development, 0.3 GW in construction, 1.6 GW in operation 3.8m MWh of electricity generated and 152 325 MWh of electricity saved</p>
<p><b>GEEREF CONTRIBUTES TO DECREASING GHG EMISSIONS IN ENERGY AND OTHER INDUSTRIES</b></p> 	<p>Emissions reduced (tonnes of CO<sub>2</sub> equiv.)</p>	<p>2.5m tonnes of CO<sub>2</sub> equiv. avoided by operational projects per year</p>
<p><b>GEEREF CREATES EMPLOYMENT OPPORTUNITIES AND SKILLS TRAINING</b></p> 	<p>Number of people employed: temporary, permanent, male, female Training delivered (hours)</p>	<p>2 401 permanent male jobs 907 permanent female jobs 4 928 temporary male jobs 523 temporary female jobs 62 062 training hours</p>
<p><b>GEEREF IS A PUBLIC-PRIVATE PARTNERSHIP</b></p> 		

<sup>2</sup>1 GWh = 1 000 MWh, 1 GW = 1 000 MW.





PROJECT TALETTUTAYI AND TALETTUTAYI SIX SOLAR PLANT, TELANGANA, INDIA, SOLAR ARISE

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# GEEREF IMPACT METRICS

CATALYSING BILLIONS OF EUROS FOR CLEAN POWER



# GEEREF PORTFOLIO METRICS

## BEHIND THE FIGURES

- All data are **collected annually** from GEEREF's fund managers. 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's support.
- The data are reported on an annual basis.

The analysis is done at the level of the current portfolio of the funds at year-end 2019. This includes reported values from the relevant financial year on each of the active investments in each portfolio as well as assets under construction.

Reported values assume that assets have been operational for the whole financial year. Projects already exited/sold by the underlying funds are also included in the reported information, based on the data as last reported and as available.

- The data collection is reported along four pillars: **Energy, Environment, Sustainable Development and Financial Leverage**.
- While some metrics in the Energy, Environment and Sustainable Development pillars are reported as provided by the fund managers, others are calculated by the GEEREF Team using inputs from fund managers and external resources.
- The data calculated by the GEEREF Team are sensitive to the evolution of assumptions, including the grid emission factor and the average consumption per household by country. These assumptions have been updated in this report.

The number of households impacted is calculated by dividing total electricity generated (as reported by fund managers) by average household consumption in a given country.<sup>3</sup>

The amount of emissions reduced is calculated by multiplying electricity generated (as reported by fund manager) by a given country grid emission factor.<sup>4</sup>

- For the fourth pillar, financial leverage, GEEREF reports on the amount of capital mobilized (both private and public) at three levels: project level, fund level and GEEREF level.

The project-level multiplier assesses the total project capex (both private and public, including fund equity, co-investment and debt) relative to the equity invested by the fund manager.

The fund-level multiplier assesses the total that a fund has raised from all investors (both private and public) relative to the initial capital contribution made by GEEREF.

The GEEREF-level multiplier is the project-level multiplier times the fund-level multiplier.

A more detailed explanation of the GEEREF Impact Methodology can be found on GEEREF's website:

<https://geeref.com/>

<sup>3</sup>Enerdata, 2014 figures.

<sup>4</sup>[https://unfccc.int/sites/default/files/resource/Harmonized\\_Grid\\_Emission\\_factor\\_data\\_set.pdf](https://unfccc.int/sites/default/files/resource/Harmonized_Grid_Emission_factor_data_set.pdf), July 2019 data.

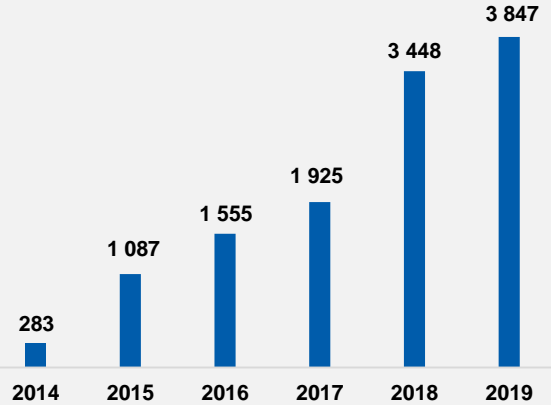
# GEEREF PORTFOLIO METRICS

## PILLAR 1: CLEAN ENERGY

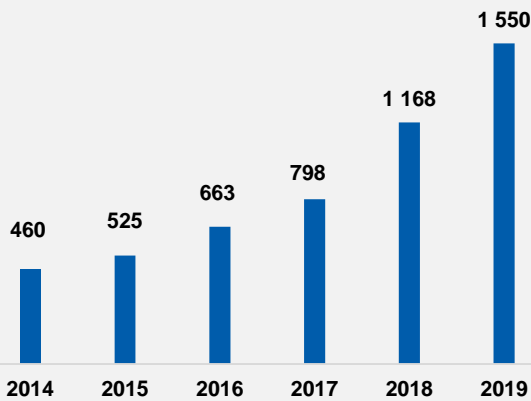
*In 2019, GEEREF's underlying funds had about 3 GW of capacity of new clean energy capacity in developing countries in different stages. Given the early stage focus of GEEREF's funds, about one-third of this capacity (1 GW) was still in development. Still, 1.6 GW was already operational.*

*The operational projects generated 3 847 GWh of electricity in 2019.*

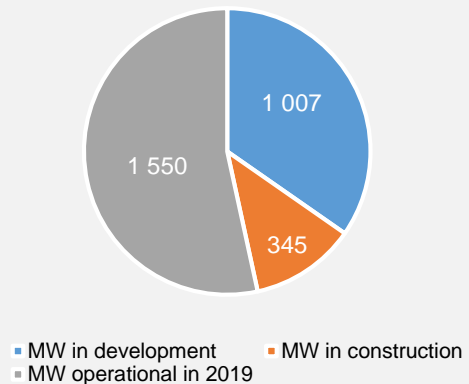
**GENERATION per year in GWh (operational projects)**



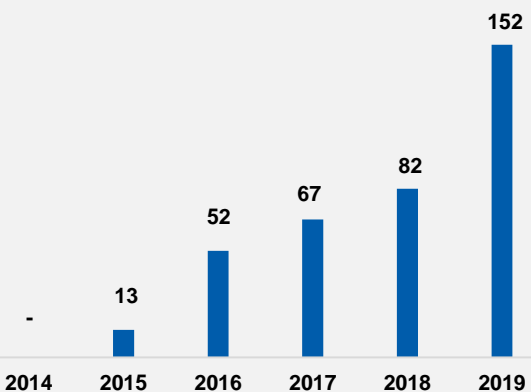
**INSTALLED CAPACITY AT YEAR END (operational projects in MW)**



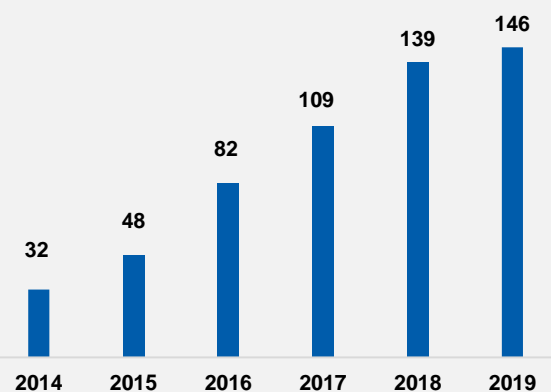
**SPLIT OF GENERATION CAPACITY BY STAGE**



**ENERGY SAVED per year in GWh (operational projects)**



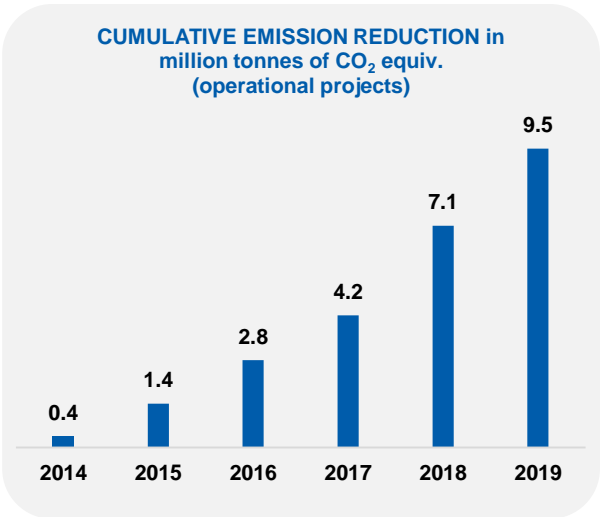
**NUMBER OF PROJECTS AT YEAR END (incl. pipeline and construction)**



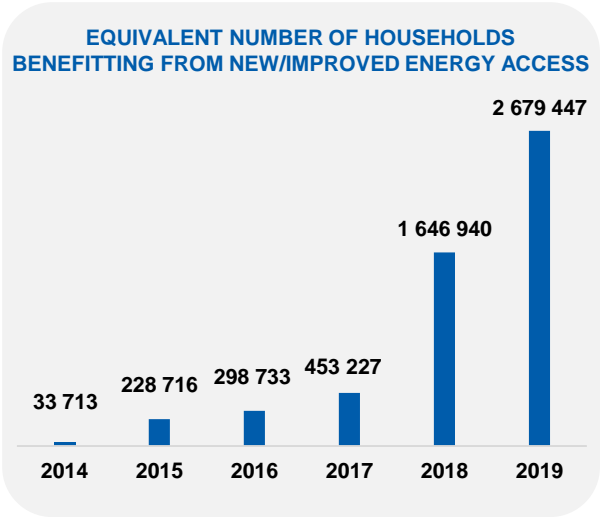
# GEEREF PORTFOLIO METRICS

## PILLARS 2 AND 3: CLIMATE MITIGATION/ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

*As of end 2019, GEEREF's operational projects (including projects exited by the funds) had a climate mitigation effect of about 9.5m tonnes CO<sub>2</sub> equiv. (cumulatively since 2014).*

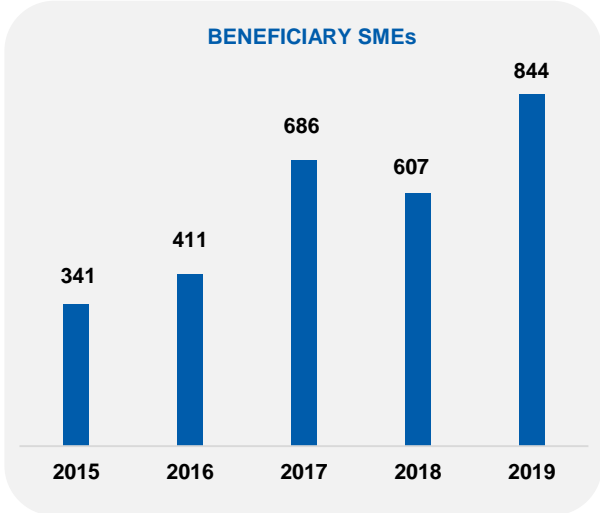


*The 3 847 GWh of electricity generated and 152 GWh saved by GEEREF's operational projects in 2019 are equivalent to the energy consumption of more than 2.7m households.*



*GEEREF's operational projects, projects under construction and pipeline projects, resulted in 844 beneficiary SMEs.*

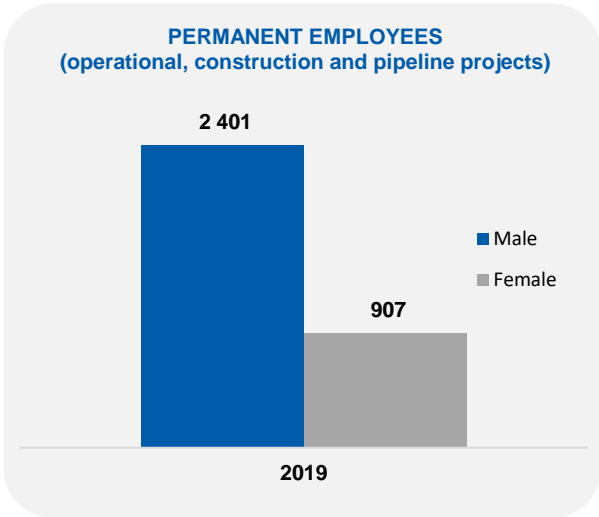
*The slight decline between 2017 and 2018 occurred as a large number of projects were moving from development and construction into operation, where typically fewer SMEs are involved.*



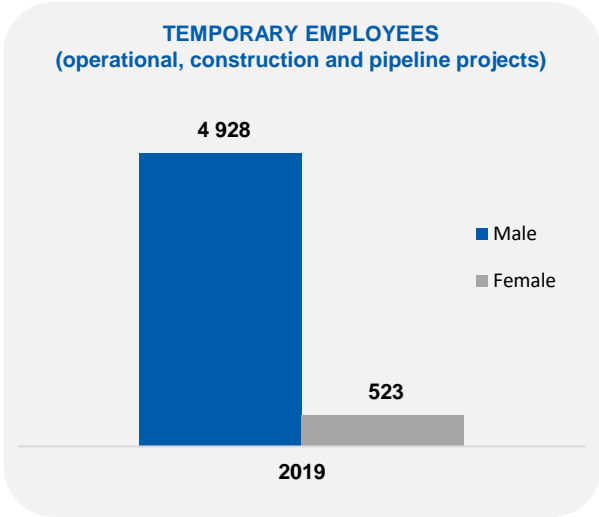
# GEEREF PORTFOLIO METRICS

## PILLAR 3: SUSTAINABLE DEVELOPMENT<sup>5</sup>

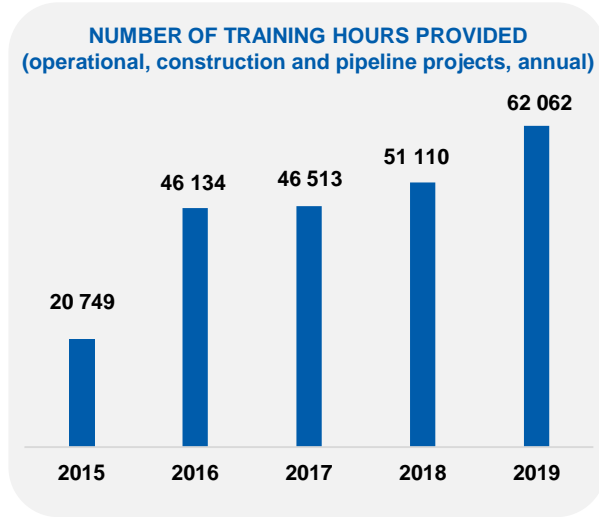
*The total number of permanent employees is lower than the total number of temporary employees (all employment and training figures are reported annualised as when projects are fully operational).*



*In 2019, the share of permanent positions held by female employees (27%) is higher than the share of temporary positions held by female employees (10%).*



*The amount of training hours provided by the funds and their projects increased in 2019 to more than 60 000 hours (annualised).*



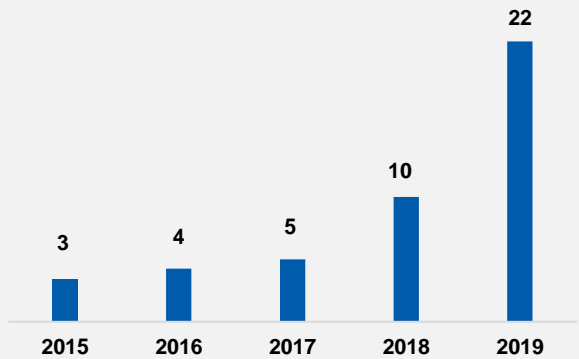
<sup>5</sup>All employment and training figures are reported annualised as when projects are fully operational.

# GEEREF PORTFOLIO METRICS

## PILLAR 3: SUSTAINABLE DEVELOPMENT

*The underlying projects paid an equivalent amount of €22m in taxes locally, hence supporting the local government institutions and their revenue generation potential.*

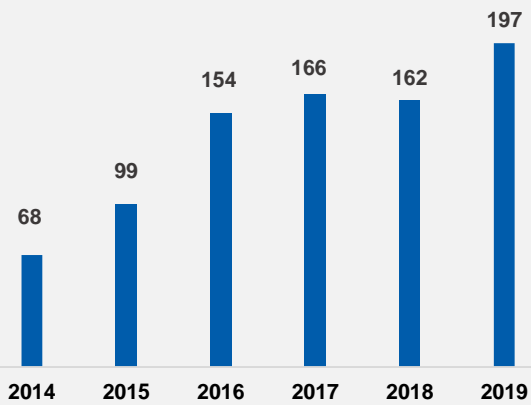
**TAXES PAID**  
(operational, construction and pipeline projects, in €m)



# GEEREF PORTFOLIO METRICS

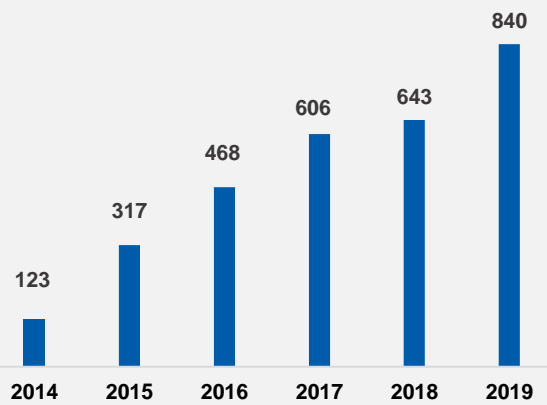
## PILLAR 4: FINANCIAL LEVERAGE

GEEREF COMMITMENTS TO FUNDS (€M)<sup>6</sup>

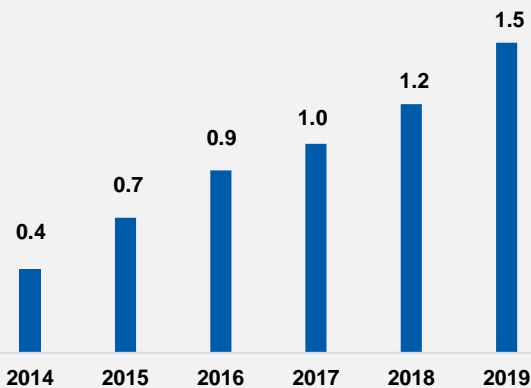


Drop in 2018 due to cancellation of part of the commitment to EELAFII related to the liquidation of the fund.

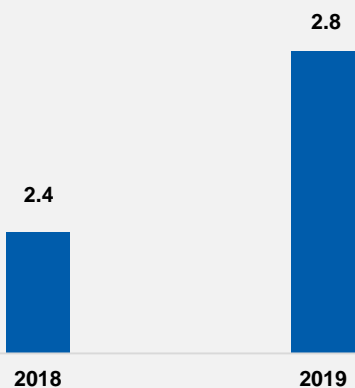
FUNDS' COMMITMENTS TO PROJECTS (€M)<sup>6</sup>



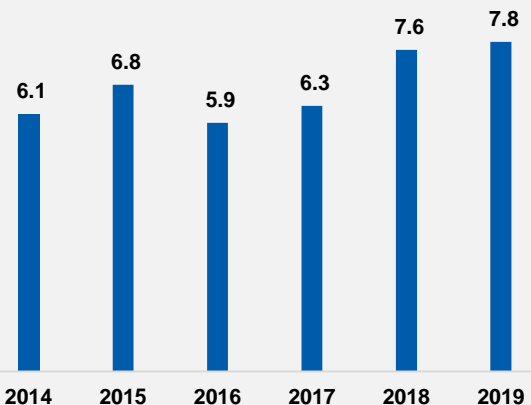
TOTAL RAISED BY GEEREF FUNDS (€BN)<sup>6,7</sup>



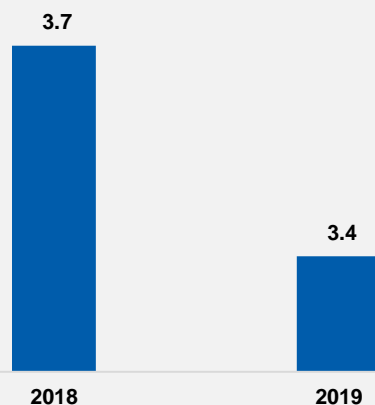
TOTAL PROJECT FINANCE COMMITTED (€BN)<sup>6</sup>



FUND MULTIPLIER<sup>8</sup>



PROJECT MULTIPLIER<sup>8</sup>

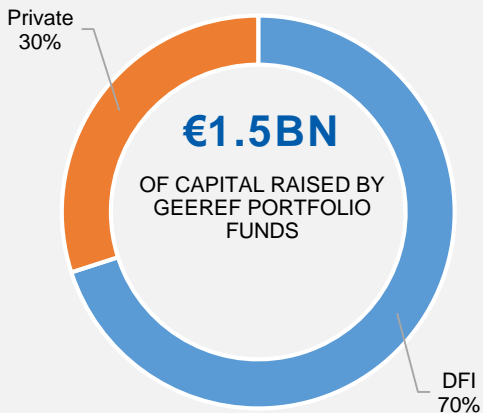


<sup>6</sup>All above numbers are subjected to FX movements. <sup>7</sup>Including GEEREF commitments. <sup>8</sup>See definitions on page 10.

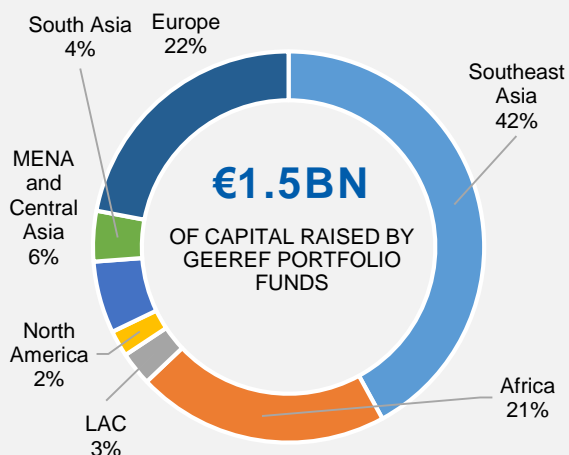
# GEEREF PORTFOLIO METRICS

## PILLAR 4: FINANCIAL LEVERAGE

CAPITAL MOBILISATION AT A FUND LEVEL, BY FUNDING SOURCE

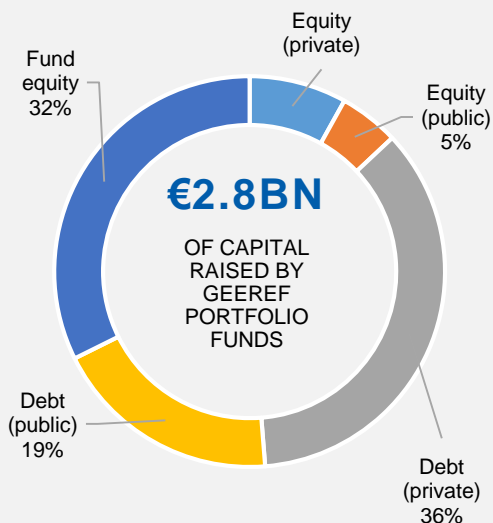


CAPITAL MOBILISATION AT A FUND LEVEL, BY GEOGRAPHY<sup>9</sup>

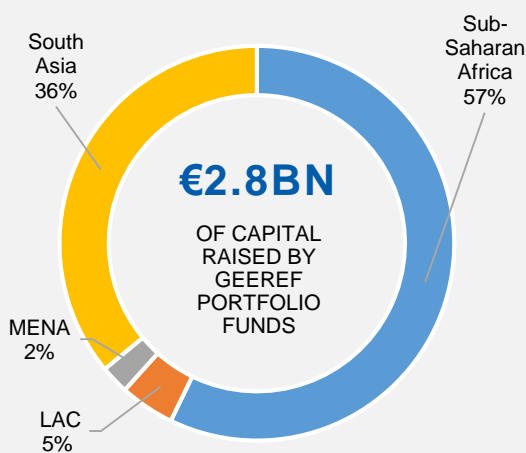


<sup>9</sup>Location of funding sources.

CAPITAL MOBILISATION AT A PROJECT LEVEL, BY FINANCIAL INSTRUMENT & SOURCE



CAPITAL MOBILISATION AT A PROJECT LEVEL, BY GEOGRAPHY





# GEEREF PORTFOLIO METRICS

## PILLAR 4: FINANCIAL LEVERAGE

### GEEREF LEVEL

**€242M**  
SIZE OF GEEREF

- Public investors committed €132m to GEEREF, which mobilised a further €110m of private investor commitments.
- At the end of 2019, GEEREF's portfolio consisted of €197m of commitments to 15 funds.

### FUND LEVEL

**€1.5BN**  
TOTAL RAISED BY  
FUND MANAGERS  
AS A RESULT OF  
GEEREF'S  
COMMITMENT

- Based on GEEREF's commitment of €197m, fund managers have raised a total of ~€1.5bn. This translates into a fund-level multiplier of 7.8x, an increase compared to the 2018 multiplier of 7.6x. As of the end of 2019, two of GEEREF's funds were still fundraising.
- A vast majority of the capital raised as of the end of 2019—70%—comes from Development Finance Institutions (DFIs). Thirty percent comes from a diversified pool of private investors (asset managers, impact investors and others). Asian funds attracted the biggest portion of private capital (~46% of the capital raised), whereas the private capital share raised by funds focusing on Africa and Latin America was significantly less.

### PROJECT LEVEL

**€2.8BN**  
OF PROJECT  
FINANCING  
RAISED

- By year-end 2019, the final cost of projects developed by GEEREF fund managers reached €2.8bn, 32% of which represents their equity contribution, 8% represents private investors' equity contribution and 5% represents the public investors' equity support. Lenders supplied the remaining 55% of project financing: 19% stemmed from DFIs, national development banks and equivalent and, 36% from private local banks.
- The total capital mobilised increased by €0.4bn compared to 2018 but the multiplier decreased from 3.7x to 3.4x. This was primarily due to funds increasing the share of equity finance to facilitate and speed up development and construction. With refinancings of equity stakes increasing, the project multiplier should stabilise/increase.

## ABBREVIATIONS

<b>AREF</b>	Africa Renewable Energy Fund
<b>ARPF</b>	ARCH Africa Renewable Power Fund
<b>CCEF</b>	Caucase Clean Energy Fund
<b>CO<sub>2</sub></b>	Carbon dioxide
<b>DFI</b>	Development Finance Institution
<b>EELAF</b>	Emerging Energy Latin America Fund
<b>EIB</b>	European Investment Bank
<b>EIF</b>	European Investment Fund
<b>EPC</b>	Engineering, procurement and construction
<b>E&amp;S</b>	Environmental and social
<b>ESG</b>	Environmental, social and governance
<b>ESMS</b>	Environmental and social management system
<b>EU</b>	European Union
<b>GEEREF</b>	Global Energy Efficiency and Renewable Energy Fund
<b>GHG</b>	Greenhouse gas
<b>IPP</b>	Independent power producer
<b>MENA</b>	Middle East and North Africa
<b>MSEF</b>	MGM Sustainable Energy Fund
<b>MW</b>	Megawatt
<b>MWh</b>	Megawatt hour
<b>O&amp;M</b>	Operating and Maintenance
<b>REAF</b>	Renewable Energy Asia Fund
<b>RFSF</b>	Regional Fund Support Facility
<b>SDG</b>	Sustainable Development Goal
<b>SMEs</b>	Small and medium-sized enterprises





Global Energy Efficiency and Renewable Energy Fund

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