

GLOBAL ENERGY EFFICIENCY AND RENEWABLE ENERGY FUND IMPACT REPORT 2018

A CATALYST FOR CLEAN POWER



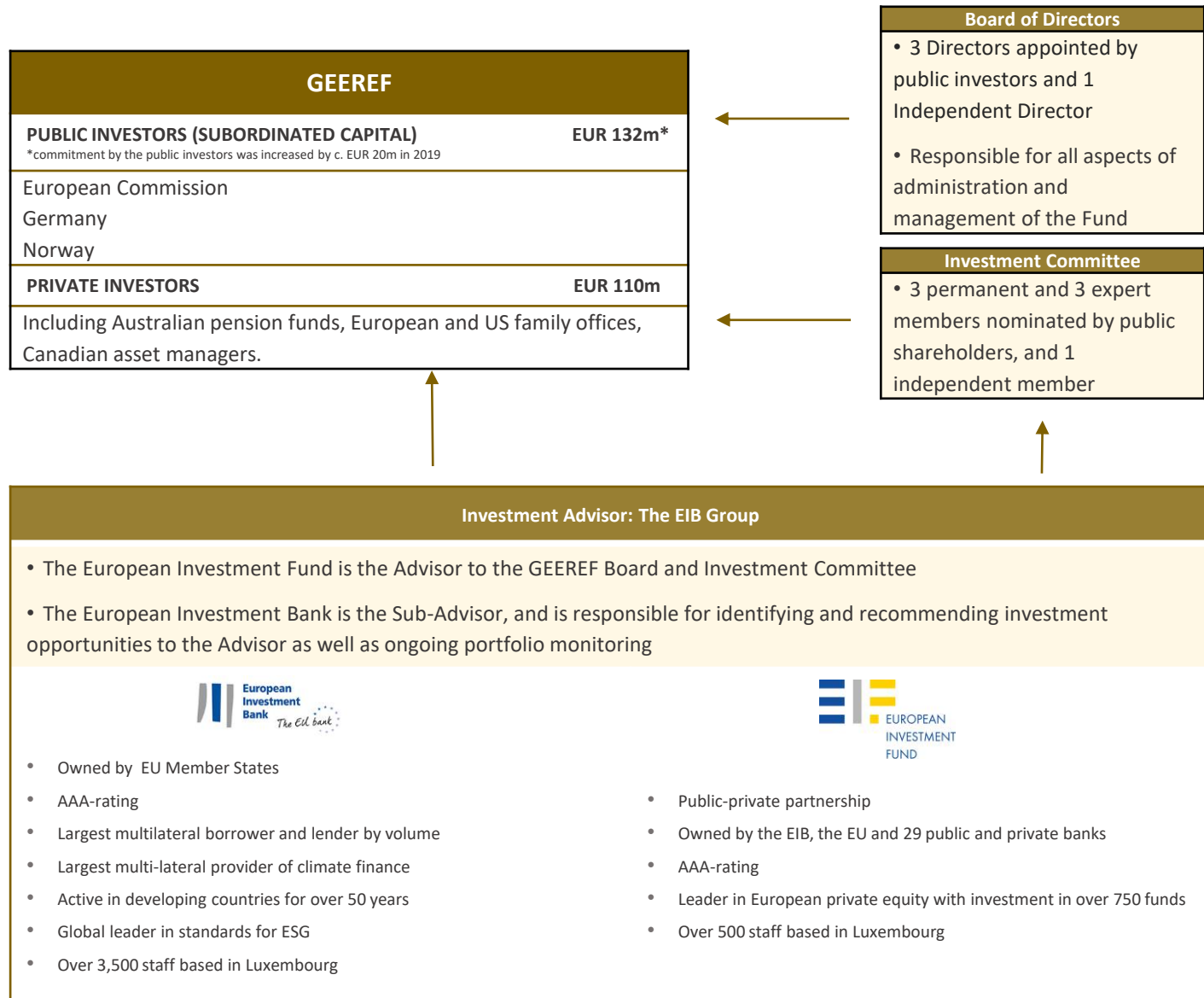
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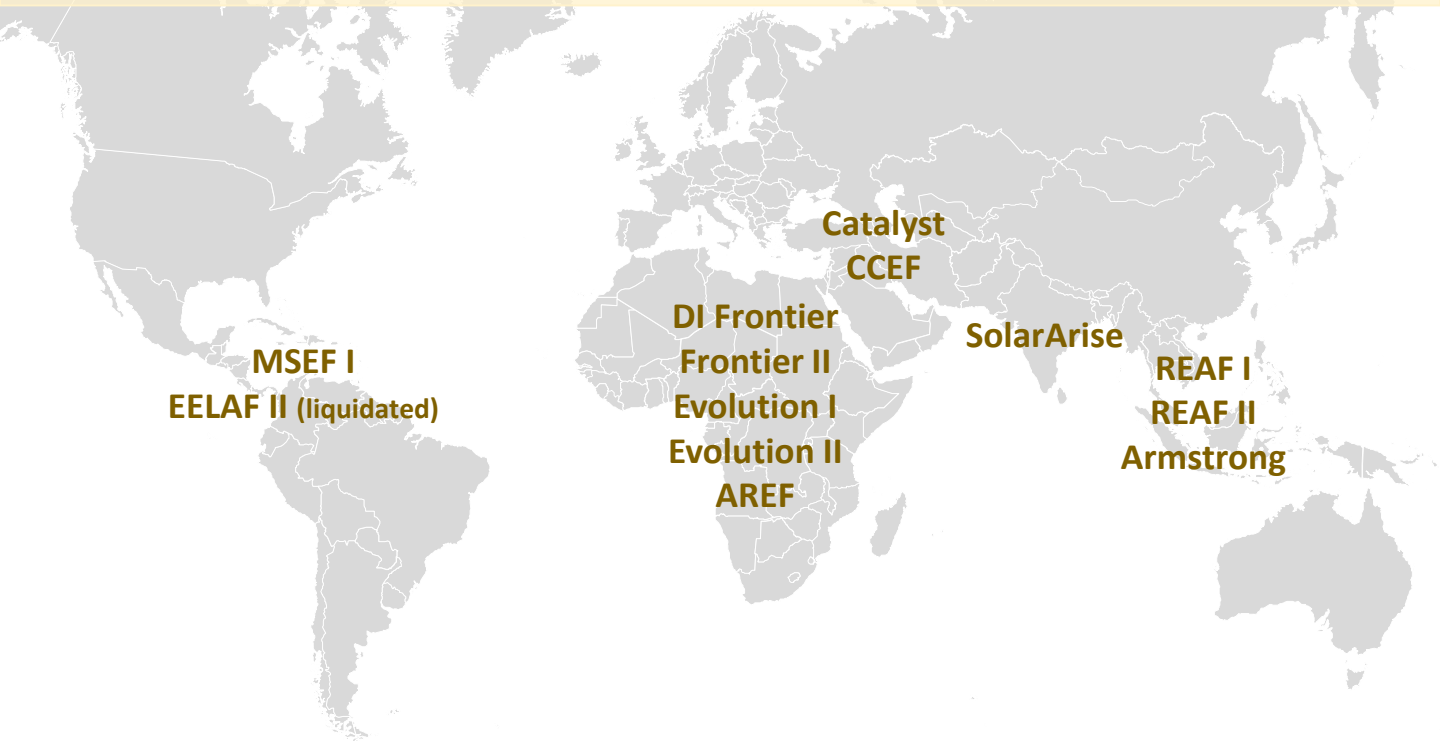


THE EUROPEAN INVESTMENT BANK GROUP HEADQUARTERS IN LUXEMBOURG



EUCALYPTUS PLANT NURSERY, APSD BIOMASS, GHANA, AREF

GEEREF IMPACT STRATEGY A CATALYST FOR CLEAN POWER



GEEREF: IMPACT STRATEGY

MOBILISING CAPITAL FOR CLEAN ENERGY

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

As of the end of 2018, GEEREF had 13 funds in its portfolio across emerging markets in Sub-Saharan Africa, South and Southeast Asia, Latin America and the Caribbean, the Middle East and Central Asia. These have, in turn developed a total of 139 renewable energy and energy efficiency projects, out of which 66 were operational end of 2018. GEEREF's approach to financing clean energy expansion combines patient capital investment into infrastructure with specialised technical assistance 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.

INPUTS	CAPITAL RAISED	GEEREF: THE FUND OF FUNDS (APPROACH)		
		PUBLIC INVESTORS (CONCESSIONAL CAPITAL)		PRIVATE INVESTORS
		EU, GERMANY AND NORWAY		24 INVESTORS FROM NORTH AMERICA, EUROPE AND AUSTRALIA
OUTPUTS	TOTAL CAPITAL DEPLOYED	GEEREF'S INVESTEE FUNDS		
		REAF EVOLUTION FRONTIER EELAF II ARMSTRONG MSEF AREF	SOLAR ARISE CCEF CATALYST REAF II EVOLUTION II FRONTIER II	
OUTCOMES	CAPITAL DEPLOYED AT PROJECT-LEVEL	FUNDS' UNDERLYING PORTFOLIO PROJECTS		
		FUND EQUITY	EQUITY CO-INVESTMENT	PROJECT DEBT
IMPACTS	OPERATIONAL PROJECTS, INCL. EXITED PROJECTS	DELIVERED IN ACCORDANCE WITH EIB E&S STANDARDS AND GEEREF'S TRIPLE BOTTOM LINE		
		1.2 GW CLEAN ENERGY CAPACITY	3,448 GWh OF ELECTRICITY PRODUCED P.A. 82 GWh OF ENERGY SAVED P.A.	2.9M TONNES OF CO2 EQUIV. TO BE REDUCED P.A.
		Only operational projects, including exited projects	EQUALS 1.6 MILLION BENEFICIARY HOUSEHOLDS P.A.	

GEEREF: IMPACT STRATEGY

COMBINING QUALITATIVE AND QUANTITATIVE IMPACT ASSESSMENT

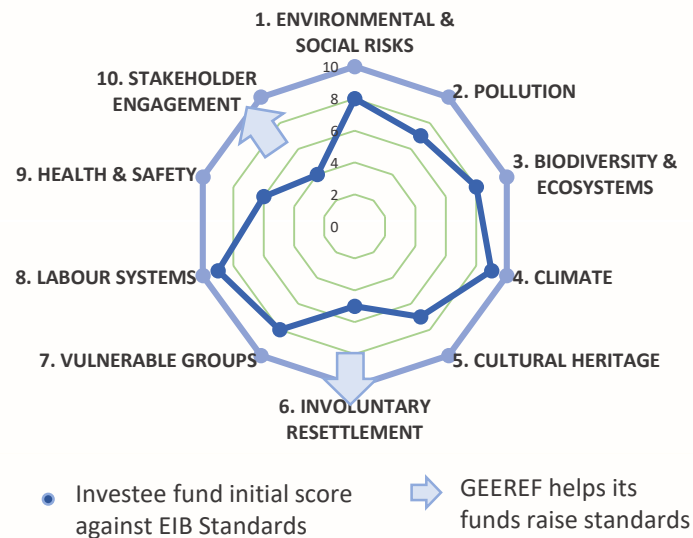
Impact Assessment: GEEREF implements a two-fold approach, which combines qualitative and quantitative assessments, to ensure that its impact objectives and the triple bottom line approach are achieved in all of its investment activities.

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 investors, supports the implementation of EIB Standards from the onset of a fund’s structuring and portfolio construction.

EIB STANDARDS*



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.

GEEREF IMPACT METRICS AS PROVIDED IN THIS REPORT

PILLAR 1: CLEAN ENERGY	PILLAR 2: ENVIRONMENT/CLIMATE CHANGE
INSTALLED CAPACITY (MW)	NET EMISSIONS REDUCED (tonnes CO ₂ eq)
ELECTRICITY GENERATED (MWH)	
ENERGY EFFICIENCY SAVINGS (MWH)	
PILLAR 3: SUSTAINABLE DEVELOPMENT	
BENEFICIARY HOUSEHOLDS (#)	
BENEFICIARY SMES (#)	
NUMBER OF PEOPLE EMPLOYED (#)	
TRAINING (HRS.)	

*Figure only illustrative

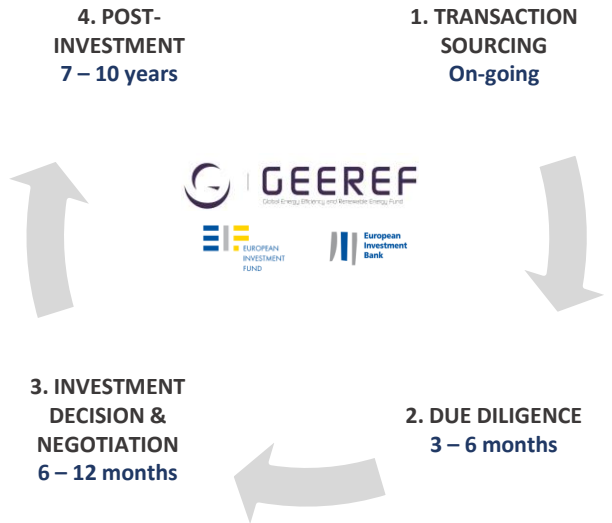
GEEREF: IMPACT STRATEGY

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 assistance facility (RFSF) fund managers–in upgrading their practices in case of identified 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. GEEREF chairs some of the portfolio funds’ Advisory Boards. EIB’s technical experts review and enhance the funds’ E&S practices via regular monitoring.



	INITIAL FUND STRUCTURING	PROJECT IMPLEMENTATION	ONGOING MONITORING
E&S STANDARDS	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.		
TECHNICAL ASSISTANCE FACILITY	GEEREF’s Regional Fund Support Facility (RFSF), funded by the European Commission, helps nascent fund managers address gaps with recruitment of qualified professionals and the development of investment and monitoring capabilities.		
ADVISORY BOARD	Regular formal and informal supervision to advise on best practice, conflicts of interest, deviations from stated policies, internal issues, strategy and market context.		
IMPACT REPORTING	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 SDGs IN DEVELOPING COUNTRIES

GEEREF's Approach and SDGs: 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 maximum value to GEEREF's shareholders.

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





GEEREF mapped its portfolio to SDG targets. Its activities directly contribute to 4 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 SDG 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 endeavored to track its direct contribution to SDGs via its existing metrics, as illustrated below.

GEEREF'S DIRECT SDG CONTRIBUTION	GEEREF'S METRICS	GEEREF'S IMPACT
<p>GEEREF BUILDS UP NEW CLEAN ENERGY CAPACITY</p> 	<p>Capacity Installed (MW) Electricity Generated and Saved (MWh)</p>	<p>1.7 GW in development 1.1 GW in construction 1.2 GW in operation</p>
<p>GEEREF CONTRIBUTES TO DECREASING GHG EMISSIONS IN ENERGY AND OTHER INDUSTRIES</p> 	<p>Emissions reduced (tonnes of CO₂e)</p>	<p>2.9 million tonnes of CO₂e avoided by operational projects p.a.</p>
<p>GEEREF CREATES EMPLOYMENT OPPORTUNITIES AND SKILLS TRAINING</p> 	<p>Number of People Employed: temporary, permanent, male, female Training delivered (hours)</p>	<p>2,954 permanent male jobs 1,462 permanent female jobs 2,229 temporary male jobs 304 temporary female jobs 51,110 training hours</p>
<p>GEEREF IS A PUBLIC-PRIVATE PARTNERSHIP</p> 		



PROJECT TALETUTAYI AND TALETUTAYI SIX SOLAR PLANT, TELANGANA, INDIA, SOLAR-ARISE

GEEREF IMPACT METRICS

CATALYSING BILLIONS OF EUR 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' support. The data is reported on an annual basis as a snapshot of the status at year-end 2018.

The analysis is done at the level of the current portfolio of the funds at year-end 2018. 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.

The data collection is here reported in three Pillars: **Energy, Environment and Sustainable Development**. 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 latter are sensitive to the evolution of assumptions, including the grid emission factor and the average consumption per household per 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 country¹). The amount of emissions reduced is calculated by multiplying electricity generated (as reported by fund manager) by a given country grid emission factor²).

A more detailed explanation of the GEEREF Impact Methodology can be found on GEEREF's website [here](#).

1) <https://wec-indicators.enerdata.net/household-electricity-use.html#/household-electricity-use.html>

2) https://unfccc.int/sites/default/files/resource/Harmonized_Grid_Emission_factor_data_set.pdf

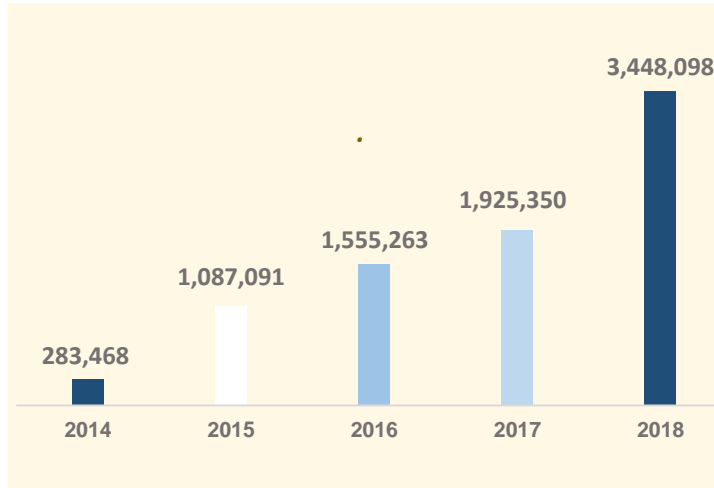
GEEREF PORTFOLIO METRICS

PILLAR 1: CLEAN ENERGY

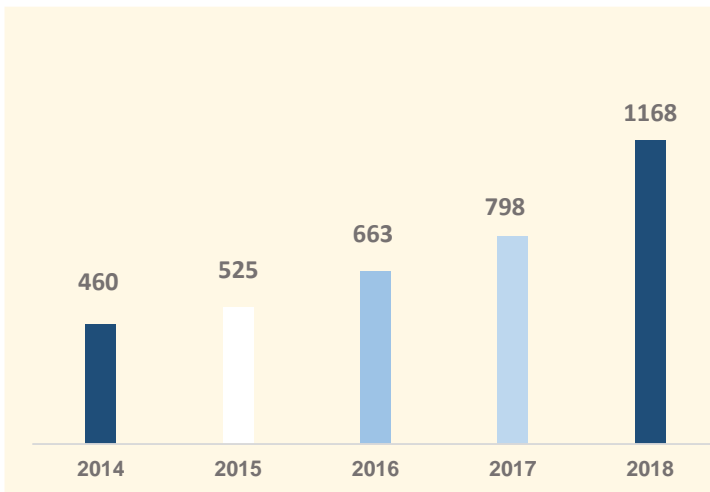
In 2018, GEEREF's underlying funds had more than 4GW of capacity of new clean energy capacity in developing countries in different stages. Given the early stage focus of GEEREF's funds, the biggest part of this capacity (almost 1.8GW) was still in development. However, c. 1.2GW was already operational, an increase of 46% compared to 2017.

The operational projects generated 3,448 GWh in 2018, a steep increase as compared to 2017.

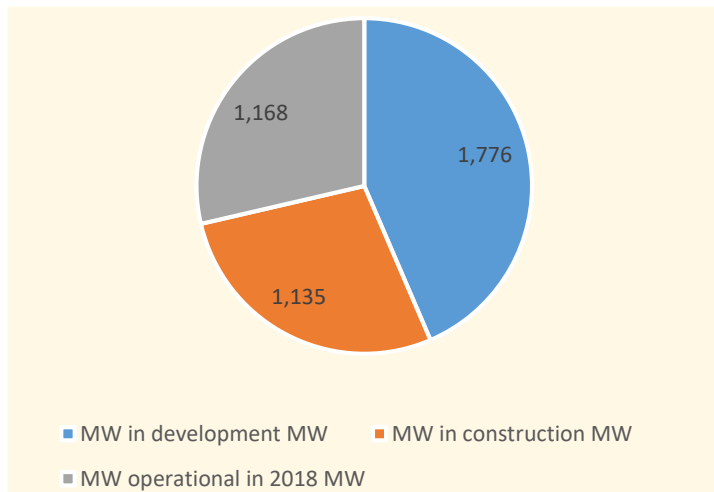
GENERATION p.a. in MWh (operational projects)



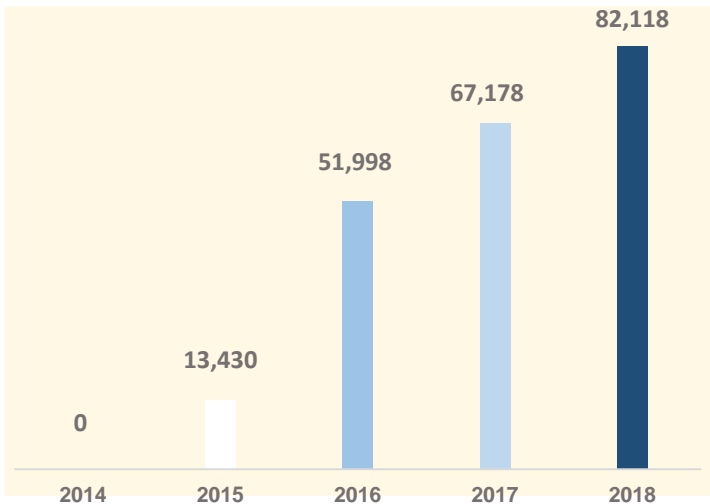
INSTALLED CAPACITY (operational projects) (MW)



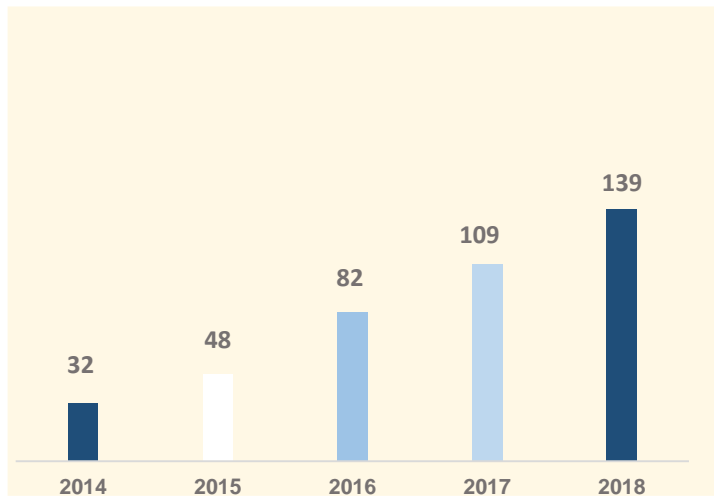
SPLIT OF GENERATION CAPACITY BY STAGE



ENERGY SAVED p.a. in MWh (operational projects)



NUMBER OF PROJECTS (incl. pipeline and construction)



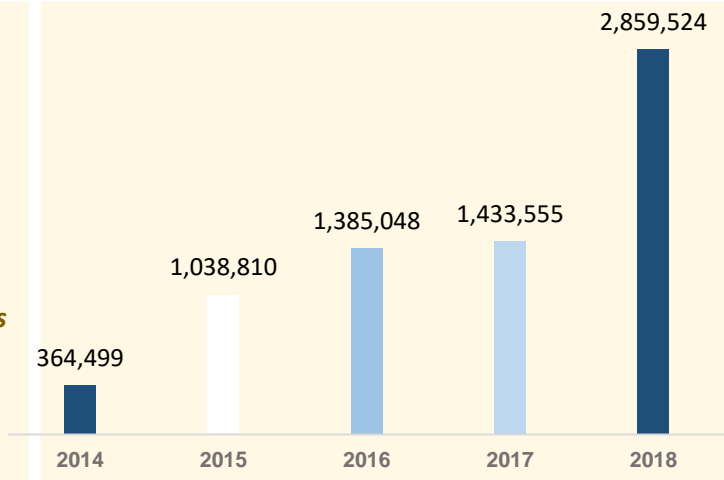
GEEREF PORTFOLIO METRICS

PILLAR 2 AND 3: CLIMATE MITIGATION/ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

EMISSION REDUCTION in tCO2 equiv. p.a.
(operational projects)

In 2018, GEEREF's operational projects (including projects exited by the funds) had a climate mitigation effect of c. 2.8m tons CO2 equiv. p.a.

NB: Part of the change between 2017 and 2018 relates to updated grid emission factors for 2018.



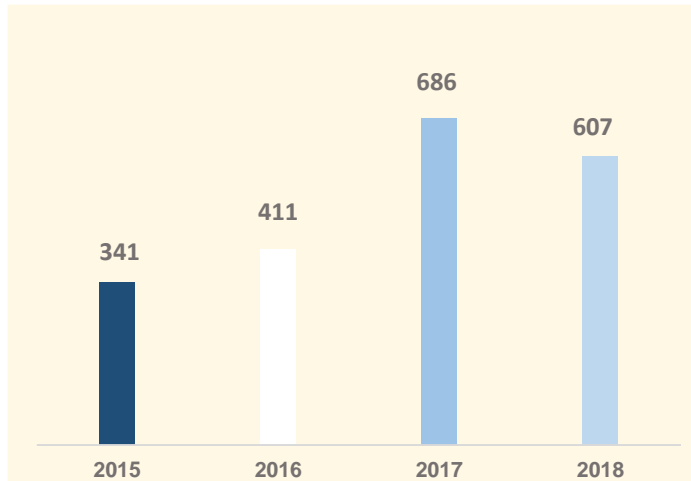
EQUIVALENT NUMBER OF HOUSEHOLDS
BENEFITTING FROM NEW/IMPROVED ENERGY ACCESS

The 3,448 GWh of electricity generated and 82 GWh saved by GEEREF's operational projects in 2018 is equivalent to the energy consumption of more than 1.6m households.

1,646,940 Households

BENEFICIARY SMEs

GEEREF's operational projects, projects under construction and pipeline projects resulted in 607 beneficiary SMEs. This slight decline from 2017 occurred as a large number of projects were moving from development and construction into operation.



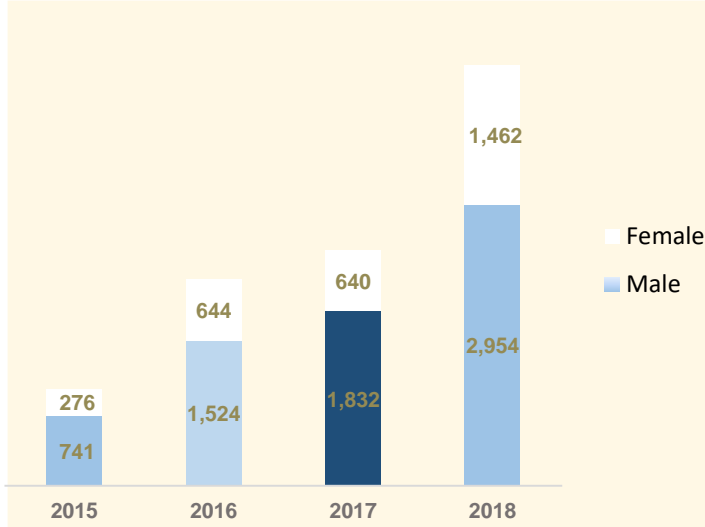
GEEREF PORTFOLIO METRICS

PILLAR 3: SUSTAINABLE DEVELOPMENT

PERMANENT EMPLOYEES (operational, construction and pipeline projects)

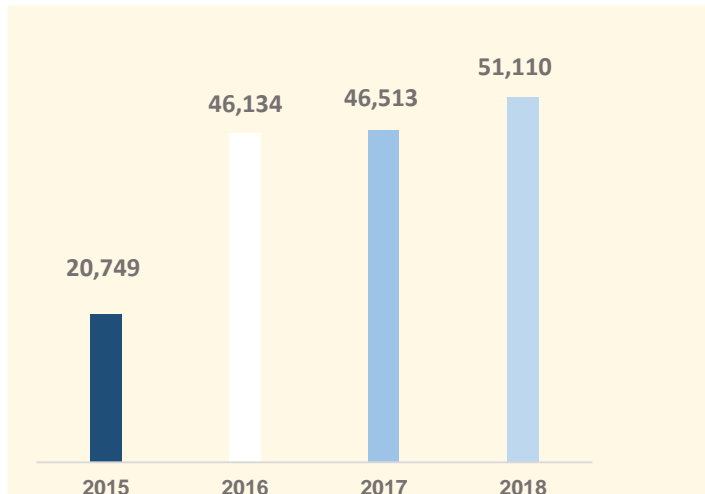
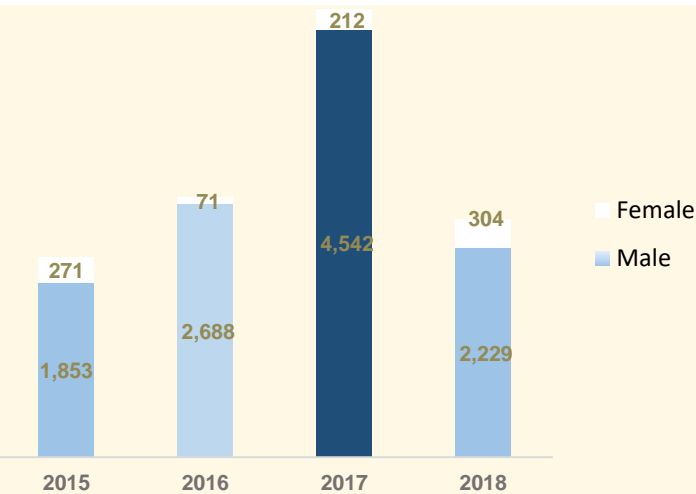
While the number of permanent employees increased substantially, due to the fact that more projects were entering operations, on the flip side the number of temporary employees decreased. (all employment and training figures are reported annualized as when projects are fully operational).

For both temporary and permanent employees, the number of female colleagues increased substantially in 2018, both in absolute terms and in relative share of female employees.



TEMPORARY EMPLOYEES (operational, construction and pipeline projects)

NUMBER OF TRAINING HOURS PROVIDED (operational, construction and pipeline projects)



TRAINING PROVIDED (HRS, ANNUAL)

TAXES PAID (operational, construction and pipeline projects)

The amount of training hours provided by the funds and their projects increased in 2018 to more than 50,000 hours (annualized).

The underlying projects paid an amount of EUR 10m in taxes locally, hence supporting the local government institutions and their revenue generation potential.

Taxes paid in 2018:

~EUR 10m

