



# THE EUROPEAN ENERGY EFFICIENCY FUND

---

ADVANCING SUSTAINABLE ENERGY FOR EUROPE  
*Annual Report 2016*



# CONTENTS

<b>INTRODUCTION</b>	<b>4</b>	<b>2016 ACTIVITIES REPORT: INVESTMENTS</b>	<b>20</b>
European Energy Efficiency Fund Highlights	4	The eeef's Investments	22
Welcome	5	Bolloré	24
Letter from the Chairman	6	City of Orléans	25
Letter from the Investment Manager	8	City of Rennes	26
		SPL – Région Rhône-Alpes	27
		Jewish Museum Berlin Foundation	28
		University of Applied Sciences Munich	29
		University Hospital S. Orsola-Malpighi	30
		City of Venlo	31
		Banca Transilvania	32
		Universidad Politécnica de Madrid	35
		Ore Valley Housing Association	36
<b>THE EUROPEAN ENERGY EFFICIENCY FUND AT A GLANCE</b>	<b>10</b>		
The Mission	12		
eeef's Objectives	14		
eeef's Business Proposal	15		
The Fund's Setup	16		
Investment Structure	17		
Development of the eeef since Inception	18		



# Advancing Sustainable Energy for Europe

## **2016 ACTIVITIES REPORT: FUNDING**

**38**

Funding Situation

40

## **TECHNICAL ASSISTANCE SUPPORT**

**42**

European Commission Technical  
Assistance Facility

44

eeef Technical Assistance Facility

48

## **CARBON, ENVIRONMENT & IMPACT MANAGEMENT**

**50**

Project Assessment and Monitoring

52

Primary Energy and Greenhouse  
Gas Emission Savings 2016

54

Social and Environmental Management  
System (SEMS)

57

## **FINANCIAL STATEMENTS**

**58**

Balance Sheet

60

Income Statement

61

Statement of Changes in Net Assets

62

Cash Flow Statements

64

Imprint

65

# EUROPEAN ENERGY EFFICIENCY FUND HIGHLIGHTS



# 121.0

*million euros committed capital*

# 116.0

*million euros invested capital*



# 11

*investments*

# 244

*thousand tonnes carbon dioxide equivalents*  
(cumulative carbon savings from fund inception to Q4 2016)



# 7

*member states*



# 30

*public authority cooperations*

# 192

*thousand megawatt hours*  
(cumulative primary energy savings from fund inception to Q4 2016)

# DID YOU KNOW?

# WELCOME

Dear Reader,

On 30 November 2016, the European Commission adopted a ‘Clean Energy for All Europeans’ package of eight legislative proposals facilitating measures aiming to modernise the economy and boost investments in clean energy and related sectors.

The package aims to accelerate, transform and consolidate the European Union’s (EU) clean energy transition, which will also create jobs and growth in new economic sectors and new business models. The legislative proposals address energy efficiency, renewable energy, the electricity market including the role of consumers, and new governance rules for the Energy Union (the EU’s major objective for the contribution to a global and comprehensive clean energy transition and a low-carbon economy).

Using energy efficiently is the most universally available way of maximizing energy resources. Putting energy efficiency first reflects the fact that the cheapest and cleanest source of energy is the energy that does not need to be produced. The Commission has recently reviewed the EU’s energy efficiency target, in line with the request by the European Council of October 2014, and considers that the EU should set a target binding all member states at the EU level of 30% by 2030. Compared to the ‘at least 27% target’ agreed in 2014, this increase is expected to translate into up to €70 billion of additional gross domestic product and 400,000 more jobs as well as a further reduction of the EU’s fossil-fuel import bill. Along with stable and ambitious climate commitments, Europe needs to leverage more private capital into sustainable energy investments, in particular energy efficiency, that generate stable revenues through energy savings, as well as multiple socio-economic benefits such as local jobs, reduced energy imports and improved work and living conditions.

The European Energy Efficiency Fund (eeef or Fund) helps local and regional governments to undertake energy efficiency improvements that in turn can be examples to others and demonstrate how to develop projects, build appropriate financial models and develop local skills to invest in efficient energy – the cheapest energy of all. The Fund also explores how financial instruments rather than traditional grants can be used to stimulate investment from the private sector. Loans and equity shares for projects, which have clear paybacks, help to turn the energy efficiency sector into a commercial market.

The eeef is an important instrument for supporting the goals of the EU to promote a sustainable energy market and to reinforce climate protection. I am confident that the eeef will continue to lead by example in the next 12 months and help us to be as ambitious as we can.



**Megan Richards**  
Chair of the Supervisory Board and  
Director of the European Commission



# LETTER FROM THE CHAIRMAN



Dear Reader,

The European Energy Efficiency Fund (eeef) celebrated its fifth anniversary in July 2016 and proudly looks back at the implementation of a funding vehicle supporting the goals of the European Union, in particular working towards the achievement of the new 30% energy efficiency target for 2030.

The eeef generated in 2016 a total income of €4.6 m, with total expenses of €3.4 m, resulting in a €1.2 m net position. With no defaults recorded on its investment portfolio, the fund met its target dividend obligations. Additionally, it distributed complementary dividends to its investors and replenished the eeef's Technical Assistance Facility.

As of 31 December 2016, the eeef portfolio (financial close achieved) consisted of 11 different projects (in seven member states of the European Union) with a disbursed volume of €116.0 m and overall fund commitments of €121.0 m. In addition, two new projects, street lighting (Italy) and CHP (France), received the Fund's internal approval and sum up to an additional eeef commitment of €12.2 m.

Over the past years, the eeef has collaborated closely with 16 public authorities, allocating over €14 m in funds via its European Commission TA Facility (EC TA). To date, nine projects have been successfully facilitated, with a total investment volume of €175 m. The Fund expects to continue benefiting from the development works performed under this facility. Several projects, including the street-lighting upgrade in the city of Santander, were tendered or will be tendered in 2017 and may provide attractive investment opportunities for the eeef.

In 2016, the Fund launched its own eeef Technical Assistance Facility (eeef TAF). In addition to its own funds, the eeef TAF secured European Local Energy Assistance (ELENA) funding under the Horizon 2020 Programme of the European Union. The new facility builds on the experience gained from the EC TA Facility and introduces improved features, helping public authorities to realise a higher project implementation rate. One of these features, is the shorter project development time frame. On average, the development of an energy efficiency project in the public sector takes around 4.5 years (conceptual phase to implementation). The eeef TAF efficiently targets to reduce this time frame to two years by directly allocating consultancy services to the TA beneficiaries (tender completed by the eeef).

Despite market challenges, the Fund has been actively involved with nearly 30 public authorities across Europe. During 2016, the eeef achieved financial close for a senior loan facility to Cardenden Heat & Power Ltd (CHAP), financing the replacement of existing heat boilers in more than 200 homes owned by the Ore Valley Housing Association (OVHA), as well as the construction of a small-size on-shore

# 30

## *PUBLIC AUTHORITIES ACROSS EUROPE*

wind farm in Cardenden, Scotland, UK. CHAP is fully owned by the OVHA, and revenues generated will support the community through grants and investments for local projects and enterprises. The Fund completed its first investment in the wind sector as well as in the UK with this transaction, adding value to the eeef's geographical diversification.

With the energy efficiency sector progressing, the eeef will continue boosting its pipeline with a higher focus on new countries for the portfolio going forward. At the same time, the Fund will take advantage of the financing demand coming from more mature markets in Southern Europe. The eeef TA Facility will be an additional driver to further strengthen the Fund's project pipeline.

Established in July 2011, the eeef is an innovative public-private partnership dedicated to mitigating climate change through financing energy efficiency measures and renewable energy projects. The fund operates under the Advancing Sustainable Energy for Europe agenda, which invests in climate change projects for municipal, local and regional authorities as well as public and private entities which act on behalf of those authorities. The eeef operates in all 28 member states of the European Union and was capitalised with an initial volume of €265 m by the European Commission, the European Investment Bank, Cassa Depositi e Prestiti and Deutsche Bank.

The Fund benefits from an exemption from the Luxembourg Alternative Investment Fund Managers Law (the AIFM Law) of 12 July 2013 pursuant to article 3(2)(c) thereof. Pursuant to this article, the Fund is registered with the Commission de Surveillance du Secteur Financier (CSSF) in Luxembourg as an AIFM.

I am confident that the eeef will continue to act as an important player in the European energy efficiency market.

Once again, I would like to thank the clients and investors for their continuous trust in the Fund, the service providers – especially the Investment Manager – and the entire board for their excellent work in 2016.

Best wishes,



**Peter Coveliers**  
Chairman of the Management Board



# LETTER FROM THE INVESTMENT MANAGER

Dear Reader,

the eeef was launched in the middle of the European debt crisis back in 2011, at a time when financial institutions were limited in the provision of long-term financing to energy efficiency projects or to small and medium-size (SME) energy service companies (ESCOs).

In these times of uncertainty, the eeef financed the largest energy efficiency upgrade in the public health sector in 2013, the University Hospital S. Orsola-Malpighi investment in Italy (with a commitment of more than 20 years). Since then, the project has been under construction, with full completion and inauguration expected by the end of 2017. The project has clearly benefited from the eeef's ability to provide attractive financing solutions for projects structured as public-private partnerships (PPPs) and won an award, the CESEF Energy Efficiency Award in the financial category.

Despite the monetary easing in the past years, the number of projects in the public sector (not able to access various subsidised funding schemes) looking for commercial funding has not picked up dramatically. Increased liquidity and access to EU structural funds have not been the sole reasons for the generally slow commercial market development. The main barrier was and remains capacity of the public authorities to conduct feasibility studies, evaluate the project opportunities and finally launch the procurement process for investment programmes they consider suitable for their cities or regions. The preparation and realisation of the projects are grounded on political willingness as well as support and

a multi-annual outlook, which implies continuance in the political commitment to implement such energy-efficiency-related projects. Having mentioned this, changing of mayors and/or local governments had a challenging impact on projects from the European Commission Technical Assistance Facility (EC TA) launched in 2013.

The TA projects that achieved completion of their project development phases, including public procurement finalisation, required around 4.5 years. In this view, the search for financing and the

construction phase are not even included. This is quite a long period of time, taking into consideration the ambition of the EU to introduce the new 30% energy efficiency target for 2030, as included in the recent update of the Energy Efficiency Directive.

At the end of 2016, the new eeef Technical Assistance Facility (eeef TAF) was initiated. Financed partly with profits generated by the Fund, the eeef TAF benefited from the European Local Energy Assistance

*'In total, the eeef portfolio now consists of 11 projects, with total investments of €121 m spread across seven different EU members states.'*

(ELENA) Programme grant funding under the H2020 initiative of the European Commission. It has the objective to speed up the process of project development, targeting projects to prepare them for financing and construction in an ambitious two-year time frame instead of the earlier-mentioned 4.5 years. The eef intends to work closely with the public authorities and advisor teams to be more involved in the process, overcoming challenges which might arise during the development process.

As a result of our continuous efforts, the eef achieved financial close for one further investment in a new member state (the United Kingdom), adding value to the geographic diversification of the portfolio. In total, the eef portfolio now consists of 11 projects, with total investments of €121 m spread across seven different EU members states. The Ore Valley Housing Association (OVHA) investment is a combination of small-size on-shore wind and boilers' replacement in social houses. The project volume is €4.3 m. This project resulted from the EC TA, also experiencing various changes in the process of the project development since 2011. The eef supported the OVHA in the development of a new project scope for on-shore wind turbines (with electricity sale revenues flowing into the local budget) and the replacement of over 200 outdated gas boilers in residential buildings owned by the OVHA in the Fife council area in Scotland. This transaction demonstrates the eef's capabilities in assisting communities in addressing the technical and financial barriers, public entities often face when planning climate-change-related projects.

As the Investment Manager of the Fund, we are proud to work on solutions with the public authorities to support the implementation of sustainable routes for European cities and regions to combat climate change. We will continue our pioneering role throughout 2017. Confident in reaching more cities and regions in Europe, we will support communities in overcoming project development difficulties and financing the projects in a partnership.

Lada Strelnikova

Matthias Benz

Iñigo Prior

Paola Rusconi

Zarpana Signor

THE  
EUROPEAN  
ENERGY  
EFFICIENCY FUND  
AT A GLANCE

---

66

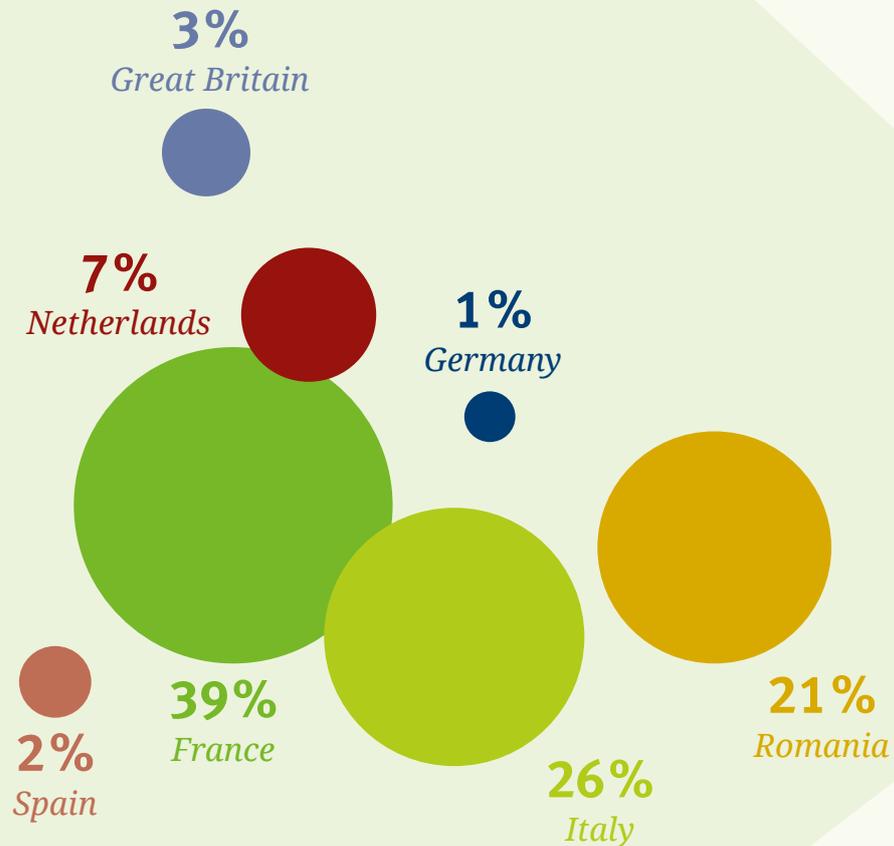
---

*MONTHS DEVELOPMENT OF  
THE eeef SINCE INCEPTION*

# THE MISSION

The eeef's mission is to contribute to advancing sustainable energy for Europe, in the form of a public-private partnership (PPP) with a layered risk/return structure, to enhance energy efficiency and foster renewable energy within the European Union, primarily through the provision of dedicated financing to municipal, local, regional or national authorities or public or private entities acting on their behalf. Financing is generally provided directly or through partnerships with financial institutions.

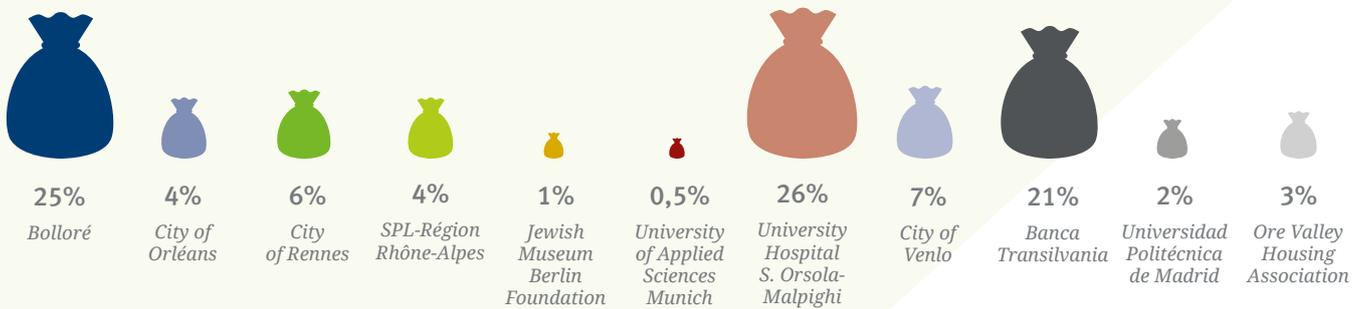
## INVESTMENTS BY COUNTRY



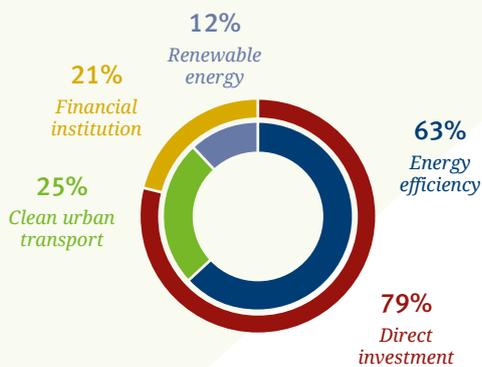


### INVESTMENTS BY PARTNER INSTITUTION

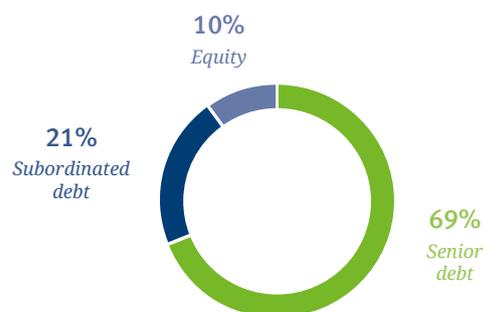
**121.0**  
million euros total



### INVESTMENTS BY TYPE OF PARTNER INSTITUTION



### INVESTMENTS BY FINANCIAL INSTRUMENT



*EU FRAMEWORK  
TARGETS FOR  
CLIMATE AND  
ENERGY*

# 2030

## eeef's **OBJECTIVES**

The eeef aims to support the climate goals of the European Union (EU 2030 Framework for Climate and Energy) to promote a sustainable energy market and foster climate protection by:

- Contributing to the mitigation of climate change
- Achieving economic sustainability for the Fund
- Attracting private and public capital for climate financing

40%

reduction in greenhouse gas emissions

27%

increase in the use of renewable energy

27%

increase in energy efficiency\*

## eeef's BUSINESS PROPOSAL

### IF YOU ARE A

#### Public entity

- ... similar to the City of Venlo (NL), the Ore Valley Housing Association (UK) ...

#### Private company liaising with a public entity

- ... similar to Manutencoop (IT), Enertika (ES), Bolloré (FR), EDF Group (FR), Johnson Controls (DE) ...

#### Financial institution financing the above

- ... similar to Banca Transilvania (RO) ...

### DEVELOPING A PROJECT IN

#### Renewable energy

- As we have done with: The City of Orléans/ Rennes (FR), the Ore Valley Housing Association (UK)

#### Energy efficiency

- As we have done with: the City of Venlo (NL), SPL – Région Rhône-Alpes (FR), University Hospital S. Orsola-Malpighi (IT), Universidad Politécnica de Madrid (ES), Banca Transilvania (RO), Jewish Museum Berlin Foundation (DE), University of Applied Sciences Munich (DE), the Ore Valley Housing Association (UK)

#### Clean urban transport

- As we have done with: Bolloré – Paris, Lyon, Bordeaux (FR)

### WITH THESE FEATURES

Avoiding CO<sub>2</sub>e emissions for at least 20% of the baseline

Looking for funding in a (flexible) range between €5 and €25 m

In one of the 28 EU countries

### EEEF CAN SUPPORT YOUR PROJECT, PROVIDING

#### TAILOR-MADE FUNDING Debt

- E.g., The City of Venlo (NL), Bolloré (FR), SPL-Région Rhône-Alpes (FR), the Ore Valley Housing Association (UK), University Hospital S. Orsola-Malpighi (IT)

#### Equity

- E.g., The City of Rennes (FR), the City of Orléans (FR)

#### Mezzanine

- E.g., Banca Transilvania (RO)

#### Forfeiting structures

- E.g., Universidad de Politécnica de Madrid (ES), etc.

#### TECHNICAL ASSISTANCE

- 16 public authorities across Europe



## THE FUND'S SETUP

The Supervisory Board represents the Fund's Shareholders. It conducts a permanent supervision of the management of the Fund and provides strategic advice to the Management Board on the overall development of the Fund's activities. It is appointed by the General Meeting of Shareholders.

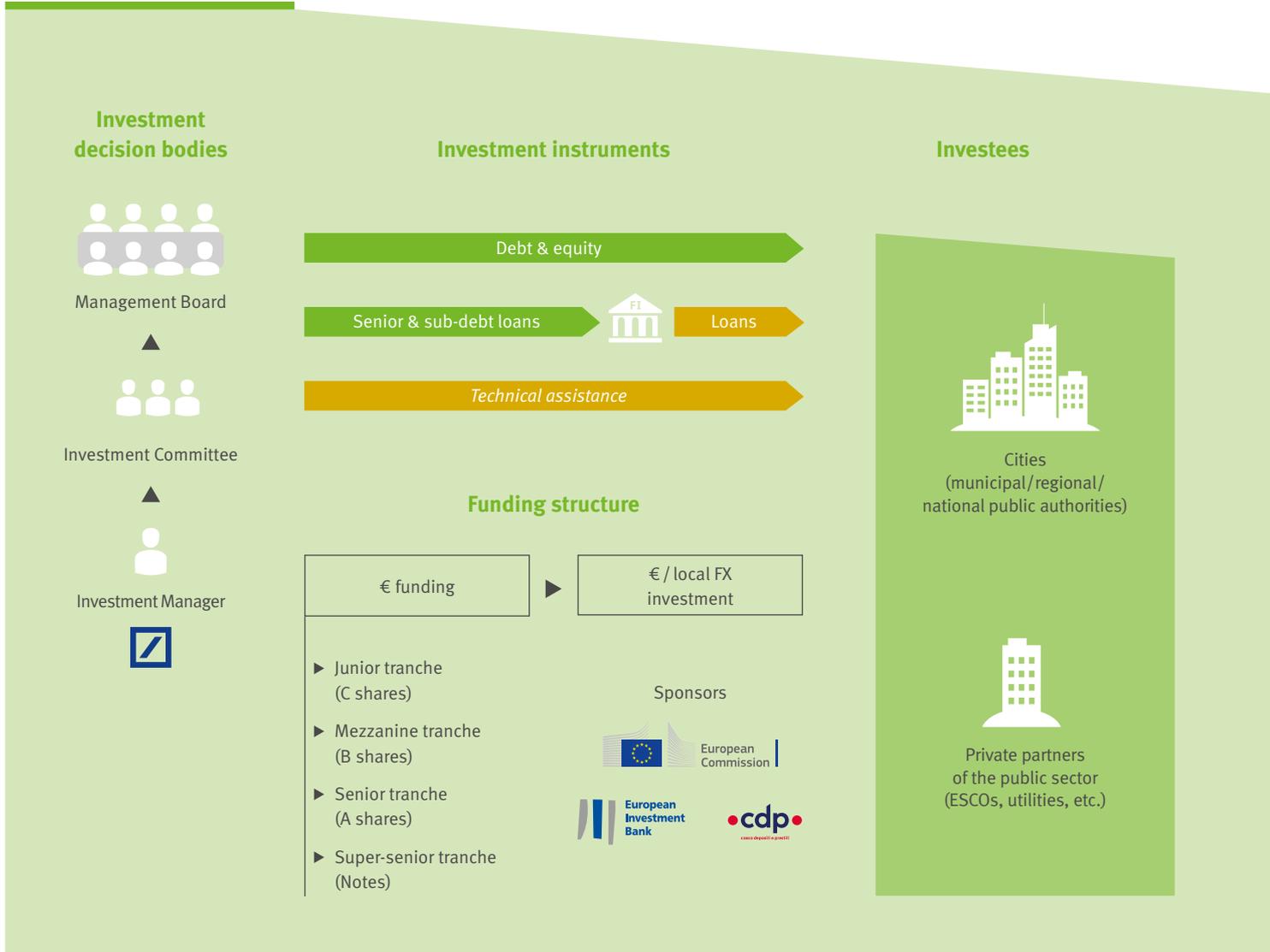
The Management Board acts on behalf of the Fund, oversees its activities and is responsible for strategic decisions. It is the legal representative of the Fund. In compliance with the eeef's founding documents and applicable laws and regulations, it has the power to administer and manage the Fund.

The Investment Manager conducts the Fund's business on behalf of the Management Board and the Investment Committee.

The Investment Manager also manages the European Commission Technical Assistance Facility (EC TA) and the eeef TAF from arm's length.

*partnership dedicated  
to mitigating climate c*

# INVESTMENT STRUCTURE



The Investment Manager proposes potential new investment in line with the eef’s eligibility criteria to the Investment Committee. Upon positive feedback, the Investment Committee recommends the potential investment to the Management Board. The Management Board takes the final decision on the investment.

The investees of the eef are municipal, local and regional authorities or public and private entities acting on behalf of those authorities, such as utilities, public transportation providers, social housing associations, energy service companies (ESCOs), etc. Funding can be provided in euros and in certain cases also in local currencies.

change

# DEVELOPMENT OF THE eeef SINCE INCEPTION

## 2011

### July

- The eeef is created and capitalised by the initiators EC and EIB and the founding investors CdP and DB

## 2012

### January

- Operational and procedural setup of the Fund finalised

### March

- The Jewish Museum Berlin Foundation joins the eeef as its first partner institution via the ESCO of Johnson Controls

### November

- Financing of building retrofit project at the University of Applied Sciences Munich

### December

- The City of Santander cooperates with the eeef on technical assistance

## 2013

### May

- Financing of energy efficiency upgrade of the University Hospital S. Orsola-Malpighi in Italy
- The City of Córdoba benefits from the EC TA Facility

### June

- The eeef achieves financial close on its first equity investment, the City of Orléans' CHP plant in France
- La Palma cooperates with the eeef on technical assistance

### September

- The eeef enters into a green on-lending facility with Banca Transilvania in Romania

### November

- The municipality of Ringkøbing-Skjern signs a technical assistance agreement
- The Ore Valley Housing Association and the region of Rhône-Alpes benefit from the EC TA Facility

### December

- The eeef achieves financial close for its second equity investment, the City of Rennes' CHP plant, and the Bolloré transaction (green transportation initiative for the cities of Paris, Lyon and Bordeaux)
- The cities of Marbella, Terrassa and Elche cooperate with the eeef on technical assistance

# 2016

## April

- The eeef joins the Investor Confidence Project Europe to boost investments in the energy efficiency sector

## June

- The eeef celebrates its fifth anniversary as a funding vehicle supporting the goals of the European Union
- The eeef cooperates with ADHAC, the business association for the promotion of sustainable district heating and cooling networks, in Spain

## September

- The eeef completes financing of the technical assistance for the City of Santander in preparation for a pioneer PPP contract for the street-lighting upgrade in Spain

## November

- The eeef closes its first community-based transaction in the UK in cooperation with the Ore Valley Housing Association and the Renewable Energy Investment Fund

## December:

- The eeef initiates the Fund's own technical assistance scheme, the eeef Technical Assistance Facility

# 2015

## January

- Irish education minister Jan O'Sullivan launches technical assistance project with the Limerick and Clare Education and Training Board in Ireland

## September

- The eeef sponsors the Smart Countries and Smart Cities Congress 2015 in Paris
- The eeef's University Hospital S. Orsola-Malpighi transaction wins the CESEF Energy Efficiency Award

## November

- The eeef closes its first transaction in Spain in cooperation with Universidad Politécnica de Madrid

## December

- The eeef completes financing to the Société Publique Locale d'Efficacité Énergétique (SPL), which has launched 10 refurbishment programmes for buildings with four different local authorities in the Région Rhône-Alpes in France, in total a €25.0m investment
- The eeef completes the construction-phase financing of the energy efficiency upgrade to the University Hospital S. Orsola-Malpighi in Italy

# 2014

## April

- Financing of street-lighting upgrades for the City of Venlo
- The eeef achieves financial close for a senior financing facility for the Société Publique Locale d'Efficacité Énergétique (SPL) in the Region Rhône-Alpes

## June

- The University Hospital of Liège and the University of Liège sign a technical assistance agreement

## July

- The Limerick and Clare Education and Training Board benefits from the EC TA Facility

## August

- GRE-Liège cooperates with the eeef on technical assistance

## September

- Alentejo Central signs a technical assistance agreement

## December

- The municipality of Zaanstad and the Roscommon County Council benefit from the EC TA Facility

# 5th

*ANNIVERSARY  
ADVANCING SUSTAINABLE  
ENERGY FOR EUROPE*

2016  
ACTIVITIES  
REPORT:  
**INVESTMENTS**

---

121.0

---

*MILLION EUROS COMMITTED BY  
THE eeef SINCE INCEPTION*

# THE eeef's INVESTMENTS

Since its inception, the eeef has invested a total of €121 m in 11 partner institutions, for which €116 m have so far been disbursed.

## GERMANY *(Berlin, Munich)*

€1.6 m

- €1.0 m forfeiting loan to the Jewish Museum Berlin Foundation via the ESCO of Johnson Controls
- €0.6 m forfeiting loan to the University of Applied Sciences via the ESCO of Johnson Controls

## FRANCE

*(Orléans, Rennes, Paris, Lyon, Bordeaux, Région Rhône-Alpes)*

€47.4 m

- €5.1 m shareholder loan and equity for the City of Orléans' CHP plant
- €7.3 m shareholder loan and equity for the City of Rennes' CHP plant
- €30.0 m senior debt to Bolloré
- €5.0 m senior debt to the Société Publique Locale d'Efficacité Énergétique (SPL) in the Région Rhône-Alpes

## ITALY *(Bologna)*

€31.8 m

- Senior loan and VAT facility to Progetto ISOM for the upgrade of the University Hospital S. Orsola-Malpighi

## NETHERLANDS *(Venlo)*

€8.5 m

- Senior debt facility to the City of Venlo

## SPAIN *(Madrid)*

€2.5 m

- Forfeiting loan to the Universidad Politécnica de Madrid via Enertika

## UNITED KINGDOM *(Cardenden)*

€4.3 m

- Senior debt facility to the Ore Valley Housing Association via the SPV Cardenden Heat and Power

## ROMANIA

*(Cluj-Napoca, Spring, Bucharest)*

€25.0 m

- Subordinated loan to Banca Transilvania

# *Investment Locations*



# FRANCE BOLLORÉ



## Project Profile

Bolloré signed a bond agreement worth €30 m with the eeef in 2013. The bond has a maturity of five years and was issued by Bolloré and purchased by the eeef. The eeef's investment will be used to finance electric cars and the infrastructure (i.e. charging stations, rental places, etc.) required for Bolloré's European electric car rental concessions, which the company won via public tenders.

This transaction forms part of a green urban transportation initiative for the cities of Paris, Lyon and Bordeaux, which has received great feedback among the citizens.

## Project Partner

The French company Bolloré provides car-sharing services for electric cars. Founded as a family business in 1822, it holds positions in activities around three business lines: transportation and logistics, electricity storage and solutions and communications.

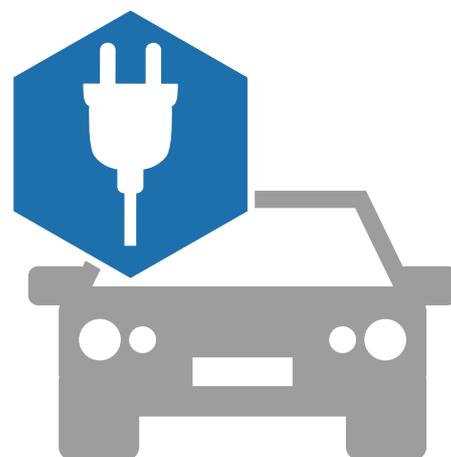
## Highlights

The project started in Paris, providing the city with environmentally friendly electric cars with the support of the city council. After the trial period and when a track record had been established, Bolloré targeted Lyon and Bordeaux for the green initiative. The funding from the eeef's bond has mainly been used in these regions.

Paris, Lyon and Bordeaux are paving the way for other cities to follow their example of an environmentally friendly car-sharing scheme to combat climate change and contribute to the use of innovative forms of alternative technology. At the end of 2016, Bolloré had 3,944 cars and 6,493 charging stations installed across the project's three locations where eeef funding was utilised. Preparations for the project to expand into other cities has begun, including London (the UK) and Indianapolis (USA).

Sector:

*Clean urban transport*



## KEY FIGURES

Type of investment:	<b>Senior debt</b>	Total project size (€m):	<b>30.0</b>	Maturity	<b>5 years</b>
Financial close:	<b>23.12.2013</b>	eeef investment size (€m):	<b>30.0</b>	Estimated tCO <sub>2</sub> e emission savings (p.a.):	<b>8,803</b>



## FRANCE CITY OF ORLÉANS

Sector:  
*Renewable energy/  
biomass CHP*

### Project Profile

The combined heat and power (CHP) plant has an installed capacity of 7.5 MW in electricity and 17 MW in thermal heat. The plant supplies heat to the City of Orléans and sells electricity via a power purchase agreement (PPA) to Électricité de France (EDF) at a fixed tariff set over 20 years. This project was the first equity investment by the eeef.

The plant is fired by wood biomass which is from a sustainable source (woodlands located less than 100 km from the plant). The CHP plant commenced operation in March 2014. During 2016, the plant operated at a rate equivalent to an annual carbon reduction of 18,533 tCO<sub>2</sub>e, which is 65% compared to baseline.

This CHP biomass plant achieves significant carbon savings whilst still generating heat aligned with baseline requirements.

### Project Partner

Orléans Biomasse Énergie, the project's special purpose vehicle (SPV), is majority owned by the eeef (purchase of 84.4% of its shares). Dalkia France is co-investing with the eeef and holds the remaining 15.6% and is also responsible for the operation/maintenance of the plant and the supply of biomass.

### Highlights

The project enables a decentralised energy supply for the City of Orléans using an existing district heating network. The plant allows 15,000 households in the city to achieve annual savings of around €200 with the new energy source and increases the environmental sustainability.

### KEY FIGURES

Type of investment:	<b>Junior funds</b>	Total project size (€m):	<b>36.0</b>	Maturity	<b>Perpetual</b>
Financial close:	<b>12.03.2013</b>	eeef investment size (€m):	<b>5.1</b>	Observed tCO <sub>2</sub> e emission savings (p.a.):	<b>18,533</b>



## FRANCE City of Rennes

### Project Profile

Following a bid for tenders launched by the French Commission de Régulation de l'Énergie (CRE3) for the production of green energy using a biomass cogeneration plant, Rennes Biomasse Énergie SAS was authorised to build and operate a combined heat and power facility with an electrical output of 10.4 MW and a thermal output of 22 MW for the next 20 years. Joining the City of Orléans project, this is the second equity investment signed by the eeef.

Based on actual data analysed in the 2016 annual energy audit, the plant delivered carbon savings of 50% compared to the baseline.

This CHP biomass plant achieves significant carbon savings whilst still generating heat aligned with baseline requirements. Annual CO<sub>2</sub>e emissions have been calculated and validated in accordance with the international energy standard, the International Performance Measurement and Verification Protocol (IPMVP).

### Project Partner

Rennes Biomasse Énergie, the project SPV, is majority owned by the eeef (purchase of 85% of its shares). Dalkia France is co-investing along with the eeef and is shareholder of the remaining 15% and is also responsible for the operation/maintenance of the plant and the supply of biomass.

### Highlights

The project enables a decentralised energy supply for the City of Rennes using an existing district network. The plant will allow 21,000 households in the city both to save money with the new energy source and to increase their environmental sustainability. The biomass required is locally sourced within a 100 km radius of the plant.

Sector:

*Renewable energy/  
biomass CHP*



### KEY FIGURES

Type of investment:	<b>Junior funds</b>	Total project size (€m):	<b>47.6</b>	Maturity	<b>Perpetual</b>
Financial close:	<b>12.12.2013</b>	eeef investment size (€m):	<b>7.3</b>	Observed tCO <sub>2</sub> e emission savings (p.a.):	<b>13,258</b>

# FRANCE SPL – Région Rhône-Alpes

## Project Profile

The Société Publique Locale d'Efficacité Énergétique (SPL) signed a mid-term loan agreement for €5.0 m to finance the refurbishment of public buildings during their construction phase and to pave the way for raising further long-term financing.

The SPL has engaged 10 refurbishment programmes with four different local authorities, totalling €25.0 m investment. This demonstrates that the innovative financial and legal structure proposed by the SPL meets the requirements of the stakeholders, including public authorities, building consortia and lenders. By the end of 2016, eight of these programmes were completed, totalling €20.2 m. Two remaining projects are expected to be completed in 2017. The first annual energy audits are expected in 2017 to validate project savings.

The annual primary energy savings are expected to be 4,157 MWh. Carbon savings are 58% compared to baseline.

## Project Partner

The SPL was initiated by the region of Rhône-Alpes as a private special purpose company under the French Commercial Code, but operating with public capital. It is associated with a number of public authorities in the Region and is dedicated to implementing energy-efficient refurbishment projects for public buildings (including mainly schools), including renewable energy production.

## Highlights

This refurbishment project is linked to the preparation works resulting from technical assistance. The SPL benefited from funding from the European Commission Technical Assistance Facility (EC TA Facility).

The SPL is expected to lead a new and ambitious renovation initiative – an area commonly seen to attract few investments. By setting the example of upgrading the public buildings and going beyond standard thermal regulations, the region aims to achieve its 2050 objectives for energy consumption and greenhouse gas reduction.



Sector:

*Energy efficiency/  
building retrofit*



## KEY FIGURES

Type of investment:	<b>Senior debt</b>	Total project size (€m):	<b>25.0</b>	Maturity	<b>5 years</b>
Financial close:	<b>03.04.2014</b>	eeef investment size (€m):	<b>5.0</b>	Estimated tCO <sub>2</sub> e emission savings (p.a.):	<b>992</b>

# GERMANY

## Jewish Museum Berlin Foundation

### Project Profile

The Jewish Museum Berlin and the energy service company (ESCO) Johnson Controls entered into an energy performance contract (EPC) for the museum buildings in 2012. The eeef's initial investment totalled €1.7 m.

The Jewish Museum Berlin and the ESCO agreed to a revised approach in 2015 which amended the overall scope of the project and as a consequence also the eeef's investment size to €1.0 m.

The project includes a number of energy efficiency measures, comprising the optimisation of the heating, ventilation and air conditioning and an efficient energy management system. The revised project expects to achieve 3,856 MWh of primary energy savings annually. The project is fully implemented, and a project energy audit will be conducted in H1 2018.

### Project Partner

The museum, set up as a foundation, owns two buildings in Berlin, which are both used for various cultural events. Since its opening in September 2001, several million people have visited the Jewish Museum Berlin, making it one of Berlin's most visited museums. Offering guided tours, temporary exhibitions and a diverse calendar of events, the museum is a lively centre for Jewish history and culture.



Sector:  
*Energy efficiency/  
building retrofit*

### Highlights

The Jewish Museum Berlin Foundation transaction is an innovative public private partnership (PPP) building sustainable communities for a better environment and facilitating small and medium-sized investments in the energy efficiency sector.

It was the winner of the European Energy Service Initiative's Award for the best European energy efficiency service project in 2011, conferred by the European Energy Service Initiative 2020.

### KEY FIGURES

Type of investment:	<b>Forfaiting loan</b>	Total project size (€m):	<b>1.4</b>	Maturity	<b>10 years</b>
Financial close:	<b>20.03.2012</b>	eeef investment size (€m):	<b>1.0</b>	Estimated tCO <sub>2</sub> e emission savings (p.a.):	<b>933</b>

# GERMANY

## University of Applied Sciences Munich



Sectors:  
*Energy efficiency/  
 building retrofit/  
 CHP plant*

### Project Profile

The University of Applied Sciences Munich and the energy service company (ESCO) Johnson Controls entered into an energy performance contract (EPC) for both of the buildings on the university's campus in Munich-Pasing, with a total EPC volume of €1.1 m.

The ESCO and the university agreed to energy efficiency measures comprising the optimisation of the heating, lighting, metering, building management and pumping, as well as the installation of a 49.5 kW combined heat and power (CHP) plant.

The project was implemented in 2013 and continues to achieve savings aligned with projections. In 2016, it achieved 1,974 MWh of primary energy savings compared to baseline, which is equivalent to 34%.

The ESCO has guaranteed that the university will achieve these energy savings each year and will conduct the building operations and maintenance services for a contract period of 10 years.

### Project Partner

The University of Applied Sciences Munich was founded in 1971 and is the largest university of applied sciences in Bavaria, with approximately 18,000 students, 475 professors, 750 lecturers and 745 non-academic staff. It offers its educational agenda in 14 departments.

### Highlights

This constitutes an innovative forfaiting structure for financing energy efficiency measures in a public building, with a focus on low carbon solutions, which will improve the learning environment for students as well as staff. Although it is a small project, it demonstrates the concept of combating climate change through a smarter use of energy which also benefits the public budget. It even includes a small component of decentralised energy production for the university's own use.

This project serves as a model for further energy efficiency investments in educational facilities such as universities, schools and kindergartens.



### KEY FIGURES

Type of investment:	<b>Forfaiting loan</b>	Total project size (€m):	<b>1.1</b>	Maturity	<b>10 years</b>
Financial close:	<b>15.11.2012</b>	Net investment size (€m):	<b>0.6</b>	Observed tCO <sub>2</sub> e emission savings (p.a.):	<b>58</b>

# ITALY

## University Hospital S. Orsola-Malpighi

### Project Profile

The project entity Progetto ISOM signed a concession agreement with the University Hospital S. Orsola-Malpighi. The eeef provided a project and VAT bond facility of €31.8 m.

Initiatives are planned in order to improve the energy efficiency of the entire fluid production and distribution system and to reduce energy consumption. Such measures include the adoption of energy efficient equipment such as centrifugal chillers and absorbers, the reconstruction of the heat distribution networks, the renovation of heat exchange substations and the inclusion of a tri-generation plant for the combined production of cooling, heat and power (CCHP), based on the energy consumption of the hospital facility, which is fuelled by methane gas.

A technical implementation report was issued by Arcadis, the technical advisor, at the end of H2 2016 and identified that the major construction works on the different sites of the project were complete. The project is operational and is expected to achieve final commissioning in H2 2017.

An initial annual audit of the project was conducted at the end of 2016. The project still needs some final monitoring equipment to be installed. It is anticipated that when complete data is available and when the systems have been in operation for an entire heating cycle, the savings will become optimal. In 2016, carbon savings were 26% compared to baseline, and primary energy savings were at 24%. Arcadis validated the data, which provides an upside regarding the baseline analysis of expected primary energy savings.

### Project Partner

With more than 400 years of history, the university hospital St. Orsola-Malpighi Polyclinic was the first hospital in Bologna. Every year, the hospital handles approximately 72,000 admitted cases and an estimated 4,000,000 outpatient visits with medical specialists. An estimated 20,000 people including staff, students, university teachers, patients, visitors and suppliers are present on the hospital grounds on a daily basis.

### Highlights

This upgrade of the entire energy system of the university hospital has been the biggest energy efficiency upgrade in Italy completed as part of a PPP. For the local public healthcare, it is a significant step forward, as the university hospital is one of the biggest hospitals (1,758 beds), making it a model for other hospitals in Italy. This is a major project which demonstrates the positive impact of energy efficiency measures in public buildings that have to be run 24/7, showing how it can improve the underlying conditions for providing healthcare services to citizens of the Emilia-Romagna region. The project won the CESEF Energy Efficiency Award 2015 in the financial category.



### KEY FIGURES

Type of investment:	<b>Senior funds</b>	Total project size (€m):	<b>41.0</b>	Maturity	<b>20 years</b>
Financial close:	<b>08.05.2013</b>	eeef investment size (€m):	<b>31.8</b>	Observed tCO <sub>2</sub> e emission savings (p.a.):	<b>7,881</b>



## NETHERLANDS City of Venlo

### Project Profile

The City of Venlo and the eef signed a long-term financing contract for €8.5 m. The city's existing public lighting is the biggest consumer of electricity on its electricity bill. The city therefore prioritised upgrading its street lighting in order to reduce its energy consumption and CO<sub>2</sub>e emissions as well as to save costs for the public budget.

17,150 luminaries were replaced with LED technology by the end of 2016, with a small fraction left for 2017. The project is further proof of the City's commitment to environmental sustainability.

### Project Partner

Venlo has 100,000 inhabitants and was among the first cities in the Netherlands to initiate climate and energy programmes, starting in 2004. The City of Venlo considers cradle-to-cradle an innovative economic design principle, with the highest possible sustainability as a result.

### Highlights

The Venlo transaction is the Fund's first direct lending structure to a municipality, and it demonstrates the wide variety of financial products the eef can offer.

This street lighting project is linked to preparation works resulting from technical assistance. Venlo benefited from funding from the European Commission Technical Assistance Facility (EC TA Facility). This enabled the city to tender and select the equipment manufacturer for the provision of the LED equipment.



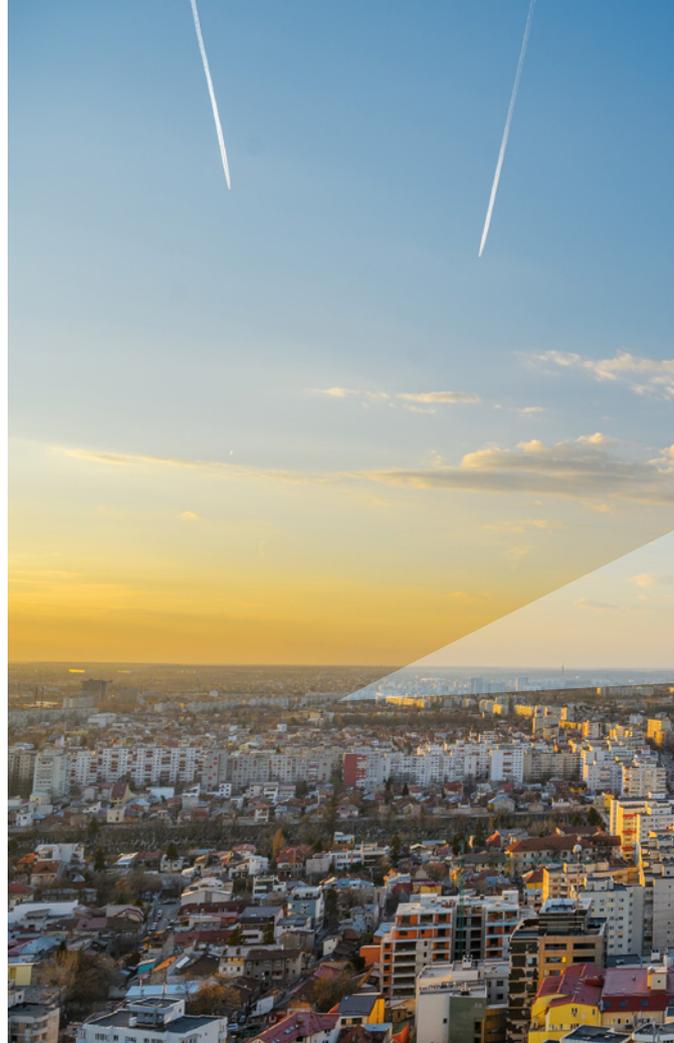
Sector:  
*Energy efficiency/  
street lighting*

### KEY FIGURES

Type of investment:	<b>Senior debt</b>	Total project size (€m):	<b>9.1</b>	Maturity	<b>15 years</b>
Financial close:	<b>03.04.2014</b>	eef investment size (€m):	<b>8.5</b>	Observed tCO <sub>2</sub> e emission savings (p.a.):	<b>946</b>



Sector:  
*Energy efficiency/  
 renewable energy/  
 clean urban transport*



## ROMANIA

# Banca Transilvania

### Project Profile

The eeef provided a refinancing facility to Banca Transilvania (BT) for a green on-lending programme to support energy efficiency and renewable energy investments by the public sector in Romania.

It is the first cooperation between the eeef and a financial institution as well as the first investment in Eastern Europe. The eeef is supporting BT in sourcing and evaluating underlying projects where needed. BT is ensuring that the financed projects comply with the eeef's requirements with respect to a CO<sub>2</sub>e emission/primary energy consumption reduction of at least 20%. Furthermore, the eeef can jointly finance projects with BT if larger financing amounts are required.

At the end of 2016, BT had completed the financing of eight projects. Further details on three transactions included within the BT loan portfolio are included within the Project Highlights section. The cumulative savings of the projects implemented up to the end of 2016 are 241,779 MWh in primary energy savings.

### Project Partner

Founded in 1993, Banca Transilvania is one of the largest banks in Romania in terms of assets. The bank's activity is based on three main business lines: corporate, small and medium-sized enterprises

(SMEs) and retail. BT counts over 6,000 employees, a network of almost 550 units and 1,76 million active clients and is registered in Cluj-Napoca (Romania).

### Highlights

In BT, the eeef has gained a strong local partner with a history of financing several energy efficiency projects and which has a solid footprint in financing SMEs. This cooperation will help to strengthen the Romanian banking sector by providing financing to energy efficiency and smaller-scale renewable energy projects, primarily through the provision of financing to public and private building owners, homeowner/condominium associations and municipalities, public sector entities and private sector companies acting on behalf of the public sector.

### KEY FIGURES

Type of investment:	<b>Subordinated debt</b>	Total project size (€m):	<b>25.0</b>	Maturity	<b>10 years</b>
Financial close:	<b>26.09.2013</b>	eeef investment size (€m):	<b>25.0</b>	Estimated tCO <sub>2</sub> e emission savings (p.a.):	<b>22,606</b>



# 1

## RETROFIT OF RESIDENTIAL FLAT BLOCKS IN THE AREA OF BUCHAREST



### Background

Recon & Doje is a wholly owned Romanian private company founded in 1992, based in Pipera village, Bucharest. Recon & Doje offers a full range of services in the field of construction and building upgrades. They hold a solid market position within Romania. They have a good relationship with a number of municipalities within the country and have carried out works on the modernisation of road systems and the development of water supplies and sewerage networks.

### Project Description

BT has granted Recon & Doje a non-recourse factoring limit for the renovation of approx. €3.3 m in November 2016 to complete energy efficiency upgrades for buildings constructed between 1965 and 1975. Previously, Recon & Doje already held a working capital credit line with BT for around €400,000. The €3.3 m factoring limit was granted to finance the six contracts that Recon & Doje had won in relationship with Bucharest City Hall within Sector 2.

### KEY FIGURES

Disbursement date:	17.11.2016	Estimated annual tCO <sub>2</sub> e savings:	4,103 tCO <sub>2</sub> e
Sub-loan size (€):	3,295,906	Estimated annual primary energy savings:	17,442 MWh

## RETROFIT OF RESIDENTIAL FLAT BLOCKS IN BUCHAREST, DISTRICT 6: PHASE 5



### Background

Constructii Erbasu is one of the main Romanian construction companies, founded in 1991, with expertise in the construction of both residential and industrial buildings. The company also has a good track record in the municipal sector with the reconstruction of roads and the renovation of sewer networks.

### Project Description

BT provided financing to Constructii Erbasu for a project tendered by the Bucharest Town Hall, which they won for the renovation of 273 blocks of flats within Bucharest. Most of the blocks of flats in Romania were built between 1950 and 1990 and need building envelope upgrades including insulation improvements and replacement doors and windows. Through the eeef facility, BT has now financed five phases of the project. Phase 5 saw BT issue Constructii Erbasu another non-recourse factoring limit, this time for approximately €3.3 m.

### KEY FIGURES

Disbursement date:	22.07.2016	Estimated annual tCO <sub>2</sub> e savings:	6,248 tCO <sub>2</sub> e
Sub-loan size (€):	5,493,177	Estimated annual primary energy savings:	26,074 MWh

## STREET LIGHTING MODERNISATION IN SIX VILLAGES



### Background

Elbi Electric & Lighting (Elbi) is a company that offers a complete range of electrical products and industrial and decorative light fixtures. Elbi has a large portfolio of own brands and built a solid market position. It has over 140 employees, eight warehouses and 10,000 clients.

### Project Description

BT has provided Elbi a medium-term ceiling facility of circa €2.2 m. Currently, Elbi has upgraded lighting points in six locations in Cluj County. Most projects are in villages with less than 5,000 inhabitants. Chiuiesti, Cluj County, is one of the beneficiary villages where 301 existing mercury vapour or sodium lamps were replaced with Philips LEDs.

### KEY FIGURES

Disbursement date:	18.11.2015	Estimated annual tCO <sub>2</sub> e savings:	237 tCO <sub>2</sub> e
Sub-loan size (€):	2,197,271	Estimated annual primary energy savings:	1,555 MWh



Sector:  
*Energy efficiency/  
building retrofit*

## SPAIN Universidad Politécnica de Madrid

### Project Profile

Following directive 2012/27/UE of the European Parliament, in June 2015, Universidad Politécnica de Madrid (UPM) invited energy service companies (ESCOs) to present their proposals to improve the system of heat and water supply across the campus and to reduce CO<sub>2</sub>e emissions while switching to a cleaner fuel source. In August 2015, the project was awarded to Enertika – Ingeniería y Servicios de Eficiencia Energética S. L. (Enertika), an engineering company specialising in energy generation, energy efficiency and remote management services.

Within three months of the financial close, Enertika delivered an integrated balanced heat system combining natural gas boilers, distributed valve mesh and solar thermal heating systems for uniform water and space heating. Annual audits for the project were issued for 2016 validating that carbon and primary energy savings are above 20% compared to baseline.

Preliminary actual savings were issued at the end of 2016; however, this did not include an entire heating season. It is anticipated that savings will increase in 2017, when an entire period is measured.

### Project Partner

Universidad Politécnica de Madrid (UPM) is a prestigious university in the Comunidad de Madrid with 20 schools across two sites and is recognised as a Campus of International Excellence. In total, its campus includes 32 buildings for the current 18 departments and governing buildings, which over 35,000 students use annually.

### Highlights

The timeline of the project demonstrates the efficient replacement of the existing 63 gas oil boilers, consuming on average 946,479 litres per year of gas oil. They were replaced with 66 natural gas boilers in all 32 buildings of the campus. To ensure uniform heating of water and space, 6,800 thermal valves were installed, along with 34 thermal solar panels for hot water production.

UPM also benefits from the installation of a remote monitoring system to ensure 24/7 reporting and control of the new installations, including a total guarantee for these measures and Enertika's corrective and preventive maintenance services for the entire nine years of the project duration.

### KEY FIGURES

Type of investment:	<b>Forfeiting loan</b>	Total project size (€m):	<b>2.8</b>	Maturity	<b>9 years</b>
Financial close:	<b>18.11.2015</b>	Net investment size (€m):	<b>2.5</b>	Actual tCO <sub>2</sub> e emission savings (p.a.):	<b>852</b>

# UNITED KINGDOM

## Ore Valley Housing Association

### Project Profile

Cardenden Heat and Power (CHAP), a subsidiary of the Ore Valley Housing Association (OVHA), received funding from two external financing parties, the eeef (senior debt) and the Renewable Energy Investment Fund (REIF) delivered by Scottish Investment Bank (junior debt).

The project (total volume €5.5 m) is a combination of small-sized on-shore wind and boiler replacements in social housing. The wind turbines planned will be located at sites within Fife and are being provided by market leaders such as Enercon. Operation is scheduled to commence by March 2017, and the project will benefit from a guaranteed feed-in tariff for 20 years from the Office of Gas and Electricity

Markets (Ofgem), as well as from selling renewable power through to the national grid.

The wind project will contribute to the OVHA's Community Investment Plan. The plan outlines local initiatives that can benefit from the income generated from the project, and these will be agreed in consultation with the local community.

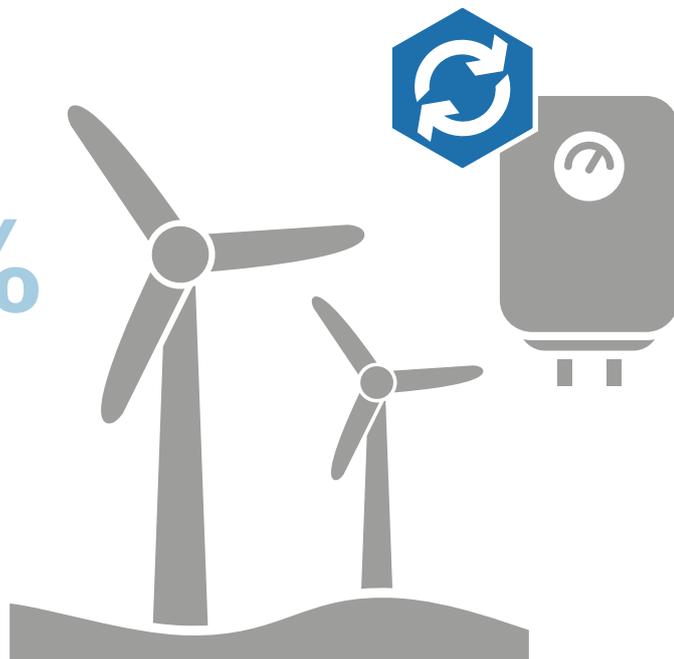
### Project Partner

The OVHA is a Scottish housing association, a registered social landlord with charitable status operating in Central Fife. Its aim is to provide good quality affordable housing and deliver business diversification for community benefit.

Sector:  
*Energy efficiency/  
renewable energy*

99%  
96%

*Overall, the project's target is to achieve cumulative annual savings of 99% for primary energy and 96% for CO<sub>2</sub>e compared to baseline.*





*‘An innovative collaboration to combat fuel poverty and increase renewable energy within the overall Scottish electricity mix.’*

**Highlights**

The eeef closed its first community-based transaction in the UK in cooperation with the OVHA and the Renewable Energy Investment Fund. The OVHA was one of the first technical assistance (TA) beneficiaries under the eeef European Commission TA Facility. Since deploying TA funds, the eeef has worked closely with the OVHA by providing guidance to support project development in realising investments. The eeef

supported the OVHA in the development of a new project scope for on-shore wind turbines and the replacement of over 200 outdated gas boilers in residential buildings owned by the OVHA in the Fife council area in Scotland. This transaction demonstrates the eeef’s capabilities in assisting communities in addressing the technical and financial barriers public entities often face when planning climate change related projects.

**KEY FIGURES**

Type of investment:	<b>Senior debt</b>	Total project size (€m):	<b>5.5</b>	Maturity	<b>16 years</b>
Financial close:	<b>04.11.2016</b>	eeef investment size (€m):	<b>4.3</b>	Estimated tCO <sub>2</sub> e emission savings (p.a.):	<b>1,612</b>

2016  
ACTIVITIES  
REPORT:  
**FUNDING**

---

125

---

*MILLION EUROS INITIAL CAPITAL  
PROVIDED BY THE EUROPEAN  
COMMISSION*

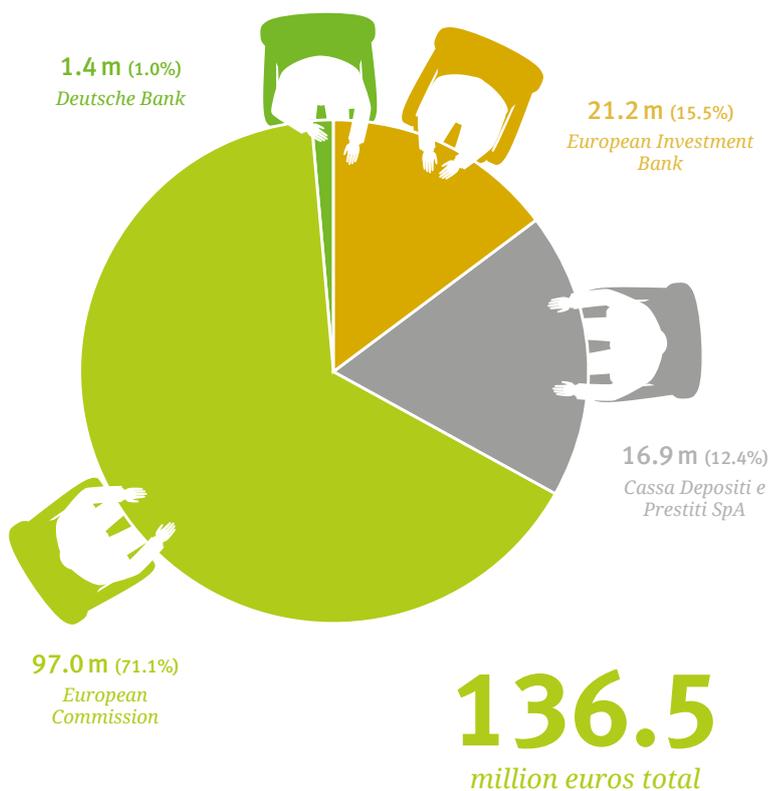
# FUNDING SITUATION

The European Energy Efficiency Fund S.A., SICAV-SIF was initiated by the European Commission in cooperation with the European Investment Bank.

The initial capital provided by the European Commission (€125.0 m) was increased by contributions from sponsors European Investment Bank (€75.0 m) and Cassa Depositi e Prestiti (€59.9 m), as well as the Fund's Investment Manager, Deutsche Bank (€5.0 m).

The eeef has initiated its fundraising activities, ready to ensure constant investor commitments from the private and public sectors to grow the Fund sustainably.

## SHAREHOLDER STRUCTURE BASED ON CALLED AMOUNTS



## CURRENT DIVISION OF INVESTMENTS COMMITTED TO THE eeef



**125.0 m (47.2%)**  
European Commission (EC)



**75.0 m (28.3%)**  
European Investment Bank (EIB)



**59.9 m (22.6%)**  
Cassa Depositi e Prestiti SpA (CDP)



**5.0 m (1.9%)**  
Deutsche Bank (DB)

**264.9**  
million euros total

## CURRENT DIVISION OF SHARE CLASSES ACCORDING TO CALLED AMOUNTS AND REMAINING COMMITMENTS

	Total commitment in €	Drawn in €	Undrawn in €
Notes	–	–	–
A shares	116,900,000	32,881,087	84,018,913
B shares	23,000,000	6,602,435	16,397,565
C shares	125,000,000	97,044,383	27,955,617
<b>TOTAL</b>	<b>264,900,000</b>	<b>136,527,905</b>	<b>128,372,095</b>

The fund is divided across three different share classes: class C shares, which represent the Fund's first loss piece and how shares are referenced; class B shares, which rank senior to the class C shares; and class A shares, which rank senior to the other two share classes but junior to all of the Fund's other creditors.

All these share classes bear voting rights. While class C shares are essentially

designed to correspond to the expectations of governments, the other two share classes are of a more commercial nature and are currently held by development banks and the Investment Manager Deutsche Bank.

The Fund can issue notes designed for private investors. Private investors are senior to all share investors but bear no voting rights.



# TECHNICAL ASSISTANCE **SUPPORT**



# 16

---

*PUBLIC BENEFICIARIES  
IN EIGHT DIFFERENT  
COUNTRIES*

# EUROPEAN COMMISSION TECHNICAL ASSISTANCE FACILITY

The Fund has been benefiting from the European Commission Technical Assistance Facility (EC TA Facility), which supports the mission and strategic direction of the Fund and is primarily for assisting public partner institutions in their project development activities in preparing valuable investments. The application phase for securing grants under the EC TA Facility ended on 31 March 2014. In total, over €14.0 m in EC TA Facility funds have been allocated to support the project development work of 16 public beneficiaries in eight different countries.

## Purpose

To raise municipal awareness of lowering or even neutralising carbon footprints, the European Commission provided the eeef with the EC TA Facility. This facility has been aiming to accelerate investments in the fields of energy efficiency, small-scale renewable energy and clean urban transport.

The EC TA Facility supported its beneficiaries, which are exclusively public entities, in

developing their green project ideas further by providing grants for up to 90% of the total development costs, subject to subsequent partial financing by the eeef.

The technical assistance grants have been aiming to facilitate project implementation by supporting the preparation of feasibility studies, business plans, tendering processes, etc.

LA PALMA 

## Activities

The eeef closely supported 16 public authorities in their project development activities, with a total funding volume of €14.0 m.

1. Ore Valley Housing Association (Scotland) – on-shore wind and boiler replacements
2. City of Santander (Spain) – public lighting, building retrofit
3. City of Córdoba (Spain) – public lighting, building retrofit
4. SPL – Région Rhône-Alpes (France) – building retrofit
5. Cabildo of La Palma (Spain) – public lighting, building retrofit, clean urban transport
6. Ringkøbing-Skjern (Denmark) – decentralised district heating powered by biogas
7. City of Marbella (Spain) – public lighting, building retrofit, renewable energy
8. City of Terrassa (Spain) – public lighting, building retrofit, clean urban transport, renewable energy
9. City of Elche (Spain) – public lighting, building retrofit, clean urban transport, renewable energy



- 10. City of Venlo (Netherlands) – public lighting
- 11. University of Liège (Belgium) – building upgrades
- 12. Limerick and Clare Education and Training Board (Ireland) – building upgrades, renewable energy
- 13. Groupement de Redéploiement Economique de la province de Liège (GRE Liège) (Belgium) – building upgrades

- 14. Alentejo (Portugal) – public lighting, building retrofit, clean urban transport, renewable energy
- 15. Zaanstad (Netherlands) – open smart energy network
- 16. Roscommon (Ireland) – biomass district heating



### Outcome

Looking back, the ECTA Facility has been an incredibly powerful tool for public authorities to receive the capacity needed (whether internally or externally) for elaborating on their potential investment programme ideas, in particular on the feasibility and bankability of the projects. From a total of 16 TA projects, nine projects with a total investment volume of €175 m have been facilitated by the EC TA Facility.

Projects having successfully completed the TA phase are at various stages of realisation. Three

of them (€39.6 m) have already achieved financial close for the investment with the eef, including Région Rhône-Alpes, the City of Venlo and the Ore Valley Housing Association. Three further TA projects (€99.5 m) including the Groupement de Redéploiement Economique (GRE) Liège, the University of Liège and the City of Córdoba are under completion with the TA beneficiaries' own funding and / or other regional sources. Further projects including the City of Santander, Terrassa and Alentejo aim to reach completion, with eef financing under discussion.

### TA PROJECTS REALISED WITH eef FINANCING

TA beneficiary	TA volume provided so far (in € m)	Investment programme (in € m)
SPL – Région Rhône-Alpes	1.1	25.0
City of Venlo	0.4	9.1
Ore Valley Housing Association	1.4	5.5
<b>TOTAL</b>	<b>2.9</b>	<b>39.6</b>

### TA PROJECTS TO BE REALISED WITH OWN FINANCING/REGIONAL SOURCES

TA beneficiary	TA volume provided so far (in € m)	Investment programme (in € m)
GRE Liège	2.0	59.9
University of Liège	1.4	32.6
City of Córdoba	0.5*	7.0
<b>TOTAL</b>	<b>3.9</b>	<b>99.5</b>

\* TA amount to be adjusted due to reduced investment size

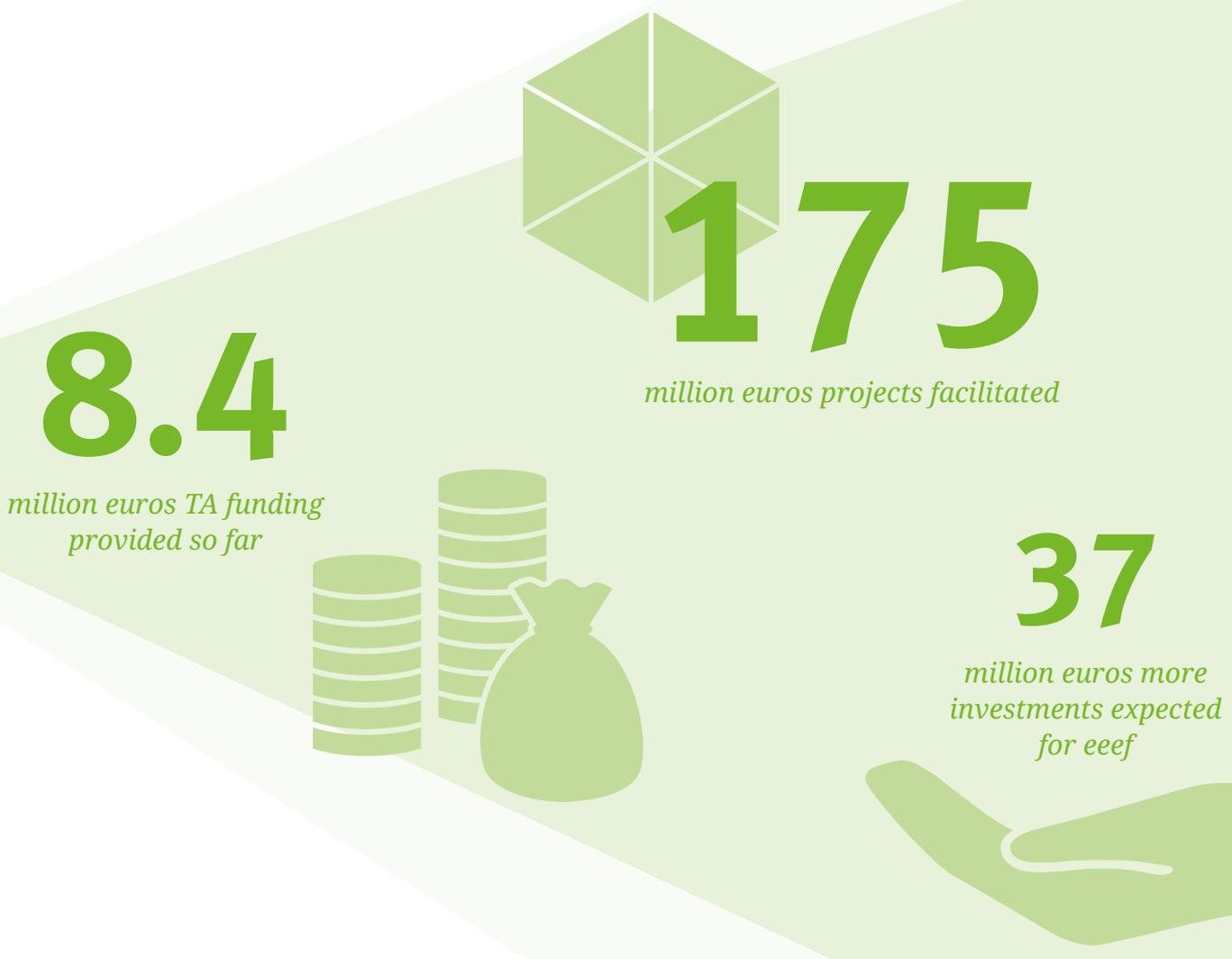
## TA PROJECTS TO BE REALISED WITH EEEF FUNDING UNDER DISCUSSION

TA beneficiary	TA volume provided so far (in € m)	Investment programme (in € m)
City of Santander	0.5	9.2
City of Terrassa	0.6	8.1
Alentejo	0.5	19.8
<b>TOTAL</b>	<b>1.6</b>	<b>37.1</b>

The preparation and realisation of the TA projects are only possible if the required political support and a sustainable multi-annual outlook are given. This implies in particular continuance in the political commitment to implement energy efficiency related projects. As mentioned, the changing of mayors or/and local governments had a negative impact on some projects from the EC TA Facility, which were launched in 2013 but not continued or abandoned completely. This resulted in projects not reaching the financing stage and

even a potential repayment of the TA grant funding provided. At the same time, some projects proved to be technically and/or economically unfeasible based on the outcome of the TA phase (small savings potential, regulatory changes not in favour of project, restructuring, etc.).

The EC TA Facility will close its operations by the end of 2017. Going forward, public authorities will receive TA support from the Fund's newly created TA Facility, introduced in the next section.



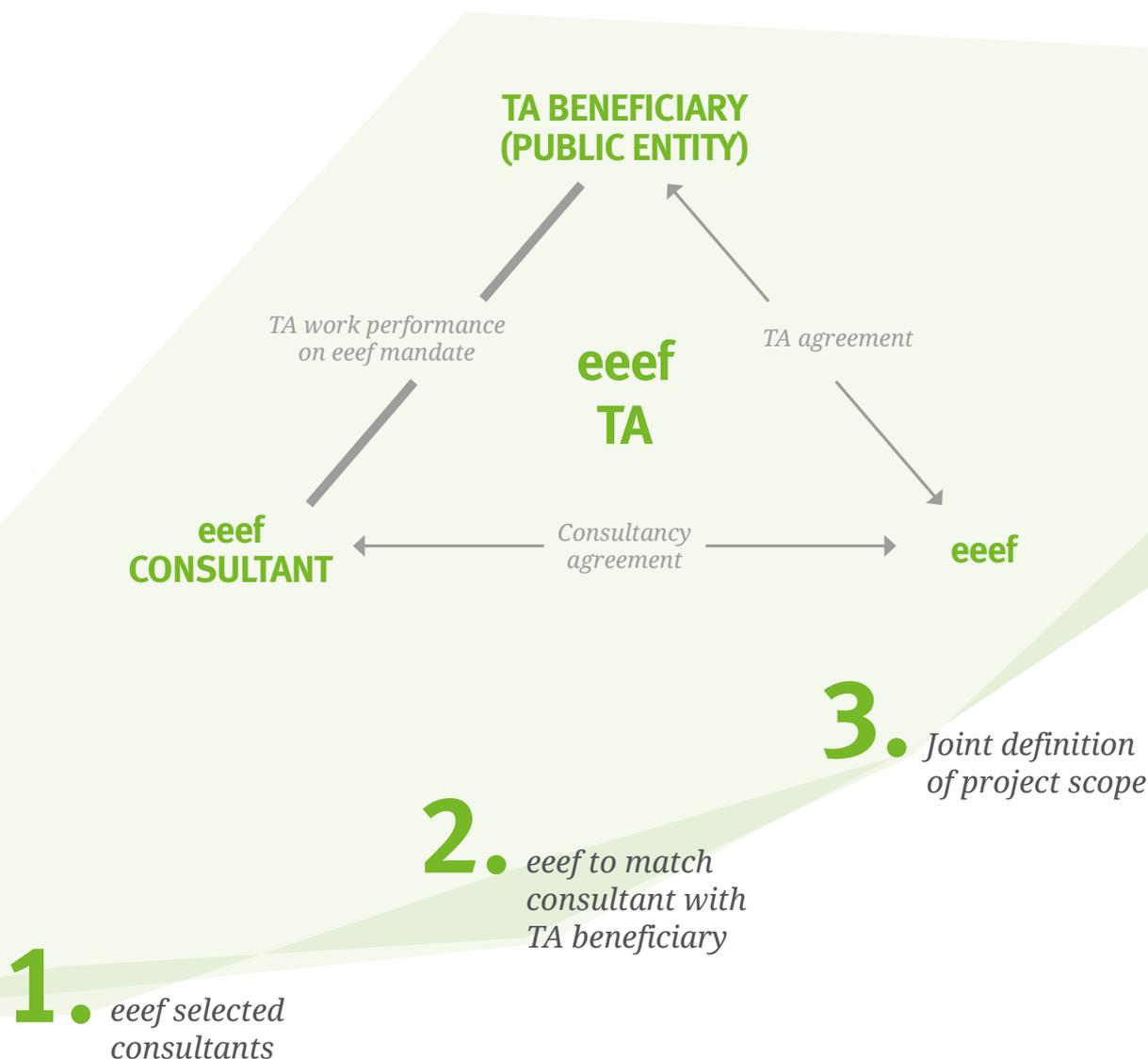
# eeef TECHNICAL ASSISTANCE FACILITY

## NEW eeef TA TO CREATE FURTHER INVESTMENTS

The Fund had initiated the eeef Technical Assistance Facility (eeef TAF) by the end of 2016. In addition to its own funding received from the eeef's profits, the eeef TAF is benefiting from European Local Energy Assistance (ELENA) funding under the Horizon2020 Programme of the European Union. The new facility builds on the experience gained from its predecessor facility and introduces improved features, helping public authorities to realise a higher project implementation rate. Eligible applicants are regions, city councils, universities, public hospitals and other public entities located in the member states of the European Union.

On average, the development of an energy efficiency project in the public sector requires around 4.5 years from the conceptual phase to implementation. The eeef TAF efficiently reduces this time frame to two years by directly allocating consultancy services to the TA beneficiaries (tender completed by the eeef).

The eeef published a call for proposals and selected a pool of consultants who will work closely with the public authorities during the preparation of feasibility studies, energy audits, public tender processes, etc., as well as providing legal support.



## ELIGIBILITY CRITERIA AND APPLICATION PROCEDURE

A request for technical assistance has to meet the following eligibility criteria:

- Beneficiary has to be a public authority (municipal, local, regional or national authority)
- Primary energy savings of at least 20% on an annual basis (20% reduction of CO<sub>2</sub> equivalents for certain other technologies, i.e. renewable energy)
- Minimum leverage factor of 20 (final investment volume of the project divided by TA support amount)
- Financing of the project to be provided by the eeef (€5 – 25 m)

A first call for proposals for TA beneficiaries planning sustainable investment programmes was initiated end of 2016 and successfully closed in Q1/2017. The newly launched facility attracted interest among various public authorities seeking support to develop their sustainable project plans. The remaining funding is available on a first come, first served basis by applying directly to the Fund.

New applications can be submitted to:

[technical\\_assistance@eeef.eu](mailto:technical_assistance@eeef.eu)

Further details:

<http://www.eeef.eu/eeef-ta-facility.html>

### 4. Progress monitored monthly by eeef

### 5. Bankability built along the development process. eeef providing project funding is a condition to receive TA support

#### APPLICATION BY PUBLIC AUTHORITY

- Submission of standard application
- Selection in case eligibility criteria are met

#### SCOPING OF THE TA PROJECT

- Allocation of eeef consultant
- Scoping of works jointly by TA beneficiary and consultant

#### TA IMPLEMENTATION

- Advisory services according to agreed implementation timeline

#### MONITORING AND REPORTING

- Monthly time sheets to monitor TA progress
- Further reporting

#### PUBLIC PROCUREMENT

- Upon positive outcome, investment programme to be procured
- Selection of ESCO/s

#### FINANCING

- Entering into financing phase with eeef
- Financing contract signing

*Maximum two years*

CARBON,  
ENVIRONMENT  
& IMPACT  
**MANAGEMENT**

---

*MISSION: FOR EVERY  
PROJECT TO ACHIEVE  
AT LEAST A*

200

---

*% PRIMARY ENERGY  
AND/OR CO<sub>2</sub> SAVING  
COMPARED TO BASE-  
LINE*

# PROJECT ASSESSMENT AND MONITORING

## ELIGIBLE PROJECTS

The eeef can invest in a range of energy efficiency, small scale renewable energy technologies and clean urban transport, providing the carbon or primary energy savings investment criteria are met. Each project must achieve at least 20% primary energy and/or carbon savings compared to baseline. The Fund may only invest when savings are in addition to other investment criteria.

### **Project Assessment and Monitoring**

As the eeef can finance a variety of technologies, the initial technical assessment and ongoing monitoring of investments must strike the correct balance between accuracy and practicality of implementation.

How the eeef evaluates technical eligibility is based upon the project's technology and loan size, for example small standard (e.g. street-lighting) project savings can be calculated using validated calculations from the Investment Manager's Carbon and Environment Impact Management (CEIM) tool, greenstem™. For larger and more complex technology projects, detailed energy analysis is required in the form of third-party-validated reports.

As part of the due diligence process and throughout the lifespan of the loan, the eeef evaluates and monitors the project savings performance in alignment with the International Performance Monitoring and Verification Protocol (IPMVP), which requires every project to establish baseline energy consumption and then a post-project implementation assessment.

The Investment Manager's CEIM team reviews the technical details of all eeef investments and works with project managers to enter relevant data points into greenstem™.

### **greenstem™**

All of the eeef portfolio-report impact indicators are tracked in greenstem™, a proprietary web-based tool from the Investment Manager which automatically and consistently calculates anticipated and realised energy, primary energy and carbon savings. For small loans and standard technologies, greenstem™ completes calculations based upon project-specific data inputs and project location/technology conversion factors. The tool stores energy and emission conversion factors to ensure a consistent reporting approach across the portfolio. Factor sources include the Chartered Institution of Building Services Engineers for technology benchmark data and the Intergovernmental Panel on Climate Change for the conversion of energy data into greenhouse gas emissions. All calculations and data sources used within the tool have been validated by a third-party engineering company.

greenstem™ provides comprehensive, timely and accurate reporting charts and dashboards which have been configured specifically for eeef user groups. The tool is flexible and can be customised to include additional technologies in the portfolio.

*Key technologies which are already included within the portfolio:*



*Building upgrades*



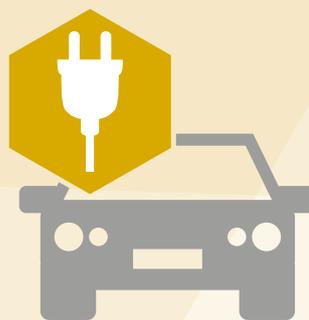
*Street lighting*



*Combined heat and power*



*Wind and solar power*



*Electric cars*

# *KEY TECHNOLOGIES*



## PRIMARY ENERGY AND GREENHOUSE GAS EMISSION SAVINGS 2016

eeef projects aim to achieve at least 20% primary energy savings on an annual basis (higher for the building sector) and a 20% reduction of CO<sub>2</sub>e equivalents for transport and renewable energy projects. The quality of the methodology used to calculate the expected savings of projects is crucial. This allows the eeef to ensure its projects satisfy international standards regarding CO<sub>2</sub>e and primary-energy-saving reporting. Due to the wide variety of technologies included in the eeef's portfolio, the Investment Manager has developed a standardised approach to calculating the project energy, primary energy and carbon savings for the eeef's most common project technologies.

# INVESTMENTS ACHIEVED CO<sub>2</sub>e AND PRIMARY ENERGY SAVINGS

CO<sub>2</sub>e and primary energy savings were reported for the entire portfolio of 11 investments for a range of energy efficiency and renewable technologies including CHP biomass, building retrofits and electric vehicles. Once a project has been in operation for a full year, the eef receives annual audits stating its actual energy consumption.

Year-on-year consumption variances are expected due to a number of factors, such as weather and static data, and therefore project savings can change annually. As shown below, these projects achieved total accumulated savings of 243,683 tCO<sub>2</sub>e and 191,761 MWh of primary energy savings through the end of 2016.

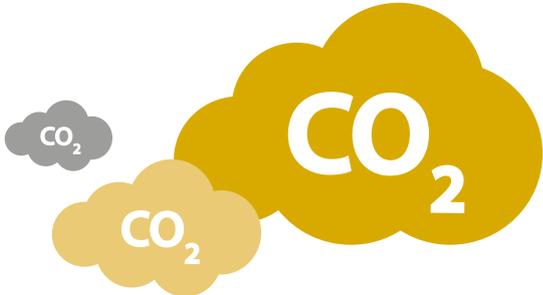
PROJECT NAME	REPORTING THROUGH THE END OF Q4 2016 <sup>1</sup>			
	CUMULATIVE PRIMARY ENERGY SAVINGS (MWh)	PRIMARY ENERGY SAVINGS (%)	CUMULATIVE CARBON SAVINGS (tCO <sub>2</sub> e)	CARBON SAVINGS (%)
Bolloré	21,662	16	27,824	96
City of Orléans	-125,460	-25	68,804	65
City of Rennes	-133,435	-34	48,189	50
Société Publique Locale d'Efficacité Énergétique	11,432	42	2,728	58
Jewish Museum Berlin Foundation	19,280	23	4,665	26
University of Applied Sciences Munich	7,671	34	236	7
University Hospital S. Orsola-Malpighi	129,638	24	29,554	26
City of Venlo	12,590	56	2,486	56
Banca Transilvania <sup>2</sup>	241,779	55	57,082	55
Universidad Politécnica de Madrid	4,362	22	1,712	36
OVHA	2,242	99	403	96
<b>TOTALS<sup>3</sup></b>	<b>191,761</b>	<b>41</b>	<b>243,683</b>	<b>52</b>

<sup>1</sup> All project savings are calculated following international protocols, including the International Performance Measurement and Verification Protocol (IPMVP) for energy accounting and ISO 14064 for carbon accounting. All methodologies used by the eef are validated by a global engineering company. Currently, all projects with concrete data are reporting in alignment with these guidelines, and all new projects are aligned with these frameworks. Project savings represent total project investment volumes. The eef uses up-to-date and project-specific conversion factors from sources including the International Energy Agency and the Greenhouse Gas Protocol. For some projects within the portfolio, factors cannot be updated due to project specifics, so they continue to report on factors issued within the loan documentation.

<sup>2</sup> The cumulative BT savings represent 10 sub-projects. The portfolio's percentage savings are calculated based on all sub-projects' savings. Projects contribute to cumulative savings until the sub-loan has matured from the portfolio.

<sup>3</sup> For carbon, percentage savings are based on the entire portfolio and use the average. For primary energy, percentage savings are calculated using the average but only include projects from the portfolio which provide primary energy savings.

**CO<sub>2</sub> SAVINGS (IN tCO<sub>2</sub>e)**

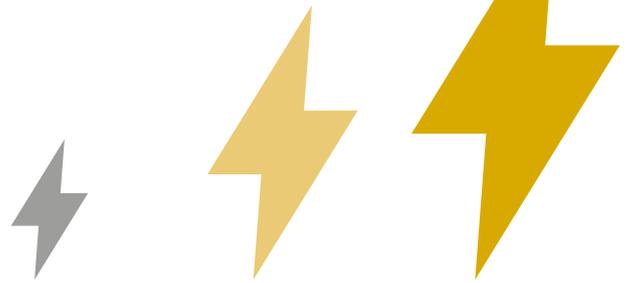


**19,119**  
Quarterly CO<sub>2</sub>e savings (tCO<sub>2</sub>e)

**76,474**  
Annual CO<sub>2</sub>e savings (tCO<sub>2</sub>e)

**243,683**  
Cumulative CO<sub>2</sub>e savings (tCO<sub>2</sub>e)\*

**PRIMARY ENERGY SAVINGS (PES) (IN MWh)**



**24,611**  
Quarterly primary energy savings (MWh) – all projects

**98,444**  
Annual primary energy savings (MWh)

**191,761**  
Cumulative primary energy savings (all projects)

\* Cumulative data includes calculations from financial close to loan maturity, based on estimations for projects under construction and with less than one year of operations and actual data for projects which have been in operation for over one year. Savings are for total project investment volume (i.e. eeef and non-eeef investments).



# SOCIAL AND ENVIRONMENTAL MANAGEMENT SYSTEM (SEMS)

The eef aims to conduct its operations in line with the highest expectations regarding social and environmental responsibility. The eef's social and environmental management system (SEMS) defines the respective roles and responsibilities of the Fund and its partner institutions in promoting social and environmental sustainability.

In general, these are in accordance with the European Investment Bank Statement on Environmental and Social Principles and Standards. For both types of investments – direct and financial institution investments – the eef SEMS has specific performance requirements and procedures which are applied.

Compliance with these is assessed during the due diligence process and monitored later on during the lifetime of the project.

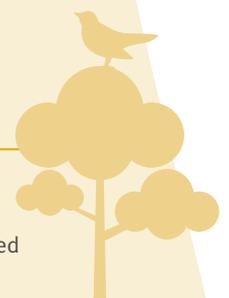
The Environmental and Social (E&S) screening checks areas such as the following – as well as other E&S issues and reputational risk:

## 1. *General environmental and social issues*



EU policy, legal context and compliance, environmental impact assessment process, E&S principles and standards

## 2. *Environment, biodiversity and climate change*



Environmental/trans-boundary impacts, protected areas, critical habitats, biodiversity, forestry, cultural heritage, vulnerability to climate change, climate change mitigation

## 3. *Social*



Social assessment, involuntary resettlement, vulnerable groups, Indigenous People, labour standards, etc.

# FINANCIAL STATEMENTS

---

4.6

---

*MILLION EUROS TOTAL INCOME\**

\* Data has been adjusted to exclude changes in fair value of investments in subsidiaries as well as unrealised profit/loss on derivative instruments. For full details, please refer to the income statement.

# BALANCE SHEET

## STATEMENT OF FINANCIAL POSITION

(in €)

	31 December 16	31 December 15
<b>ASSETS</b>		
Loans and receivables	110,639,917	106,970,597
Investments in subsidiaries	3,326,809	3,135,573
Receivable on subscription	–	22,358,042
Interest receivable	881,355	602,064
Prepaid expenses and other receivables	31,349	22,122
Cash and cash equivalents	26,510,091	6,608,549
<b>TOTAL ASSETS</b>	<b>141,389,521</b>	<b>139,696,947</b>
<b>LIABILITIES</b>		
Derivative financial instruments	1,409,365	1,017,163
Payable on eeef Technical Assistance Facility	281,723	287,157
Accounts payable and accrued expenses	2,336,299	1,389,058
Distribution to holders of redeemable ordinary shares	644,450	641,797
Net assets attributable to holders of redeemable ordinary A shares	32,881,080	32,881,080
Net assets attributable to holders of redeemable ordinary B shares	6,602,445	6,602,445
Net assets attributable to holders of redeemable ordinary C shares	97,234,159	96,878,247
<b>TOTAL LIABILITIES</b>	<b>141,389,521</b>	<b>139,696,947</b>

# INCOME STATEMENT

## STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

(in €)

	31 December 2016	31 December 2015
<b>INCOME</b>		
Interest income	4,473,973	3,853,473
Increase in fair value of investments in subsidiaries	191,236	–
Commission and fee income	142,500	61,332
Realised and change in unrealised gains on derivative instruments	927	231,545
Other income	5,000	22,000
<b>TOTAL INCOME</b>	<b>4,813,636</b>	<b>4,168,350</b>
<b>EXPENSES</b>		
Direct operating expenses	(2,391,396)	(2,036,711)
Decrease in fair value of investments in subsidiaries	–	(2,074,174)
Change in unrealised loss on derivative instruments	(392,202)	–
Change in unrealised loss on exchange	(11,646)	–
Performance fees	(351,185)	(360,133)
eeef Technical Assistance Facility	(272,724)	(195,980)
Interest expenses	(394,121)	(212,116)
<b>TOTAL OPERATING EXPENSES</b>	<b>(3,813,274)</b>	<b>(4,879,114)</b>
<b>OPERATING PROFIT</b>	<b>1,000,362</b>	<b>(710,764)</b>
Distribution to holders of redeemable ordinary A shares and B shares	(644,450)	(641,797)
Attributable to holders of redeemable ordinary C shares	(355,912)	1,352,561
<b>TOTAL COMPREHENSIVE INCOME FOR THE YEAR</b>	<b>–</b>	<b>–</b>

# STATEMENT OF CHANGES IN NET ASSETS

## STATEMENT OF CHANGES IN NET ASSETS ATTRIBUTABLE TO HOLDERS OF REDEEMABLE ORDINARY SHARES (in €)

	Net assets attributable to shareholders
<b>AS OF 31 DECEMBER 2014</b>	<b>97,529,086</b>
Issue of redeemable shares	40,185,247
Redemption of redeemable shares	–
Increase in net assets attributable to shareholders from transactions in shares	40,185,247
Increase in net assets from operations attributable to holders of redeemable ordinary C shares	(1,352,561)
<b>AS OF 31 DECEMBER 2015</b>	<b>136,361,772</b>
Issue of redeemable shares	–
Redemption of redeemable shares	–
Increase in net assets attributable to shareholders from transactions in shares	–
Increase in net assets from operations attributable to holders of redeemable ordinary C shares	355,912
<b>AS OF 31 DECEMBER 2016</b>	<b>136,717,684</b>

## SUPPLEMENTARY INFORMATION

	31 December 2016	31 December 2015	31 December 2014
<b>NUMBER OF SHARES OUTSTANDING</b>			
Class A shares – tranche 1	328.8108	328.8108	276.6677
Class B shares – tranche 1	132.0489	132.0489	111.5449
Class C shares – tranche 1	1,569,960.9156	1,569,960.9156	1,029,853.9117
<b>NET ASSET VALUE PER SHARE CLASS (€)</b>			
Class A shares – tranche 1	32,881,080	32,881,080	27,666,770
Class B shares – tranche 1	6,602,445	6,602,445	5,577,245
Class C shares – tranche 1	97,234,159	96,878,247	64,285,071
<b>NET ASSET VALUE PER SHARE (€)</b>			
Class A shares – tranche 1	100,000.00	100,000.00	100,000.00
Class B shares – tranche 1	50,000.00	50,000.00	50,000.00
Class C shares – tranche 1	61.93	61.71	62.42

# CASH FLOW STATEMENT

## STATEMENT OF CASH FLOWS

(in €)

	For the year ending 31 December 2016	For the year ending 31 December 2015
<b>OPERATING PROFIT AFTER DISTRIBUTIONS TO HOLDERS OF RE-DEEMABLE ORDINARY A SHARES AND B SHARES</b>	<b>355,912</b>	<b>(1,352,561)</b>
<b>NET CHANGES IN OPERATING ASSETS AND LIABILITIES</b>		
(Increase)/decrease in fair value of investments in subsidiaries	(191,236)	2,074,174
(Increase)/decrease in prepaid expenses and other receivables	(9,228)	20,642
(Decrease)/increase in accounts payable and accrued expenses	947,240	500,733
(Decrease)/increase in unrealised loss on derivative financial instruments	392,202	(231,545)
Increase in contribution to the eeef Technical Assistance Facility	(5,433)	195,980
Increase in interest receivables	(279,291)	5,385
(Increase)/decrease in receivables on subscription	22,358,042	(22,358,042)
Distributions paid to holders of redeemable ordinary shares	2,654	132,756
<b>NET CASH FLOW (USED IN)/FROM OPERATING ACTIVITIES</b>	<b>23,570,862</b>	<b>(21,012,478)</b>
<b>CASH FLOWS USED IN INVESTING ACTIVITIES</b>		
Increase in loans and receivable financial assets	(3,669,320)	(19,711,737)
<b>NET CASH FLOW USED IN INVESTING ACTIVITIES</b>	<b>(3,669,320)</b>	<b>(19,711,737)</b>
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Issue of redeemable ordinary shares	–	40,185,247
<b>NET CASH FLOW FROM FINANCING ACTIVITIES</b>	<b>–</b>	<b>40,185,247</b>
Net increase/(decrease) in cash and cash equivalents	19,901,542	(538,968)
<b>CASH AND CASH EQUIVALENTS AT BEGINNING OF THE YEAR</b>	<b>6,608,549</b>	<b>7,147,517</b>
<b>CASH AND CASH EQUIVALENTS AT END OF THE YEAR</b>	<b>26,510,091</b>	<b>6,608,549</b>

# IMPRINT

**Publisher:**

The European Energy Efficiency Fund,  
S.A., SICAV-SIF  
31 Z.A. Bourmicht  
L-8070 Bertrange  
Grand Duchy of Luxembourg

**Photo credits:**

Alex Kraus, Jeff Molliere

**Disclaimer**

The Fund is an investment company with variable capital (*société d'investissement à capital variable*) under the form of a public limited-liability company (*société anonyme*) governed by the laws of the Grand Duchy of Luxembourg which is subject to the Law of 13 February 2007 on specialised investment funds, as amended or supplemented from time to time, and qualifies as an internally managed alternative investment fund (AIF) within the meaning of the Luxembourg law of 12 July 2013 on Alternative Investment Fund Managers.

The Fund is reserved for certain eligible investors as defined in the issue document. The information given in this report constitutes neither an offer nor a product recommendation; it is provided for individual information purposes only. No guarantee is given or intended as to the completeness, timeliness or accuracy of the information provided herein. This report is neither an issue document, as specified by applicable law, nor the annual report of the Fund, nor the management report. The current issue document is obtainable at the registered office of the Fund. Please request the Fund's issue document and read it carefully and seek advice from your legal and/or tax advisors before investing.

The distribution of the issue document and the offering of shares and/or notes may be restricted in certain jurisdictions. The issue document does not constitute an offer or solicitation in jurisdictions

where such an offer or solicitation is considered unlawful, or where a person making such an offer or solicitation is not qualified to do so or where a person receiving the offer or solicitation may not lawfully do so. It is the sole responsibility of any person in possession of the issue document and of any person wishing to apply for shares and/or notes to inform themselves of and to observe all applicable laws and regulations of relevant jurisdictions. Distribution of the issue document by an unauthorised person is prohibited and shall be solely at their own risk. Investors should inform themselves and should take appropriate advice as to possible tax consequences, foreign exchange restrictions or exchange control requirements which they might encounter under the laws of the countries of their citizenship, residence, domicile or other applicable laws and which might be relevant to the subscription, purchase, holding, redemption or disposal of the shares and/or notes of the Fund.

The shares and/or notes of the Fund have not been and will not be registered under the United States Securities Act of 1933 as amended from time to time (the '1933 Act') or any other applicable securities laws of any of the states of the United States, for offer or sale, directly or indirectly in the United States of America, except pursuant to an exemption from the registration requirements of the 1933 Act as part of their distribution, and the Fund has not been and will not be registered under the United States Investment Company Act of 1940.

This work is protected by copyright law. All rights reserved, in particular with respect to translation, reproduction, communication, copying of images and tables, broadcasting, microfilming or reproduction by other means, as well as storage on data-processing equipment, even where such use only applies to excerpts. Reproduction of this work or parts thereof is permissible only within the scope of the statutory provisions.

## CONTACT:

[info@eeef.eu](mailto:info@eeef.eu)

[www.eeef.eu](http://www.eeef.eu)

ClimatePartner<sup>o</sup>  
**klimateutral**

Druck | ID 53123-1707-1001