



# THE EUROPEAN ENERGY EFFICIENCY FUND

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ADVANCING SUSTAINABLE ENERGY FOR EUROPE  
*Annual Report 2017*

# EUROPEAN ENERGY EFFICIENCY FUND HIGHLIGHTS



# 135.4

*million euros committed capital*

# 126.5

*million euros invested capital*



# 12

*investments and  
one committed project*

# 314.938

*thousand tonnes carbon  
dioxide equivalents*  
(cumulative carbon savings from  
fund inception to Q4 2017)

# 8

*countries in the  
investment portfolio*



# 35

*public authorities,  
of which*

- 4 public authorities are related to the eeef TAF
- 1 is the financing of a community project
- 5 investments from the eeef's portfolio go directly into Cities



# 2

*signed eeef  
TAF projects  
in 2 member  
states*



# 245.537

*thousand megawatt hours*  
(cumulative primary energy savings  
from fund inception to Q4 2017)

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## WELCOME

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Dear Reader,

In November 2016, the Commission adopted its proposal for Europe's most ambitious and comprehensive energy package (the Clean Energy for All Europeans package), comprising eight legislative acts and accompanying measures to deliver secure, sustainable and competitive energy by 2030 and contributing to our Paris Climate Agreement commitments. This improved regulatory framework, and in particular the new Regulation on Governance of the Energy Union, will help to spur sustainable investment to support the clean energy transition in the EU.

Energy efficiency is a critical element of the energy transition, but it needs high investment to reap its many benefits. The right policy framework can encourage both public and private investment to reduce the cost of finance for energy efficiency projects. An example of this is the September 2017 update of Eurostat guidance on the recording of energy performance contracts (EPCs) in EU Member States' government accounts: a regulatory change that helps remove barriers to energy efficiency investment in the public sector. The public sector has to lead by example and demonstrate efficient building renovation and show how its impact can be great because of public ownership of building stock. The new Eurostat guidance will allow wider use of energy performance contracting which, combined with private sector funding, will help to support the development of a stronger EU market for energy service companies.



# Advancing Sustainable Energy for Europe

Climate and clean energy commitments are being strengthened, while public budgets face ever greater constraints. Thus, we need to be more efficient than ever in the targeted use of EU and national funds to leverage private capital and to demonstrate the returns on investment. The eeef supports the promotion of sustainable energy financing and reinforces investments that help to protect our climate whilst bringing economic benefits to consumers. I am confident that the eeef will continue to develop key public sector energy efficiency projects, to effectively blend public and private funds and to increase the interest and understanding of private sector financial managers in energy efficiency projects throughout the European Union, demonstrating the Energy Union principles and goals.

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



# LETTER FROM THE CHAIRMAN

Dear Reader,

When Prime Minister Justin Trudeau announced the climate theme for Canada's 2018 G7 Presidency, 'Working together on climate change, oceans and clean energy', he stated: 'It is more urgent than ever that the world comes together to fight climate change, including by investing in clean energy and developing innovative clean technologies...'

In June 2018, leaders gathered at the 44<sup>th</sup> G7 Summit to develop strategies to facilitate this global issue. Within 30 years, around 70% of the world's population will live in cities. Operational efficiency, cost reduction and environmental sustainability will be key drivers to accommodate this development. Sectors such as energy, lighting and transport have the most impact in the smart city universe, as efficient energy is the cheapest energy of all. Cities should be leading the energy transition. The European Energy Efficiency Fund (eeef) continues to support the 'Advancing Sustainable Energy for Europe' initiative through its successful collaboration with public authorities, in particular by working towards the achievement of the newly agreed 32.5% energy efficiency target for 2030 within the European Union. In August 2017, the fund entered its seventh year of operation, and we proudly reflect on the success of the eeef over the last 12 months – the successful start of the eeef Technical Assistance Facility (TAF) with two signings achieved and the continued expansion of the fund's geographical footprint through reaching financial close for a PV project in Portugal.

As per 31 December 2017, the Fund has been actively involved with 35 public authorities across Europe via the eeef's investment portfolio, the European Commission Technical Assistance Facility (EC TAF) and the newly launched eeef Technical Assistance Facility (eeef TAF), which received funding from the ELENA facility under the European Union's Horizon 2020 Programme. As of year end, the eeef portfolio comprised of 13 different projects in eight Member States of the European Union. The overall Fund allocation as of 31 December 2017 stands at €135.4 m. The total income for the Fund was €5.5 m, and operating profit was at a new high of €2.2 m. The profit enabled the eeef to pay the 2017 target dividend as well as a complementary dividend to its shareholders. Additionally, the Fund was able to replenish the eeef's TAF with over €270,000.

The Fund launched its own eeef Technical Assistance Facility (eeef TAF) in 2016. In addition to its own funds, the eeef TAF secured ELENA funding under the Horizon 2020 Programme. 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 timeframe. 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 reduces this timeframe to two years by directly allocating consultancy services to the TA beneficiaries (tender completed by the eeef).

The City of Gijón (Spain) was the first beneficiary of the eeef TAF, closely followed by the Province of Ferrara (Italy). Both public authorities have embarked on ambitious journeys to develop their projects (public building and street lighting upgrades) within a two-year timeframe. With the continuous guidance of the eeef and the expert consultancy teams selected to deliver the necessary services, we believe the near-term future will see these projects develop into around €35m worth of green investment programmes. The eeef TAF will be an additional driver to reinforcing the Fund's project pipeline, as was seen with the European Commission TA Facility (EC TAF), which closed its operations in 2017.

The EC TAF has been a powerful tool for public authorities to receive the internal and external capacity to enable the development of energy efficiency, small-scale renewable energy and clean urban transport projects. To date, the eeef has reached financial close for four investments, equating to €27 m (financial close achieved), and the Fund is in discussions with other TA beneficiaries for projects totalling another €30 m. Over the past years, the eeef collaborated closely with 16 public authorities, allocating over €14 m in funds via this TA Facility.

A further 2017 highlight was that the eeef achieved financial close for the City of Santander (Spain) transaction, signing a forfaiting facility of over €9 m to be utilised for the upgrade of the existing street lighting infrastructure in the municipality, from old sodium vapour lamps to state of the art solutions. Having previously utilised the TA funds provided by the EC TAF, the Municipality of Santander conducted feasibility studies and launched an ESCO tender for the renovation works. As a result, a private company was selected to upgrade around 22,300 lighting points using LED luminaires and wireless sensors to connect each luminaire with the municipality's digital communication network and remote control system. The City of Santander, 'Europe's Smart City', is a lighthouse model, and this project connects to the city's central management hub, transforming the city to a more resilient, cleaner and sustainable place.

Furthermore, the eeef signed a Memorandum of Understanding with Wattosun (Portugal) for a €5 m facility to finance a portfolio of small PV installations for self-consumption. The target beneficiaries are users in the public sector, including municipalities, state-owned companies and other public authorities. Wattosun's proposition will enable these authorities to access solutions reducing their electricity bills. By pursuing this project, the eeef welcomes a new target country, Portugal, further diversifying its portfolio.

Also this year, the eeef was seen as a major market participant in the European energy efficiency market and a welcome stakeholder in shaping the way towards a greener future. The Fund was invited to major expert conferences and promotional events for energy efficiency to promote its activities. Among these, nameable is the most recent Smart City Expo World Congress in Barcelona, where the eeef was a panellist at the 'Cities Standing Up to Climate Change' session.

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. Following this article, the Fund is registered with the Commission de Surveillance du Secteur Financier (CSSF) in Luxembourg as an AIFM.

In the year ahead, to intensify our growth trajectory and position as a key player in Advancing Sustainable Energy for Europe, the Fund endeavors to keep successfully supporting public authorities reduce barriers faced when trying to scale-up the number of sustainable energy projects within their remits.

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 2017.

Best wishes,



Peter Coveliers

Chairman of the Management Board



# LETTER FROM THE INVESTMENT MANAGER

Dear Reader,

35 public authorities with investments across eight countries – France, Germany, Italy, the Netherlands, Romania, Spain, Portugal and the UK – are working with the eeef since its inception. The Fund has actively pursued investments of €135.4 m in the sectors of energy efficiency, renewable energy and clean urban transport. Within these sectors, the eeef is financing a variety of technologies starting with building upgrades, public lighting refurbishments and, PV installations to more complex CHP and tri-generation plants.

The new eeef Technical Assistance (TA) Facility, which received funding from the ELENA facility under the Horizon 2020 Programme of the European Union, launched at the end of 2016 and successfully closed the first call for proposal in March 2017. The new facility attracted interest among various public authorities seeking support to develop their sustainable project plans. The programme provides the public authorities with consultancy services to enable the realisation of the project. The eeef achieved two signings for TA projects, including the City of Gijón (Spain) and the Province of Ferrara (Italy) – mainly for public building renovation and street lighting upgrade. Both TA beneficiaries have embarked on ambitious journeys to develop their projects within a two-year timeframe. Each beneficiary is supported by the eeef and the allocated consultancy team to deliver around €35 m worth of green investment programmes for the eeef pipeline. By completing feasibility studies, energy audits and evaluating the economic viability of the investments in a timely manner, the TA beneficiaries aim to publish their first tenders only six to 12 months after signing the TA agreement with the eeef. For the City of Ferrara, the tender publication is expected within the first half

*‘In total, the eeef portfolio now consists of 13 projects, with total investments of €135.4m spread across eight different EU member states.’*

of 2018. The new facility builds on the experience gained from the European Commission TA Facility, which was managed by the eeef, but introduces improved features, helping public authorities to realise a higher project implementation rate. One of these features is the shorter project development period, which has been demonstrated already in practice as described above. On average, the development of an energy efficiency project in the public sector takes around four and a half years (conceptual phase to implementation). The eeef TA Facility aims to reduce this period to no more than two years by directly allocating consultancy services to the TA beneficiaries. The eeef is currently in the selection process of two further TA projects, including the Italian Ministry of Defence (Ducal Palace of Modena, Italy).

The European Commission (EC) TA Facility – which closed its operations in December 2017 – was also a powerful tool for public authorities to receive the internal and external required resources. Initially, 16 TA projects were approved by the facility, of which 10 projects have been facilitated, with a total

investment volume of €185 m to date. Until now eef has closed a total investment volume of €27 m from TA projects, with a further €30 m expected. Looking forward, public authorities will receive TA support from the newly created eef TA Facility.

As well as the TA activities, on the investment side, Elecnor S.A. and the eef signed a forfaiting facility of over €9 m for the upgrade of the existing street lighting infrastructure in the Municipality of Santander. In 2012, the municipality was the first beneficiary of the EC TA Facility and received €0.5 m to conduct feasibility studies and launch the PPP tender for the renovation works. The project's objective is to replace circa 22,300 old sodium vapour lamps with state of the art energy efficient smart solutions using Philips LED luminaires. Furthermore, wireless sensors will be connected to each luminaire to facilitate a connection with the municipality's digital communication network and the remote control management system – showing the eef is contributing towards the development of a smart city. In December, the eef signed a Memorandum of Understanding for €5 m with Wattosun, an organisation that enables public entities to implement small-scale PV installations for self-consumption, providing reductions in energy costs and associated market and supply risks. This opportunity marks the first Portuguese investment for the Fund. Currently, Wattosun is in ongoing discussions with several parties from the public sector interested in adopting the scheme, with a pipeline of up to seven of them in various locations throughout Portugal.

A 2017 highlight for the eef was celebrating the inauguration event of the University Hospital S. Orsola Malpighi in Bologna (Italy) at the beginning of Q4 2017. The market perceives the project as a successful, major energy efficiency renovation. With the aim to reduce energy consumption, the eef provided the University Hospital a project and a VAT bond facility of €31.8 m in 2013 to fund the upgrade of its entire fluid production and distribution system. This included the construction of its own tri-generation plant with a district heating and cooling network of 15 kilometres and energy recovery to produce electricity.

The eef strives to provide continuous support to cities and communities within Europe whose aim is to develop pioneering energy efficiency investments, renewable energy generation capacities and green public transportation networks by developing the required financing solutions to facilitate the progress of such initiatives.

Lada Strelnikova

Iñigo Prior

Georgie Debenham

Paola Rusconi

Zarpana Signor

Rahul Pratap Singh

# The eef **IN 2017**



# 1

*Financing closed with Elecnor S.A. to upgrade the street lighting infrastructure of the smart cities pioneer Santander in Spain*

*The objective of the Wattosun project in Portugal is to supply public entities with clean energy for self-consumption*

# 2

# 3

*After four years of construction, the energy efficiency upgrade of the University Hospital S. Orsola Malpighi was completed*

*The community of Cardenden, Scotland, is now profiting from the sale of green electricity generated by an onshore wind turbine. The profits from the sale of electricity are used to support community projects and energy efficiency upgrades*

# 4

# NEW FINANCIAL ARRANGEMENTS FOR PROJECTS



Sector:  
*Street Lighting*

## Spain Santander

### Project Profile

The Municipality of Santander has 174,612 inhabitants and is located in the Cantabria Region in Spain. It benefitted from funding from the European Commission Technical Assistance Facility (EC TA Facility) managed by the eeef in order to conduct feasibility studies and, subsequently, launch the ESCO tender for the renovation works.

The main objective of the project is to upgrade around 22,300 lighting points using LED luminaires and wireless sensors to connect each luminaire with the municipality's digital communication network and the remote control system. The project is expected to realise 80% in primary energy and CO<sub>2</sub> savings annually compared to baseline, which is 39,848 MWh and 4,395 t p.a. in absolute terms, and will result in €5.4 m of monetary benefits for the municipality over the 15-year period of concession.

The project reached completion in December 2017, when Elecnor S.A. and the Fund signed a forfaiting facility of €9.2 m to finance the replacement

of old sodium vapour lamps with LED luminaires. The Fund invested in the project immediately upon completion of the installation works.

### Project Partner

Elecnor S.A. is an international company from Bilbao with 60 years of experience in developing, building and maintaining infrastructure assets and experienced in renewable and energy efficiency projects. It is working on numerous private and public projects in the region and has expertise in producing renewable energy and implementing energy-efficient building refurbishment projects.

### Highlights

Santander is a member of the Covenant of Mayors and a founding member of the Spanish Network of smart cities (RECI), which includes 62 cities. As a leader in the smart cities initiative, the city is managing a unique in the world city-scale experimental research facility in support of typical applications and services for a smart city. The smart street lighting upgrade financed by the eeef is adding value to the pioneering role that the city is playing in the initiative.

### KEY FIGURES

Type of investment:	<b>Forfaiting facility</b>	Total project size (€m):	<b>9.2</b>	Maturity	<b>13.88 years</b>
Financial close:	<b>18.08.2017</b>	eeef investment size (€m):	<b>9.2</b>	Estimated tCO <sub>2</sub> e emission savings (p.a.):	<b>4,396</b>

# Portugal Wattosun

## Project Profile

The eeef has signed a Memorandum of Understanding (MoU) with Wattosun, Portugal, for a €5 m junior funds facility to finance a portfolio of self-consumption PV installations. The installations will be provided to public sector users, including municipalities, state-owned companies and other public authorities. This will offer each participating organisation a financially attractive and environmentally friendly solution to reduce their electricity bills.

The total project, comprising seven subprojects, is estimated to use circa 21,100 of 1.68 m<sup>2</sup> solar panels. When compared to the baseline (the Portuguese electricity grid), the total project estimates CO<sub>2</sub>e savings of 2,650 tonnes per year and primary energy savings of 20,736 MWh per year. The self-consumed electricity would enable the public authorities to minimise or even reduce their exposure to changes in energy prices and benefit from effective electricity cost reduction.

Wattosun comprises a highly skilled management team with a total of over 50 years' experience in developing, financing and operating PV rooftop and ground mounted projects globally. This will ensure the seamless promotion, development and implementation of every PV installation project.

## Highlights

Wattosun completed an in-depth market study researching the appetite among public entities to transition to renewable, self-consuming energy systems and their wishes to reduce energy costs and associated risks. Through this process, Wattosun established strong relationships with public entities and gained insight that the average subproject size within this sector would be below €1 m. Wattosun has designed appropriate products, which are expected to provide the public organisations with attractive offers. Currently, Wattosun is in ongoing discussions with seven interested parties throughout Portugal. The publications of the first tenders are expected in the second semester of 2018.

Wattosun is considering two different business models for the implementation of the business plan, derived from its dialogues with public clients:

- For bigger subprojects, UPAC Model (UPAC): the public entity pays a rent to the subproject for the equipment installed that it uses to generate electricity for self-consumption.
- For smaller subprojects, UPP Model (UPP): the subproject, owns the equipment installed in public properties and receives a payment from the utility company for energy produced and fed into the grid.

The offtake agreements for both models (either with the public body and/or the utility) will have a long-term tenor in order to facilitate the feasibility of the subproject. The construction of the subproject will be performed under a fixed price turnkey EPC contract with a qualified EPC and O&M partner, and those will include contractual obligations and security package/guarantees, following international standards and best practices for Project Finance type transactions.



## KEY FIGURES

Type of investment:	Total project size (€m):	5.5	Maturity	16.5 years
<b>Junior Funds – equity and junior debt</b>	eeef investment size (€m):	5.1	Estimated tCO <sub>2</sub> e emission savings (p.a.):	3,392
Financial close:	29.12.2017		Estimated MWh primary energy savings (p.a.):	20,736

# PROJECTS COMPLETED CONSTRUCTION PHASE

## THE AWARD WINNING ENERGY EFFICIENCY UPGRADE OF ITALIAN UNIVERSITY HOSPITAL S. ORSOLA MALPIGHI IS COMPLETED

The energy efficiency upgrade of the Italian University Hospital S. Orsola-Malpighi in Bologna has been completed by the European Energy Efficiency Fund (eeef). Antonella Messori, Director General of the hospital, describes its main development goals as twofold: firstly, to address the obsolescence of its energy systems, and secondly, to meet the increasing energy demand driven by the need for the hospital to grow and innovate. Once the project concept was validated in 2012, it became clear the biggest challenge would be to secure financing for a major infrastructure project at a critical time for capital raise in Italy.

gy consumption, costs and pollution. The project, now complete and in full operation, achieved final commissioning in 2017, with inauguration taking place on 20 October 2017.

The new production and distribution efficiency levels, together with the use of energy recovery, will lead to primary energy savings equal to the annual consumption of 3,072 household boilers. The project was realised within the complex network of the hospital, including 87 operational units, without disrupting medical services provided to patients – namely 20,000 visitors daily.



The eeef provided the University Hospital with a project and VAT bond facilities of €31.8m in 2013. Together with its project partners Progetto ISOM (concessionaire), Manutencoop and Siram (EPC/O&M consortium and sponsors) and Sinloc (financial arranger and sponsor), the eeef has been pursuing the implementation of this award-winning project over the last four years.



The project consortium upgraded the entire fluid production and distribution system of the hospital, including the construction of its own tri-generation plant and a District Heating and Cooling (DHC) network of 15 kilometres. The facility is located in the centre of the ancient city, which added further complexity to the implementation. A team of 750 workers and 60 engineers worked on new generation power plants and a tri-generation system producing a combination of electric, thermal and cooling energy for the hospital to lower its ener-

For the local public healthcare, it is a significant step forward, as the University Hospital is one of the largest in the country, making it a model for others to follow. This project was one of the most important operations in energy efficiency for the healthcare sector in Italy. Recognised in 2015 at the CESEF Energy Efficiency Awards in the financial category, this is a great achievement demonstrating how positive energy efficiency investment in a hospital through a public-private partnership can improve the service for citizens and create better working conditions for staff, while at the same time contributing to a healthier environment for the community. 'I believe the citizens of Bologna were waiting for a project of this kind, for Bologna qualifies as the city of health, and it's important that the city of health does not pollute. The new tri-generation plant will allow us to avoid pollution and at the same time save energy', said Virginio Merola, Mayor of Bologna. 'At the end of the day, we can say we have worked well because we have worked together', he concluded.



Antonio Rigon: CEO Sinloc (financial arranger and sponsor):

*'The overall project was very ambitious and achieved outstanding results.'*

Picture from left to right: Mr Stefano Bonaccini (President of Region Emilia-Romagna), Mr Virginio Merola (Mayor of City of Bologna), Mrs Antonella Messori (Director General of University Hospital S. Orsola), Mr Francesco Ubertini (Rector of University of Bologna), Mr Claudio Levorato (Manutencoop)

# THE OFFICIAL COMMISSIONING OF THE COMMUNITY CLIMATE CHANGE PROJECT IN FIFE, SCOTLAND

Andrew Saunders, CEO of OVHA:

*‘Renewable energy sources accounted for over 56.7% of gross electricity consumption in Scotland in 2015, with onshore wind being a key driver for the growth in both our renewable electricity supply and in the delivery of our vision for a greener Scotland. I am delighted this project further contributes to that vision, and I am also pleased to see it delivering boiler replacements for 174 local households.’*

In August 2017, the eef announced that the Ore Valley Housing Association’s (OVHA) community project has been officially commissioned in a ceremony that took place at the Community Hall in the Dundonald Institute, Cardenden, Fife. This marks the operational stage of a £4.6 m renewable energy and energy efficiency investment programme financed alongside Cardenden Heat and Power (CHAP), a subsidiary of OVHA, and the Scottish Investment Bank. The fund helped to facilitate the preparation and implementation of the programme, after a four-year long cooperative effort between the eef and OVHA. The project comprises the installation of an onshore wind turbine and replacement of over 174 outdated gas boilers in residential buildings in the Fife region of Scotland, with the aim to reduce CO<sub>2</sub> equivalent emissions by over 750 tonnes per year.

The inauguration took place on August 9 in view of the operational wind turbine. The programme was officially opened by the Scottish Government’s Minister for Business, Innovation and Energy, Paul Wheelhouse, in front of key contributors and partners of the project, as well as the local community. The wind project will contribute to OVHA’s Community Investment Plan. Andrew Saunders, CEO of OVHA who leads the project, said ‘The project is a good example of a collaborative and innovative approach to address fuel poverty and make an active contribution to increase the share of renewable energy in the overall electricity mix in Scotland, whilst providing a continuing financial benefit to the local community’.

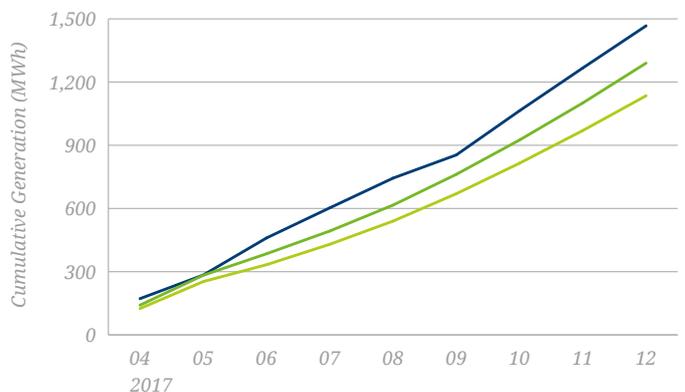
Overall, the project’s target is to achieve cumulative annual savings of 99% for primary energy and 96% for CO<sub>2</sub>e emissions compared to baseline. In addition, the profits will be used to support a community fund and other endeavours in the area, while the Dundonald turbine will produce 1,900 MWh of green electricity for export to the grid, the equivalent power for 360 Fife homes.



Picture from left to right: Andrew Saunders (CEO OVHA), Susan McDonald (Chair of the OVHA Board), Paul Wheelhouse (Scottish Minister for Business, Innovation and Energy), Georgie Debenham (Investment Advisor eef), Laura Finlayson (Renewable Energy Investment Fund)

## CUMULATIVE GENERATION AGAINST EXPECTED GENERATION (MWh)

*At the end of 2017, after nine full months of operation, the Dundonald turbine had generated just shy of 2,000 MWh.*



# LOW CARBON AGENDA FOR EUROPEAN CITIES

Cities have much to gain from embracing the low carbon agenda by **i)** shaping the built environment for the future, **ii)** contributing to climate action and **iii)** using environmental data as a powerful communication tool.

Institute of Environmental Management & Assessment (IEMA):

*‘The GHG emissions from all projects will contribute to climate change – the largest interrelated cumulative environmental effect.’*

With many local governments understanding that climate change is a pressing issue and that contributing to EU greenhouse gas (GHG) emission reduction targets lies in their responsibility, there are numerous challenges associated with incorporating climate concerns in their political agenda. Embracing the low carbon agenda requires that cities incorporate this mission into their development visions and investment plans. To do so, they should define specialised resources in order to understand which projects add the most value to their current status and development plans. Furthermore, many cities are already contributing technical data points (e.g. carbon emissions of municipality buildings) to the regional carbon budgets – energy audits, calculations of GHG emission savings, contribution to regional carbon saving programmes etc. are necessary for the collection of this data. The aggregation of such data may require expertise and can often be complex but can provide a powerful tool in the creation of successful communications promoting their low carbon agenda to share with local constituents and beyond.

If cities choose to action climate change by migrating to a low carbon society, they will not only limit the cost of delaying actions and complement cost savings through increased efficiency and energy security but may also contribute to social and well-being improvements within the local area. The implementation of policies relating to the reduction of GHG emissions via the implementation of energy efficiency projects can result in significant reductions in energy bills, and these energy savings can compensate for the initial investment.

Whilst it is easy for many to relate to benefits connected to cost reduction measures, e.g. reduced energy bills, the advantages of reducing GHG emissions may be less obvious or more challenging for cities to communicate to their stakeholders. Whilst many accept the theory that the higher the carbon emissions, the higher the contribution to global climate change is, for many this is challenging to contextualise into everyday life. The successful communication of environmental data into a digestible form can prove to be a very powerful tool and should not be limited to internal reporting (e.g. contributions to local and national carbon budgets).

Cities can have specific publications regarding the low carbon transition they are undertaking, including the city’s carbon footprint. Presenting carbon footprints in a relatable way to the citizens (e.g. by expressing it in terms of the population or by average household size) will enhance digestibility. Another successful way to communicate GHG emissions (using carbon equivalents) is by using well-known items including household consumption of electricity etc. to contextualise savings. The eeef annually saves the equivalent of 50000 people’s consumption\* in terms of carbon emissions and cumulatively has saved enough energy to power 16300 households for a year\*\*. The reduction of GHG emissions also relates to a number of local and national environmental benefits and their impacts, which in turn have cyclical advancements for the entire city.

**GHG emission reduction should not be limited to the number of tonnes of carbon equivalents a project saves each year but should include how this translates into benefits for the local community and national targets.**

\*Calculation based on the consumption of 6.3 tCO<sub>2</sub> per capita within the EU in 2015; sourced from the “CO<sub>2</sub> emissions from fuel combustion” report; International Energy Agency

\*\*Calculation based on the consumption of 15 MWh/household within the EU in 2015; source: eurostat and statista. this relates to eeef’s cumulative primary energy savings as of end 2017.

## THE ADDED VALUE OF IMPLEMENTING GHG EMISSION REDUCTION PROJECTS

**1.** *Climate mitigation*  
on city's agenda –  
increase of GHG mitigation/  
adaptation budget

**2.** *New project initiative*  
supported – budget approved, e.g.  
initiative upgrade of social housing

**3.** *Implementation*  
of GHG emission reduction  
projects – jobs and additional  
revenues brought to the region

**4.** *Reduce*  
city's spending through operation and  
maintenance contracts and energy con-  
sumption. Savings may be passed on to,  
local residents (e.g. social housing heat-  
ing system upgrades)

**5.** *Reduced*  
GHG emissions – contribution to city's desire to  
enhance the social and environmental welfare of  
residents, e.g. improved safety with new street  
lights and reduced air pollution levels with clean  
urban transport projects. Prospect for increased  
capital investments into the area

**7.** *Efforts*  
to communicate to local stake-  
holders regarding GHG reduction  
initiatives and the clear benefits.  
Improved local support of GHG  
emission reduction projects

**6.** *Enhanced*  
built environment – benefits may  
facilitate sustainable growth and  
increase financial capital in the  
area



THE  
EUROPEAN  
ENERGY  
EFFICIENCY FUND  
AT A GLANCE

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# 78

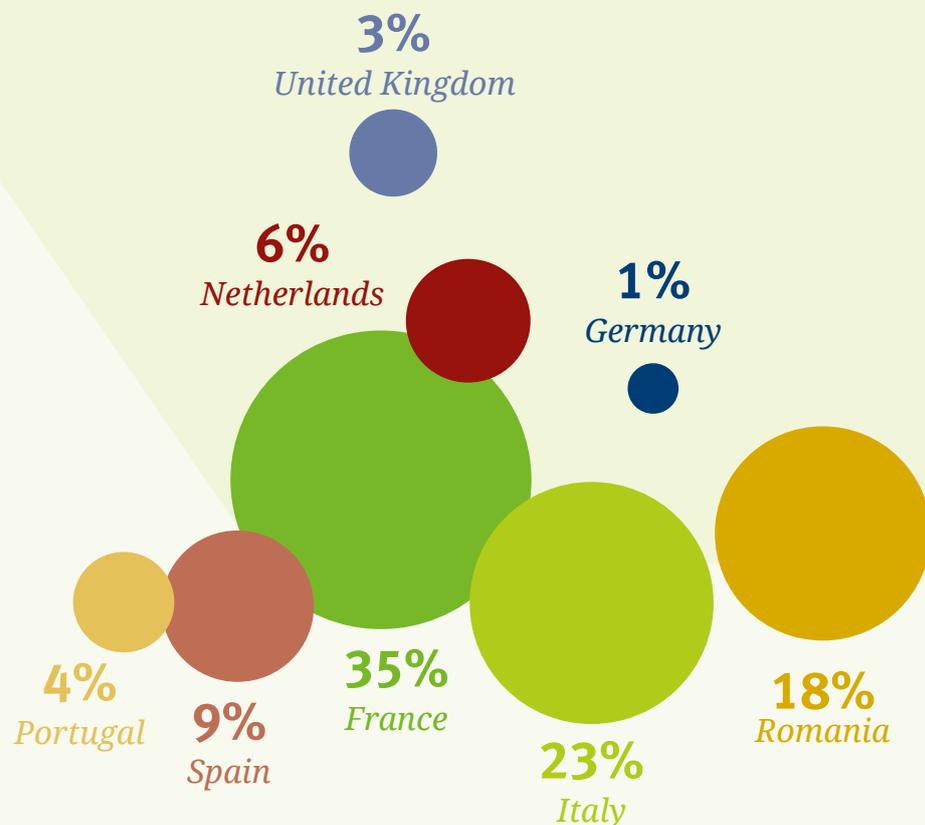
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*MONTHS DEVELOPMENT OF  
THE eeef SINCE INCEPTION*

# 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\*

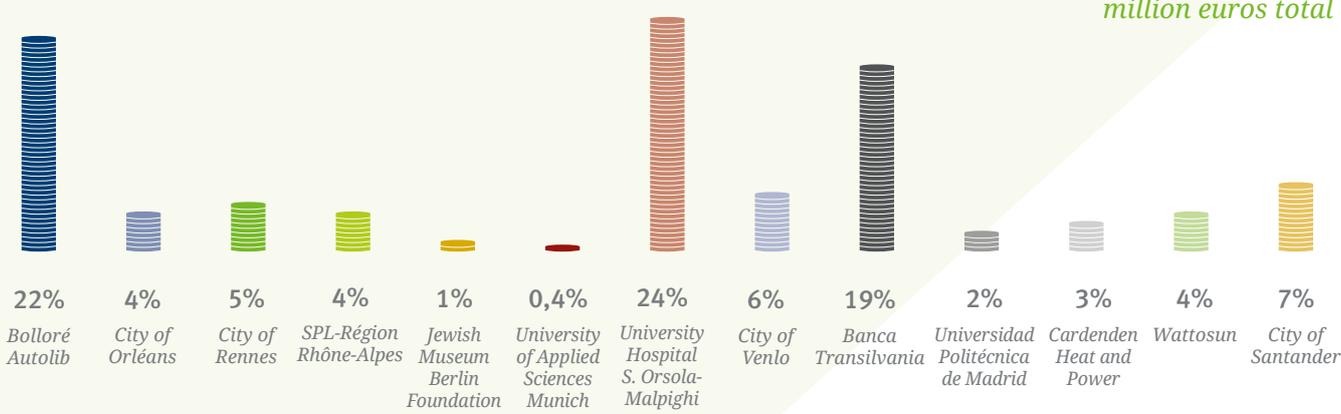


\*Based on commitments signed to projects, not including repayments or accrued interests.

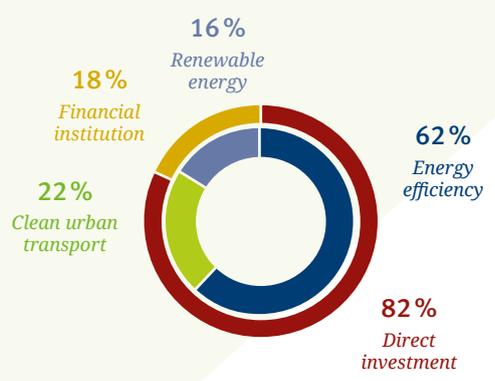


**135.4**  
million euros total

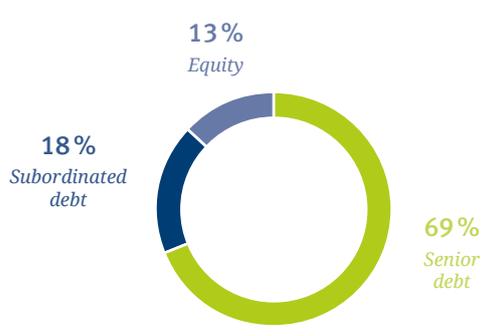
**INVESTMENTS BY PARTNER INSTITUTION \***



**INVESTMENTS BY TYPE OF PARTNER INSTITUTION \***



**INVESTMENTS BY FINANCIAL INSTRUMENT**



\*Based on commitments signed to projects, not including repayments or accrued interests.

*EU FRAMEWORK  
TARGETS FOR  
CLIMATE AND  
ENERGY*

# 2030

The framework will help to:

- Provide affordable energy
- Increase the security of the EU's energy supplies
- Reduce dependence on energy imports
- Create opportunities for growth and enhance environmental and health conditions

## The 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

Reduction in greenhouse gas emissions by at least

**40%**

below 1990 levels

Increase in the use of renewable energy by at least

**27%**

of EU energy consumption

Increase in energy efficiency by

**27%**

This target will be reviewed in 2020 and potentially increased by 3%.\*

## The eef's **BUSINESS PROPOSAL**



\* 30% proposed by the European Commission in November 2016.



## THE FUND'S SETUP

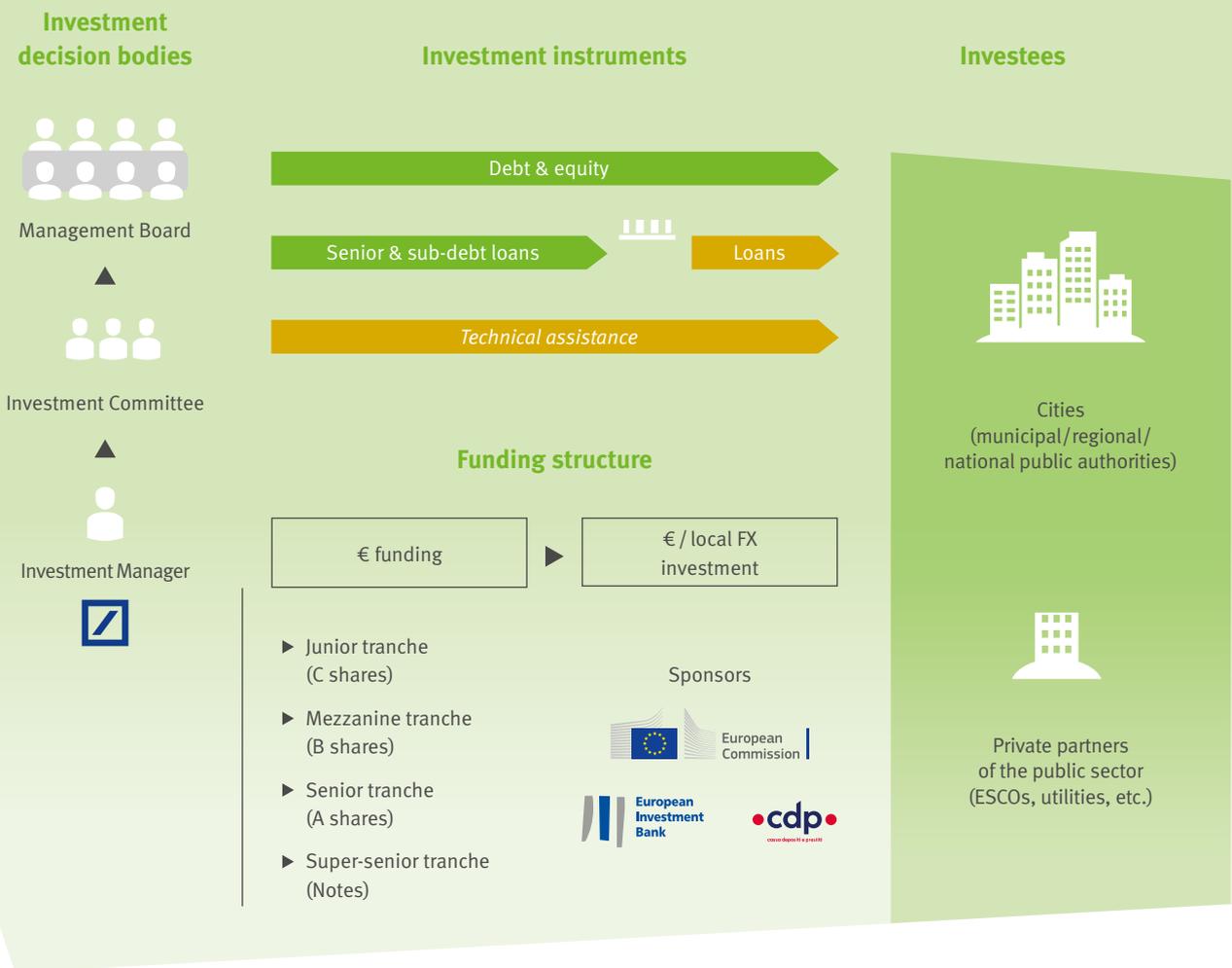
The Supervisory Board represents the Fund's shareholders. It conducts a permanent supervision of the management of the Fund and provides strategic advice to the Management Board on the overall development of the Fund's activities. It is appointed by the General Meeting of Shareholders.

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 TAF) and the eeef TAF at arm's length.

*partnership dedicated  
to mitigating climate c*

# INVESTMENT STRUCTURE



The Investment Manager proposes a 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 Région 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

## 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 Région 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

# 2017

## February

- The SPL OSER in the Région Rhône-Alpes delivers investments facilitated by the EC TAF of the eeef combining market based funding

## May

- Gijón is the first city joining the eeef to collaborate on the new eeef TA Facility
- First time award to a Belgian energy retrofit project is won by RenoWatt, Best Energy Project 2017 attributed by the EC and the Berliner Energieagentur – project facilitated by the eeef's EC TA Facility

## July

- Europe's smart city Santander starts the implementation of the street lighting infrastructure upgrade facilitated by initial technical assistance from the EC TAF.
- The Province of Ferrara is the second public authority joining the eeef to collaborate on the new eeef TA Facility

## October

- The project consortium completes its award winning energy efficiency upgrade of the Italian hospital S. Orsola-Malpighi, with final commissioning ceremony taking place

## December

- The eeef signs a MoU in Portugal for small-scale PV installations across seven municipalities' public buildings
- Three further projects complete the final stage of TA successfully, including the Spanish Cities of Terrassa and Marbella as well as the Portuguese public authority Alentejo Central (CIMAC).

# 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 a 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 Energétique (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 m investment
- The eeef completes the construction-phase financing of the energy efficiency upgrade to the University Hospital S. Orsola-Malpighi in Italy

ANNIVERSARY  
ADVANCING SUSTAINABLE  
ENERGY FOR EUROPE

# 6th

2017  
ACTIVITIES  
REPORT:  
**INVESTMENTS**

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135.4

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*MILLION EUROS COMMITTED BY  
THE eeef SINCE INCEPTION*

# THE eeef's INVESTMENTS

Since its inception, the eeef has invested a total of €135.4 m in 13 partner institutions, of which €126.5 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

## SPAIN

(Madrid, Santander)

### €11.7 m

- **€2.5 m** forfeiting loan to the Universidad Politécnica de Madrid via Enertika
- **€9.2 m** forfeiting loan to the City of Santander to upgrade existing street lighting

## PORTUGAL (Lisbon)

### €5.1 m

- Junior funds to be invested in the installation: add the space of solar panels on municipality buildings

## 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

## UNITED KINGDOM (Cardenden)

### €4.3 m

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

## NETHERLANDS (Venlo)

### €8.5 m

- Senior debt facility to the City of Venlo

## ROMANIA

(various locations inc. Cluj-Napoca, Bucharest)

### €25.0 m

- Subordinated loan to Banca Transilvania

# *Investment Locations*



## FRANCE BOLLORÉ

The French company Bolloré, a provider of car-sharing services for electric cars, signed a bond agreement worth €30 m with the eeef in 2013. The investment financed electric cars and the infrastructure (i.e. charging stations, rental places, etc.) required for Bolloré's European electric car rental concessions.

The project, providing cities with environmentally friendly electric cars, started in Paris (6,500 charging stations in more than 90 municipalities), and has subsequently been extended to Lyon and Bordeaux. The eeef's bond has mainly been utilised in these locations. At the end of 2016, Bolloré had 4,000 cars and 6,500 charging stations installed across France. The project has expanded throughout Europe to Italy (Turin) and the UK (London) as well as to Asia (Singapore) and the USA (Indianapolis and Los Angeles).



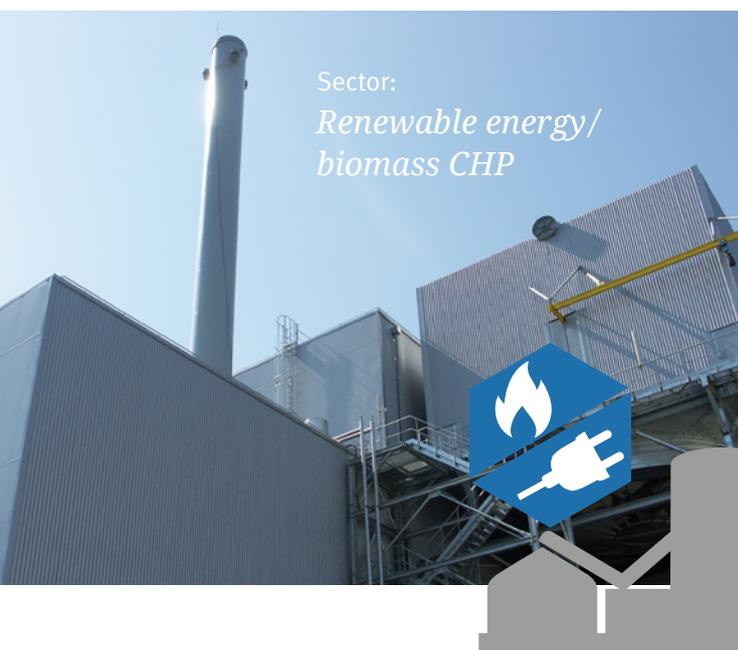
Sector:  
*Clean urban transport*

### 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>8,893</b>

## FRANCE CITY OF ORLÉANS

Sector:  
*Renewable energy/  
biomass CHP*



The operating 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). Orléans Biomasse Énergie, the project's special purpose vehicle (SPV), is majority owned by the eeef (purchase of 84.4% of its shares). This project was the first equity investment by the fund.

The project enables a decentralised energy supply for the City of Orléans using an existing district heating network. The plant, which is fired by wood biomass from a sustainable source, 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>17,920</b>

\* Based on asset value notice information for locations in France.

# FRANCE SPL – Région Rhône-Alpes

▶ **Project video link:** [www.eeef.lu/video-lyon.html](http://www.eeef.lu/video-lyon.html)

The Société Publique Locale d'Efficacité Énergétique (SPL) benefited from funding from the European Commission Technical Assistance Facility managed by the eeef for the initial preparation works and finalising the project scope. Subsequently, SPL signed a loan agreement of €5.0m to manage the short-term financing needs to refurbish public buildings during their construction phase and to pave the way for raising further long-term financing.

Over the past four years, the SPL completed 10 refurbishment programmes with four different local authorities, totalling a €25.0m investment. At the start of 2017, eight retrofits were complete, totalling €20.2m, whilst the remaining two projects were finalised during 2017. The first annual energy audits programme in 2017 validated the anticipated project savings: the annual primary energy savings stand at 4,157 MWh (42% compared to baseline), while the carbon savings stand at 992 tonnes of CO<sub>2</sub>e (58% compared to baseline).

Eric Fournier, vice président à l'environnement du Conseil régional Auvergne Rhône-Alpes:

*'Two complementary things have come together: the support and advice from the eeef and the strong political desire at the regional level to create better prospects for the energy refurbishment of public buildings.'*

The SPL was initiated by the Region 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 (mainly schools), including renewable energy production.

## 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>



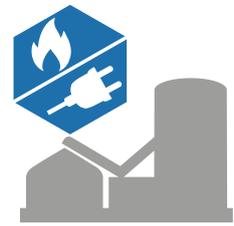
Sector:  
*Energy efficiency/  
building retrofit*

*'The eeef played a key role in getting this important energy refurbishment programme off the ground.'*

Eric Fournier, vice président à l'environnement du Conseil régional Auvergne Rhône-Alpes and Mayor of Chamonix



Sector:  
*Renewable energy/  
biomass CHP*



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. Rennes Biomasse Énergie, the project SPV, is majority owned by the eeef (purchase of 85% of its shares). This is the second equity investment signed by the eeef.

## FRANCE

### City of Rennes

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

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

#### 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>11,286</b>

## NETHERLANDS City of Venlo

▶ **Project video link:** [www.eeef.lu/video-venlo.html](http://www.eeef.lu/video-venlo.html)

The City of Venlo and the eeef signed a long-term financing contract for €8.5 m. The city's existing public lighting is the biggest contributing factor to 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. In 2017, the project was completed, with a total of 17,169 LED luminaires being replaced and 1,674 lighting poles. The project was able to fund additional lighting points compared to the feasibility audit (16,000) as a number of lighting poles were in sufficient condition and did not require replacement, resulting in funds being available for additional LEDs. The project is achieving primary energy savings of circa 50% and is further proof of the city's commitment to environmental sustainability.



Sector:  
*Energy efficiency/  
street lighting*

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.

#### KEY FIGURES

Type of investment:	<b>Senior debt</b>	Total project size (€m):	<b>8.6</b>	Maturity	<b>15 years</b>
Financial close:	<b>03.04.2014</b>	eeef investment size (€m):	<b>8.5</b>	Observed tCO <sub>2</sub> e emission savings (p.a.):	<b>977</b>

# GERMANY

## Jewish Museum Berlin Foundation

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 eef's initial investment totalled €1.7 m. In 2015, the project scope was revised, and consequently the eef's investment size was reduced to €1.0 m.



The project includes a number of energy efficiency measures, including the optimisation of the heating, ventilation and air conditioning and an efficient energy management system. The first energy audit for the project was completed in 2017, and annual primary energy savings equated to 6,691 MWh. This result was better than expected.

This project 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.

Sector:  
*Energy efficiency/  
building retrofit*



### KEY FIGURES

Type of investment:	<b>Forfeiting loan</b>	Total project size (€m):	<b>1.4</b>	Maturity	<b>10 years</b>
Financial close:	<b>20.03.2012</b>	eef investment size (€m):	<b>1.0</b>	Actual tCO <sub>2</sub> e emission savings (p.a.):	<b>1,512</b>

# GERMANY

## University of Applied Sciences Munich

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 2017, it achieved 2,801 MWh of primary energy savings compared to baseline, which is equivalent to 48%.



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



### KEY FIGURES

Type of investment:	<b>Forfeiting loan</b>	Total project size (€m):	<b>1.1</b>	Maturity	<b>10 years</b>
Financial close:	<b>15.11.2012</b>	eef investment size (€m):	<b>0.6</b>	Observed tCO <sub>2</sub> e emission savings (p.a.):	<b>119</b>



Sector:  
*Energy efficiency/  
 system upgrade/  
 tri-generation system/  
 implementation of a  
 tri-generation system*

## ITALY

# University Hospital S. Orsola-Malpighi

▶ **Project video link:** [www.eeef.lu/video-bologna.html](http://www.eeef.lu/video-bologna.html)

The project entity Progetto ISOM signed a concession agreement with the University Hospital S. Orsola-Malpighi, one of the biggest hospitals in Italy (1,758 beds). The eeef provided a project and VAT bond facility totalling €31.8 m.

of heat exchange substations and the inclusion of an underground tri-generation plant for combined cooling, heat and power production (CCHP) based on the energy consumption of the hospital facility, fuelled by methane gas.

The project comprises a number of initiatives that improve the energy efficiency of the entire fluid production and distribution system and 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

In 2017, carbon savings were 28% compared to baseline, and primary energy savings were at 25%.

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.

### 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>12,662</b>

# UNITED KINGDOM

## Ore Valley Housing Association

▶ **Project video link:** [www.eeef.lu/video-edinburgh.html](http://www.eeef.lu/video-edinburgh.html)

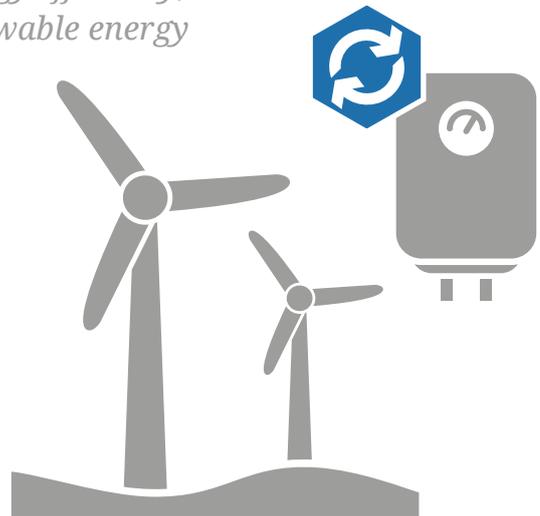
The eeef closed its first community-based transaction in the UK in cooperation with Cardenden Heat and Power (CHAP), a subsidiary of the Ore Valley Housing Association (OVHA), that received funding from two external financing parties for their small-scale renewable energy and building retrofit project. The eeef co-financed the project alongside the Scottish Investment Bank, the investment arm of Scottish Enterprise, through their Renewable Energy Investment Fund.

The project (total volume €5.5 m) is a combination of small-sized onshore wind and boiler replacements in social housing. The wind turbines will be located at sites within Fife and are being provided by market leaders such as Enercon. Operation commenced during 2017, and the project secured 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 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 174 outdated gas boilers in residential buildings owned by the OVHA in the Fife council area in Scotland.

Sector:  
*Energy efficiency/  
renewable energy*



### 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>758</b>



# ROMANIA Banca Transilvania



The eef provided Banca Transilvania (BT), one of the largest banks in Romania in terms of assets, a facility for a green on-lending programme to support energy efficiency and renewable energy investments by the public sector in Romania. In BT, the eef has gained a strong local partner with a history of financing several energy efficiency projects and a solid footprint in financing SMEs. This cooperation is helping to strengthen the Romanian banking sector by providing financing to energy efficiency and small-scale renewable energy projects.

BT is using eef funding to give financial support 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.

This is the first cooperation between the eef and a financial institution, as well as the eef's first investment in Eastern Europe. The eef is supporting BT in sourcing and evaluating underlying projects where needed, and the latter ensures that the financed projects comply with the eef's requirements with respect to a CO<sub>2</sub>e emission/primary energy consumption reduction of at least 20%. Furthermore, the eef can jointly finance projects with BT if larger financing amounts are required. At the end of 2017, BT had financed and enabled 11 projects. The annual savings of the projects implemented up to the end of 2017 are 20,925 MWh in primary energy savings.

Sector:  
Energy efficiency/  
renewable energy/  
clean urban transport

## 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>	eef investment size (€m):	<b>25.0</b>		

34.3

million euros total volume  
financed through the facility

3

technologies  
funded

262,704

cumulative primary  
energy savings

11

subprojects funded

13

different  
project locations  
reached

61,908

cumulative CO<sub>2</sub>e savings

# PORTFOLIO FACTS



Sector:  
*Energy efficiency/  
building retrofit*

## SPAIN

# Universidad Politécnica de Madrid

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 engineer-

ing company specialising in energy generation, energy efficiency and remote management services.

63 gas oil boilers, consuming on average 946,479 litres of gas oil per year, were replaced with 66 natural gas boilers in all 32 buildings of the campus. Annual audits for the project were issued for 2017 validating that carbon and primary energy savings are above 20% compared to baseline.

### KEY FIGURES

Type of investment:	<b>Forfaiting 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>1,094</b>

# 2017 ACTIVITIES REPORT: FUNDING

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*'Another remarkable effect of the eef facility is that local and national financial institutions found the way paved and provided short- and long-term financing.'*

Eric Fournier, vice président à l'environnement  
du Conseil régional Auvergne Rhône-Alpes and Mayor of Chamonix

125

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*MILLION EUROS INITIAL CAPITAL  
PROVIDED BY THE EUROPEAN  
COMMISSION*

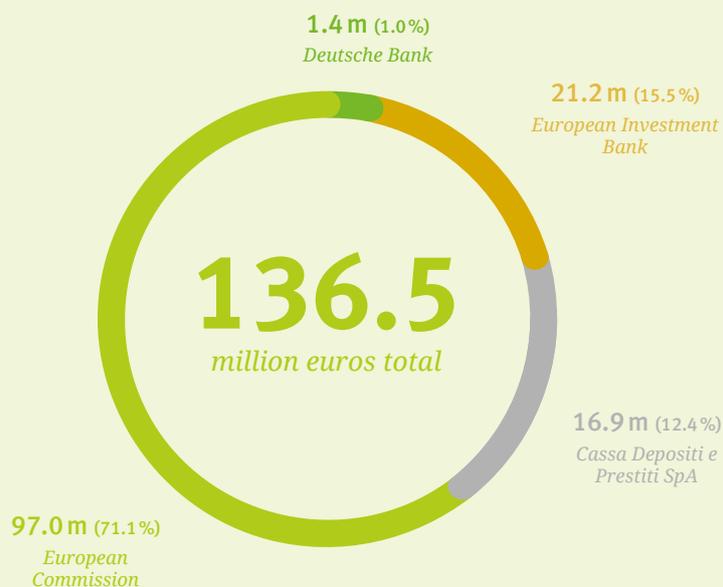
# FUNDING SITUATION

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 comprising the European Investment Bank (€75.0 m) Cassa Depositi e Prestiti (€59.9 m) and 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

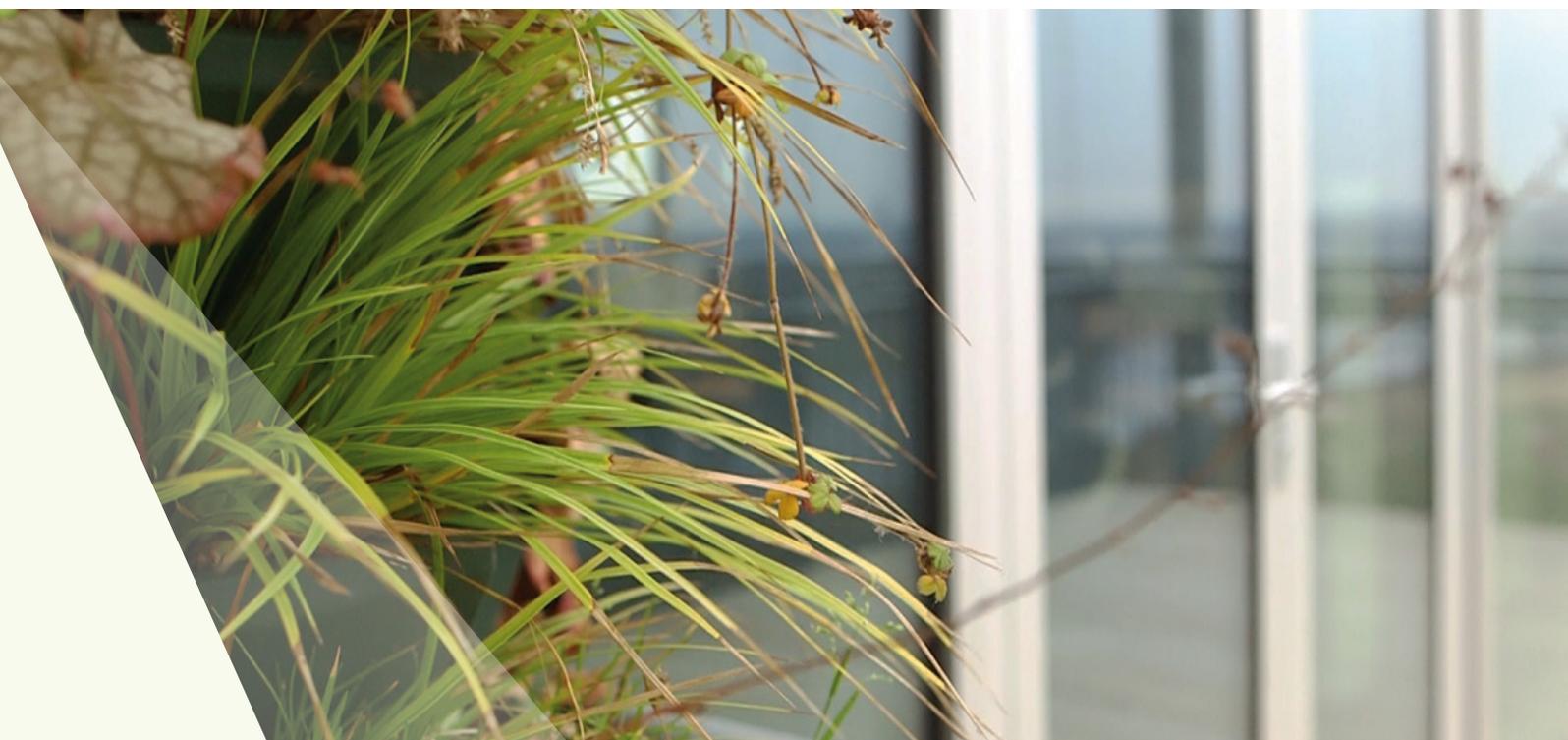
	Total commitment in €	Drawn in €	Undrawn in €
Notes	–	–	–
A shares	116,900,000	32,881,087	84,018,913
B shares	23,000,000	6,602,435	16,397,565
C shares	125,000,000	97,044,383	27,955,617
<b>TOTAL</b>	<b>264,900,000</b>	<b>136,527,905</b>	<b>128,372,095</b>

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**



*‘THE EC TECHNICAL ASSISTANCE FACILITY HELPED 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.’*

Megan Richards, Chair of the eef Supervisory Board  
and Director of the European Commission

# EUROPEAN COMMISSION TECHNICAL ASSISTANCE FACILITY

Since 2011, the Fund has benefited 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 by preparing valuable investments. The application phase for securing grants under the EC TA Facility ended on 31 March 2014, and 2017 saw the facility draw to a close.

The facility proved to be a powerful tool for public authorities to receive the capacity needed (whether internally or externally) for elaborating on their potential investment plans for green investment programmes, in particular the feasibility and bankability of planned projects.

The TA beneficiaries have been working intensively over the past years in the fields of energy efficiency and renewable energy, with the intention to implement a series of measures to keep their cities clean and sustainable. The TA programmes aimed to launch:

- i) building retrofit projects through energy performance contracts (EPC);
- ii) upgrades of street lighting systems;

## 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 aimed 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 were exclusively public entities, in developing their

- iii) public vehicle replacement schemes and
- iv) small-scale renewable energy projects including photo voltaic (PV) and wind installations.

The public authorities have recognised energy efficiency as an important tool to reduce operational costs and at the same time to contribute positively to their economy and environment by creating new jobs.

The TA support was also pivotal to keep all Mayors and municipal technicians involved in the development of the project and in achieving the main goals. Some TA projects contributed to the preparation of renewable energy production infrastructure to be developed within municipalities, to reduce environmental pollution.

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 aimed to facilitate project implementation by supporting the preparation of feasibility studies, business plans, tendering processes, etc.



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

#	Final beneficiary	Provided TA amount (in €)	Updated size of the investment programme (in €)	Updated leverage factor (LF)	eef funding (in €)	Estimated CO <sub>2</sub> e savings (in t/yr)	Estimated primary energy savings (in MWh/yr)
1	City of Santander	452,560.00	14,308,988.00	31.6	9,200,000.00	4,396	39,848
2	City of Córdoba	527,968.00 <sup>1</sup>	1,785,495.75	N/A	0	N/A <sup>2</sup>	N/A <sup>2</sup>
3	City of Terrassa	623,467.00	16,227,350.00	26.0	Under discussion	3,952	12,695
4	City of Marbella	417,596.21	8,831,588.89	21.1	Under discussion	3,725	8,466
5	Région Rhône-Alpes	1,125,000.00	25,000,000.00	22.2	5,000,000.00	9,922	4,156 <sup>2</sup>
6	Ore Valley Housing Association	1,382,520.00	5,479,520.03	0 <sup>4</sup>	4,347,880.00 <sup>3</sup>	1,612 <sup>4</sup>	8,968 <sup>4</sup>
7	City of Venlo	425,000.00	9,100,000.00	21.4	8,500,000.00	948	4,632
8	University of Liège	1,340,073.00	32,582,829.00	24.3	0	2,718	19,277
9	Groupement de Redéploiement Economique de la province de Liège	2,000,000.00 <sup>1</sup>	59,853,303.00	29.9	0	1,449	29,900
10	CIMAC (Comunidade Intermunicipal do Alentejo Central)	513,441.41	21,254,435.21	44.4	Under discussion	6,909	19,000
<b>TOTAL</b>		<b>8,807,625.62</b>	<b>194,423,509.9</b>	<b>27.6</b>	<b>27,047,880.00</b>	<b>26,701</b>	<b>146,942</b>

Regions/cities were financed by the eef.

<sup>1</sup> TA amount will be reduced due to non-achievement of LF.

<sup>2</sup> To be determined after project implementation phase.

<sup>3</sup> Based on a conversion factor of 1.1912 for GBP as of 10 May 2017.

<sup>4</sup> Since the initial project structure (which received TA funds) was not pursued, LF and saving data are not applicable. For the new project scope, savings of 8,968 MWh and 1,732 tCO<sub>2</sub> p.a. are expected.

# 9.6

million euros TA  
funding provided for  
realised projects



The eef has already invested  
in four TA projects, with a  
combined total project volume of

# 53.9

million euros



*The SPL OSER (Région Rhône-Alpes) demonstrated that each euro spent on TA was able to generate over 22.3 times its value in long-term investments. This met and exceeded the required leverage ratio of 1:20.*

*André Espenica, First Secretary of CIMAC (Intermunicipal Community of Central Alentejo), saw a great opportunity for the municipalities in implementing energy efficiency measures under the umbrella of the European Commission Technical Assistance support scheme – the key enabler to overcome project difficulties.*

*‘The special feature of this initiative was to pool smaller projects in a bigger scheme, thereby representing 14 municipalities which received TA funds.’*



**194.4**

million euros  
of investments facilitated



**135,885**

total lighting points to be  
upgraded after receiving  
technical assistance

**146,942**

estimated total primary  
energy savings (MWh)



**655**

total buildings  
evaluated for upgrade

**16**

public authorities  
were engaged by  
the programme



**37**

million euros more  
investments expected  
for the eef

**26,701**

estimated total carbon  
savings (tCO<sub>2</sub>e)



# eeef TECHNICAL ASSISTANCE FACILITY

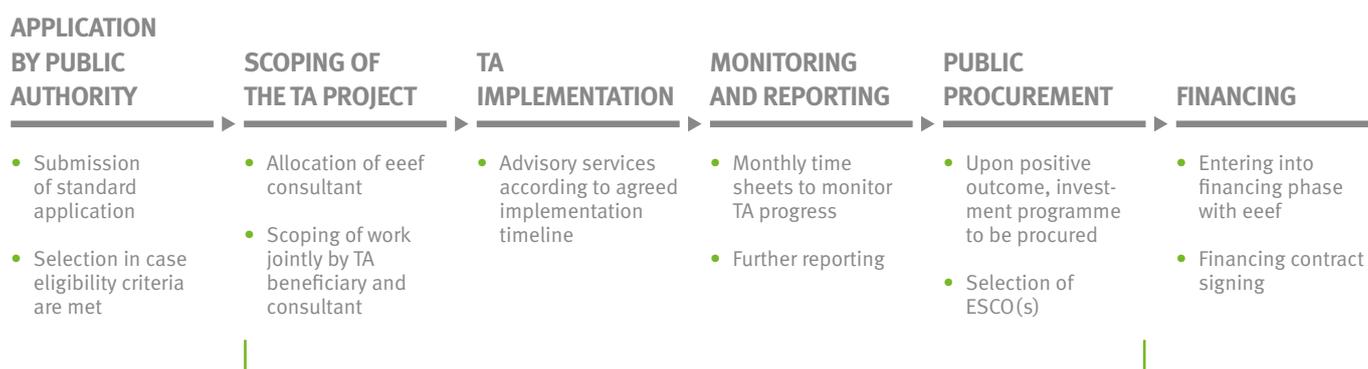
€389,500 approved to Ferrara Province  
 €400,000 approved to City of Gijón

Following the European Commission TA Facility managed by the eeef, the Fund set up the **eeef TA Facility** to support ambitious public beneficiaries in developing bankable sustainable energy investment programmes. These projects shall relate to the energy efficiency sector, small-scale renewable energy and/or public urban transport. The eeef TA Facility aims to bridge the gap between sustainable energy plans and real investments by supporting all activities necessary to prepare investments into sustainable energy projects. 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). This means that the eeef selects appropriate experts with the required know-how and expertise via a tender process (completed entirely by the eeef) and assigns them to the relevant investment programmes. The TA beneficiaries can use the consultant services to, for example, carry out feasibility studies and energy audits and evaluate the economic viability of their investments. Legal support for the investment programmes, on the other hand, will be mandated by the TA bene-

fiary directly, while costs can be covered by the eeef. The eeef has 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.

The eeef TA Facility has received funding from the ELENA facility under the Horizon 2020 Programme of the European Union. The first call for proposal of the eeef TA Facility was successfully closed on 1 March 2017. The recently launched facility attracted interest among various public authorities seeking for support to develop their sustainable project plans. In addition to numerous early-stage TA enquiries, the eeef received six TA applications from public authorities.



*Maximum two years*

## 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)
- 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)

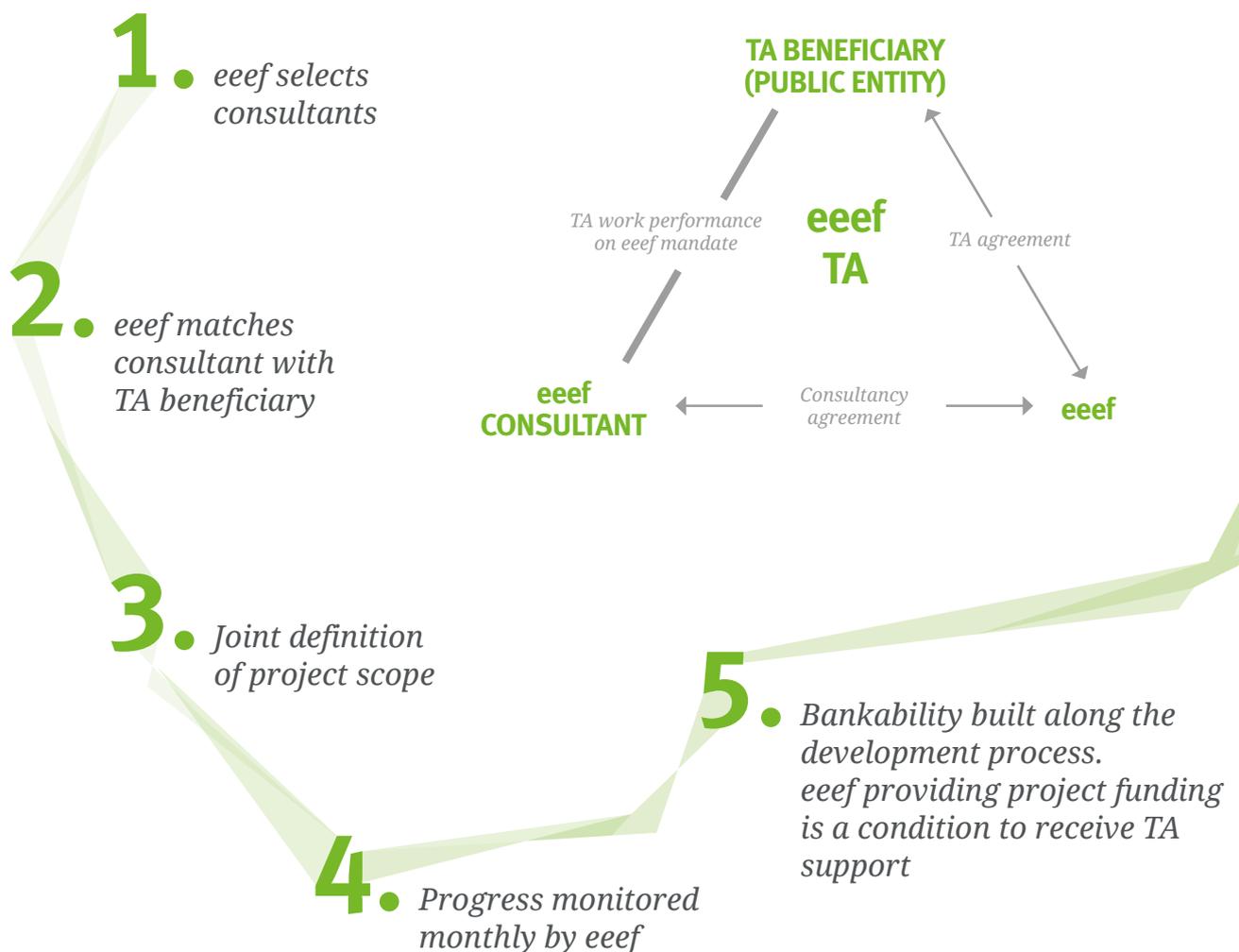
A first call for proposals for TA beneficiaries planning sustainable investment programmes was initiated end of 2016 and successfully closed in Q1 2017. The newly launched facility attracted interest among various public authorities seeking support to develop their sustainable project plans. The remaining 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>



## GIJÓN IS THE FIRST CITY JOINING THE eeef TO COLLABORATE ON THE NEW eeef TECHNICAL ASSISTANCE FACILITY

**Ayuntamiento de Gijón is the first public authority participating in the new eeef Technical Assistance Facility of the Fund**

With the full commitment of its Mayoress, the City of Gijón has embarked on an ambitious journey to finalise energy audits for 98 public buildings and 40,000 street lighting points, identifying a set of energy efficiency and/or renewable energy related interventions as well as publishing the tendering documentation to launch a €20 m investment programme (estimated) in renovation works and selecting an ESCO company to realise the measures within a two year time-frame. The eeef will be

accompanying the city during the whole process whilst collaborating with the management team proposed by the city side by side.

The eeef is confident of being the right partner for medium-sized European cities which have the drive and willingness to elaborate and implement investment programmes and as a result offer their citizens cleaner and more livable environment.



### Project Partner

The City of Gijón is the largest municipality with a population of 270,000 citizens in the community of Asturias in Spain. For three years, the city has been developing its European agenda and positioning itself as 'Gijón en Europa' with a number of projects and initiatives at the European level.

## THE PROVINCE OF FERRARA IS THE SECOND PUBLIC AUTHORITY JOINING THE eeef TO COLLABORATE ON THE NEW eeef TECHNICAL ASSISTANCE FACILITY

**Ferrara Province (Italy) is the second public authority, joining the City of Gijón, to participate in the new Technical Assistance Facility of the Fund**

Joining forces with SIPRO Agenzia Provinciale per lo Sviluppo – a development agency with a 40-year track record – the circa €15 m investment programme of the Province of Ferrara targets to address the implementation of energy efficiency measures in several municipalities to prevent high energy consumption and heat loss going forward. The Province of Ferrara has in total 24 municipalities; 22 have adopted Sustainable Energy Action Plans (SEAP) but are in need for support to boost the implementation of their projects. Municipalities directly involved in this TA project are Ferrara, Cento, Argenta, Bondeno, Mesola, Copparo and Voghiera, leading the way to encourage further public authorities to pursue their green investment paths.

The investment programme includes deep energy retrofitting measures (in 13 buildings such as schools, offices, town halls and sport facilities) and the replacement of 27,000 public lighting points with LED technology in the Cities of Ferrara and Voghiera. The tender for LED replacement is planned to be launched in H1 2018.

SIPRO, as the TA beneficiary, will coordinate and manage the whole development phase of the involved municipalities and collaborate closely with the consultant team assigned by the eeef to perform the TA works. Clustering a number of municipalities in one mutual project will enable valuable synergies and optimise the implementation rate of the projects.

### Project Partner

Located in the Emilia-Romagna Region, the Province of Ferrara has 354,000 inhabitants living in 24 municipalities. The province's partner in this project is SIPRO, a development agency with a 40 year track-record deeply rooted in the Province of Ferrara and experienced in the promotion of local development, in particular with focus on

- i) sustainable development,
- ii) external investment attraction and
- iii) identification of incentives and financing instruments.



CARBON,  
ENVIRONMENT  
& IMPACT  
**MANAGEMENT**

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*FUND CRITERIA:  
FOR ALL PROJECTS TO SAVE  
AT LEAST 20% CO<sub>2</sub>E AND/OR  
PRIMARY ENERGY COMPARED  
TO BASELINE*

# PROJECT ASSESSMENT AND MONITORING

## ELIGIBLE PROJECTS

The eeef can invest in a range of energy efficiency, clean urban transport and small-scale renewable energy technologies, 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 on 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 to conduct 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 on 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.

# 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/transboundary 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.



# PRIMARY ENERGY AND GREENHOUSE GAS EMISSION SAVINGS 2017

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> 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.

Carbon emission savings and primary energy savings were reported for the entire portfolio of 13 investments / signed commitments for a range of energy efficiency and renewable technologies including CHP biomass, small-scale wind and electric vehicles. Once a project has been in operation for a full year, the eeef receives annual audits stating its actual energy consumption.

Year-on-year consumption variances are expected due to a number of factors, such as weather advances in static data, and therefore project savings can change annually. As shown below, these projects achieved total accumulated savings of 314,938 tCO<sub>2</sub>e and 245,537 MWh of primary energy savings through the end of 2017.



# KEY TECHNOLOGIES

currently included in the portfolio:



Building upgrades



Street lighting



Wind and solar



Combined heat and power



Electric cars

PROJECT NAME	REPORTING THROUGH THE END OF Q4 2017 <sup>1</sup>			
	CUMULATIVE PRIMARY ENERGY SAVINGS (MWh)	PRIMARY ENERGY SAVINGS (%)	CUMULATIVE CARBON SAVINGS (tCO <sub>2</sub> e)	CARBON SAVINGS (%)
Bolloré	27,331	16	36,717	96
City of Orléans	-157,495	-33	86,724	64
City of Rennes	-190,950	-42	64,599	47
Société Publique Locale d'Efficacité Énergétique	15,589	42	3,720	58
Jewish Museum Berlin Foundation	40,144	46	9,073	48
University of Applied Sciences Munich	10,472	48	355	14
University Hospital S. Orsola-Malpighi	183,504	25	42,216	28
City of Venlo	17,224	56	3,463	56
Banca Transilvania <sup>2</sup>	262,704	50	61,908	50
Universidad Politécnica de Madrid	5,521	22	2,161	36
City of Santander	19,924	80	2,198	80
Wattosun <sup>5</sup>	5,184	100	848	100
OVHA	6,385	99	956	96
<b>TOTALS<sup>3</sup></b>	<b>245,537</b>	<b>39</b>	<b>314,938</b>	<b>59</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 11 subprojects. The portfolio's percentage savings are calculated based on all subproject savings. Projects contribute to cumulative savings until the subloan has matured from the portfolio - i.e. at loan maturity.

<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.

<sup>4</sup> 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. eef and non-eef investments).

<sup>5</sup> Wattosun is a signed commitment

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

# FINANCIAL STATEMENTS

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44.44

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*MILLION EUROS TOTAL INCOME\**

\* Data have 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 17	31 December 16
<b>ASSETS</b>		
Loans and receivables	118,617,404	110,639,917
Investments in subsidiaries	4,256,138	3,326,809
Interest receivable	812,796	881,355
Prepaid expenses and other receivables	20,189	31,349
Cash and cash equivalents	18,243,683	26,510,091
<b>TOTAL ASSETS</b>	<b>141,950,210</b>	<b>141,389,521</b>
<b>LIABILITIES</b>		
Derivative financial instruments	1,254,516	1,409,365
Payable on eeef Technical Assistance Facility	555,159	281,723
Accounts payable and accrued expenses	1,264,967	2,336,299
Distribution to holders of redeemable ordinary shares	587,680	644,450
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	98,804,363	97,234,159
<b>TOTAL LIABILITIES</b>	<b>141,950,210</b>	<b>141,389,521</b>

# INCOME STATEMENT

## STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

(in €)

	31 December 2017	31 December 2016
<b>INCOME</b>		
Interest income	4,369,974	4,473,973
Increase in fair value of investments in subsidiaries	929,329	191,236
Commission and fees income	8,753	142,500
Realised gain on exchange	2,466	–
Realised and change in unrealised gain on derivative instruments	154,849	927
Other income	–	5,000
<b>TOTAL INCOME</b>	<b>5,465,371</b>	<b>4,813,636</b>
<b>EXPENSES</b>		
Direct operating expenses	(2,288,657)	(2,391,396)
Realised loss on exchange	(3,240)	–
Change in unrealised loss on derivative instruments	–	(392,202)
Change in unrealised loss on exchange	(64,823)	(11,646)
Performance fees	(362,964)	(351,185)
eeef Technical Assistance Facility	(273,435)	(272,724)
Interest expenses	(314,368)	(394,121)
<b>TOTAL OPERATING EXPENSES</b>	<b>(3,307,487)</b>	<b>(3,813,274)</b>
<b>OPERATING PROFIT</b>	<b>2,157,884</b>	<b>1,000,362</b>
Distribution to holders of redeemable ordinary A shares and B shares	(587,680)	(644,450)
Attributable to holders of redeemable ordinary C shares	(1,570,204)	(355,912)
<b>TOTAL COMPREHENSIVE INCOME FOR THE PERIOD</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 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>
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	1,570,204
<b>AS OF 31 DECEMBER 2017</b>	<b>138,287,888</b>

## SUPPLEMENTARY INFORMATION

	31 December 2017	31 December 2016	31 December 2015
<b>NUMBER OF SHARES OUTSTANDING</b>			
Class A shares – tranche 1	328.8108	328.8108	328.8108
Class B shares – tranche 1	132.0489	132.0489	132.0489
Class C shares – tranche 1	1,569,960.9156	1,569,960.9156	1,569,960.9156
<b>NET ASSET VALUE PER SHARE CLASS (€)</b>			
Class A shares – tranche 1	32,881,080	32,881,080	32,881,080
Class B shares – tranche 1	6,602,445	6,602,445	6,602,445
Class C shares – tranche 1	98,804,363	97,234,159	96,878,247
<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	62.93	61.93	61.71

# CASH FLOW STATEMENT

## STATEMENT OF CASH FLOWS

(in €)

	For the year ending 31 December 2017	For the year ending 31 December 2016
<b>OPERATING PROFIT AFTER DISTRIBUTIONS TO HOLDERS OF REDEEMABLE ORDINARY A SHARES AND B SHARES</b>	<b>1,570,204</b>	<b>355,912</b>
<b>NET CHANGES IN OPERATING ASSETS AND LIABILITIES</b>		
(Increase)/decrease in fair value of investments in subsidiaries	(929,329)	(191,236)
(Increase)/decrease in prepaid expenses and other receivables	11,160	(9,228)
(Decrease)/increase in accounts payable and accrued expenses	(1,071,332)	947,240
(Decrease)/increase in unrealised loss on derivative financial instruments	(154,849)	392,202
Increase in contribution to the technical assistance facility	273,436	(5,433)
Increase in interest receivables	68,559	(279,291)
(Increase)/decrease in receivables on subscription	–	22,358,042
Distributions paid to holders of redeemable ordinary shares	(56,770)	2,654
<b>NET CASH FLOW (USED IN)/FROM OPERATING ACTIVITIES</b>	<b>(288,921)</b>	<b>23,570,862</b>
<b>CASH FLOWS USED IN INVESTING ACTIVITIES</b>		
Increase in loans and receivable financial assets	(7,977,487)	(3,669,320)
<b>NET CASH FLOW USED IN INVESTING ACTIVITIES</b>	<b>(7,977,487)</b>	<b>(3,669,320)</b>
Net increase/(decrease) in cash and cash equivalents	(8,266,408)	19,901,542
<b>CASH AND CASH EQUIVALENTS AT BEGINNING OF THE YEAR</b>	<b>26,510,091</b>	<b>6,608,549</b>
<b>CASH AND CASH EQUIVALENTS AT END OF THE YEAR</b>	<b>18,243,683</b>	<b>26,510,091</b>

# IMPRINT

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