eeef
EUROPEAN ENERGY
EFFICIENCY FUND

Annual Report 2019

THE EUROPEAN ENERGY EFFICIENCY FUND

ADVANCING SUSTAINABLE ENERGY FOR EUROPE

European Energy Efficiency Fund
Highlights

200
million euros
cumulative invested capital

145
million euros
current committed capital

15
active investments

2
matured investments

Investments into
8
member states

6
signed eeef TAF projects in three member states

921,369
megawatt hours
cumulative primary energy savings from fund inception to Q4 2019

Cooperated with
41
public authorities since fund inception

530,454
tonnes carbon dioxide equivalents
cumulative carbon savings from fund inception to Q4 2019

Did you know?

Contents

Introduction

Welcome

Dear Reader,

In December 2019 the European Commission presented its landmark strategy to tackle climate and environmental-related challenges and transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use. The set of policy initiatives articulated in "The Green Deal" focus the attention of decision makers on energy efficiency and clean energy goals across the policy spectrum and provide a clear roadmap to achieving the EU's goals. Transforming the EU's economy to become more sustainable will require policy intervention, technological innovation and investment in a broad range of sectors, with a focus on sectors that contribute the most to Europe's greenhouse gas (GHG) emissions.

Given that buildings and transport currently accounts for more than a third and around a quarter of Europe's emissions respectively, progress in these two sectors will be key to deliver on the Green Deal and the 2030 emission reduction targets. eeef is well suited to support the emission reduction efforts in these sectors. This is demonstrated e.g. through the fund's recent investments in electro-mobility, which can help the EU to achieve not just its GHG emissions targets, but also its parallel goals of reducing air pollution, congestion, noise and dependence on oil. Electro mobility is also closely related to smart buildings and energy storage solutions for households.

The take-up of electric vehicles still relies heavily on incentive schemes and investment in widespread charging infrastructure, both of which are largely driven by national level policy. At the local level, municipalities, who are key partners of eeef, can drive the e-mobility agenda by employing electric technologies for their local public transport infrastructure, including electric trams and buses. By now electric trams are a proven technology and are widely implemented. Electric buses, however, represent only around 2,500 of the existing fleet of 725,000 mostly diesel buses in operation[1]. Electric buses offer a tangible solution for municipalities looking to improve mobility and the sustainability of their local transport infrastructure, but innovation is necessary to address the current constraints.

1 Dancer company research, 2018

eeef has identified an innovative Lithuanian company “Dancer” that has developed a new type of electric bus addressing the key technology concerns. eeef proposed a cooperation with Dancer to be implemented in the next year to promote the distribution of the clean public transport.

eeef recognises, however, that the source of electricity for electric vehicles matters, as also acknowledged by the European Commission. So to achieve the full benefit of the potential GHG emissions reductions, municipalities need to combine the use of electric vehicles with a strategy to increase the generation of power from renewable sources locally. eeef therefore has an important role to play in co-financing both the e-mobility agenda and local renewable energy sources (eg. biomass, solar, wind), to optimise the environmental outcomes.

eeef welcomes the Commission’s initiative to articulate and adopt a strategy for sustainable and smart mobility in 2020, as e-mobility will become a key topic for municipalities and the Fund in the coming years. eeef also welcomes the Commission initiative to double the renovation rate of buildings. Energy efficiency in buildings will be another key area of activity for the Fund and other European investors.

Giorgio Chiarion Casoni
Chair of the Supervisory Board and Head of Unit
at the European Commission

Head of Unit Financing of climate change, infrastructure policies and Euratom at European Commission

Letter from **the Chairman**

Dear Reader,

At a time when the effects of climate change are visible to all, it is vital that active instruments intensify their operations to enhance their positive impact so that future energy efficiency and renewable energy targets are reached – supporting the global ambition of mitigating climate change and advancing sustainable energy. As in the previous years, eeef continued to work on improving public infrastructure, reducing public spending, removing pressure from local municipalities' budgets and supporting communities in launching investment projects.

Established in 2011 using unspent capital from the 2008 European Energy Programme for Recovery, eeef has been supporting cities, regions, public hospitals and universities in launching sustainable energy projects. Since its launch, the eeef has gained first-hand experience of public entities' challenges and has developed innovative financing solutions specifically designed to facilitate the financing for a range of energy efficiency and small-scale renewable energy and energy efficiency projects.

Over its life time fund has committed €200 m to advance sustainable energy, by investing into 17 projects in 8 different member states via 5 different technologies. Not only do these investments improve public infrastructure, reduce public spending and remove pressure from local municipalities' budgets, they also stimulate the local markets through additional job creation.

By focusing on smaller to medium sized investments, eeef complements larger scale financing that institutional funds already offer throughout the EU and offers a market-based financing to commercially viable energy efficiency infrastructure and renewable energy projects within the public sector.

All projects have a long-term character and target upgrades of the public infrastructure. Opportunities seeking financing from eeef have a typical duration between 12 and 15 years. eeef works on the financing solutions for each project individually, the investment volume of the energy efficiency upgrades is lower than of the typical infrastructure investments, however with the similar complexity in the financing. The projects need to show a commercial profitability with generated energy savings and structured neutrally for balance sheet and budgets of the public and private project parties. All investments should improve public infrastructure, reduce public spending and remove pressure from the local municipalities' budgets, but also help stimulate their local markets through additional job creation and improve living environment for the communities.

In the last 12 months eeef was focussed on preparing the transition process to a fully AIFMD compliant structure that should allow the fund to incorporate private investors across EU27. The process is envisaged for completion by the mid of 2020 with required approvals of the CSSF and future AIFM in place.

Building on the experience gained by the fund as manager to the EC TAF, in 2017 the eeef designed and launched its own technical assistance facility (eeef TAF) which in addition to its own funds benefits from ELENA funding, part of the Horizon 2020 programme. The eeef TA Facility aims to bridge the gap between sustainable energy plans and real investments through supporting all activities necessary to prepare investments into sustainable energy projects.

To help the TA beneficiaries and to ensure a high project implementation rate, the eeef provides TA support by way of consultancy services. This means that the eeef selects appropriate experts with the required know-how and expertise via a public tender process, completed entirely by the eeef, and assigns them to the relevant investment programmes.

The TA beneficiaries can use the consultant services to carry out for example feasibility studies, 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 beneficiary directly, while costs are to be covered by the eeef.

So far, six public beneficiaries are collaborating with eeef to receive TA support across Spain, Italy and Lithuania. Due to high demand in Lithuania, we published a call for proposals, on the Fund's website as well as on the EU procurement journal, to search for consultants. The fund received 5 further applications from Lithuania, in which municipalities look at upgrade of public schools and street lighting with the potential combined investment volume over € 30 m.

eeef stands ready to support the Renovation Wave and Rebuilding Europe strategies, particularly in helping deliver TA support and financing for more public sector entities, helping to create jobs and cut emissions.

The current portfolio of climate impact investments delivers on its promises. In terms of environmental impact, it has saved cumulative emissions by 530,454 tonnes of carbon dioxide equivalents. It translates to CO_2 sequestered by over 24.1 million mature trees each year. The Fund has financed new technologies that has saved a cumulative primary energy of over 921,000 MWh. In terms of the portfolio quality, two investments have fully repaid; not one investments in the portfolio has underperformed and the outlook continues to be promising. With respect to the promise to generate investor returns, the Fund hasn't missed any target dividend obligations since 2013 and, in fact, distributed complementary dividends from surplus revenues.

For being the first of its kind instrument, the Fund has had a steep learning curve. The Fund worked closely with public bodies such as municipal, local and regional authorities to identify project and nurture them until they become investment ready. The engagement starts at the concept stage where the public body office bearers need handholding and last until a public tender is published to invite competitive bids. It took the fund a few years to get a grip on the fact that it needs to deal with an average 3–4 years lead time before an investment project can emerge for eeef financing.

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 27 Member States of the European Union and was capitalised 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) as of 12 July 2013, pursuant to article 3(2)(c).

Edward Claessen
Chairman of the Management Board
Head of Unit – Infrastructure Funds
(Equity, New Products and Special Transactions Department), European Investment Bank

Letter from the **Investment Manager**

Dear Reader,

A key highlight during eeef's eighth year of operation was the further expansion of the Fund's activities in Eastern Europe, with a Technical Assistance agreement signed with the Lithuanian Ukmerge District Municipality Administration and a joint venture investment in the Lithuanian company Dancer Mobility. The latter investment also marks a new chapter for the Fund regarding sustainable mobility. After its previous experience in France with car sharing of electric vehicles, the eeef makes a step further to respond to the challenge of improving electric mobility in the public transport sector and supports zero-impact buses with unparalleled technical features.

A new joint venture between eeef and Dancer, approved by the Management Board in December 2019, will enable Dancer Mobility to produce and lease electric buses and charging stations made in Lithuania to local municipalities and public transport companies, starting with the Lithuanian Municipality of Klaipeda, with the potential for further scale-up. Further detail on the increasing focus on electric buses, Dancer's innovative technology and the eeef/Dancer partnership model is available on page 14.

eeef also made significant progress in 2019 in the execution of its Technical Assistance (TA) facility by signing two new TA agreements with beneficiaries in Italy and Lithuania. The TA facility provides public beneficiaries with the necessary consultancy services to complete technical feasibility studies, energy audits and financial evaluations, with a view to publishing public tenders for the works within 12-24 months of signing. The ambitious timelines are achieved due to the unique characteristics of the eeef TA facility and to the expertise of the team. The facility also helps to develop the Fund's pipeline with high quality and investable projects.

In June 2019 eeef signed a TA agreement with the Italian Province of Bolzano to renovate up to 263 public buildings. The pilot program will require an investment of ca. € 42 m, which can be expanded at a later stage to incorporate more buildings. In 2019 the TA team assisted the Province and verified the energy audits, analysed the risk matrix and evaluated the financial and management tools.

The Ukmerge District Municipality Administration signed a TA agreement with eeef in September 2019 to prepare a ca. € 5 m investment project for the renovation of five public buildings. The initial energy audits have already been completed, and the consultants are currently assessing the economic viability of the potential project. The next steps will be to prepare the tender documentation for review by the Administration.

eeef has also been active in knowledge dissemination on innovative financing techniques for public sector projects. For the Spring 2020 Edition of European Energy Innovation (EEI) magazine eeef contributed an article entitled “Energy efficiency financing in the public sector – challenges and solutions”. The article describes the pivotal role that municipalities play in implementing projects to improve the energy intensity of public infrastructure, whilst noting the challenges in financing even commercially viable and bankable projects. The authors outline various flexible and tailored financing structures that can be created to support municipalities to implement energy efficiency projects. Successful examples of street lighting upgrade projects in the Netherlands and Portugal highlight eeef’s experience in structuring this type of bespoke financing.

The health, social and economic consequences of the current COVID-19 pandemic may be temporarily diverting the attention of policymakers and local authorities scrambling to protect citizens and livelihoods. But it is clear that the focus will return to climate change and eeef will be ready to support European municipalities in their efforts to fulfil the ambitions of the Green Deal and other sustainability agendas. The Fund sees opportunities in areas such as building renovations, heating and cooling systems, electric mobility and renewable energy supply. The Fund’s activities in 2020 and the years that follow will involve strengthening partnerships with municipalities to ensure that climate change projects receive the priority that they require for Europe to achieve its CO_2 reduction goals.

Georgie Debenham

Lada Strelnikova

Rahul Pratap Singh

Karin Rosales

Paola Rusconi

Iñigo Prior

Zarpana Signor

Pavel Atrofimovich

Deutsche Bank AG, Sustainable Investments Europe

The eeef
IN 2019

1

Management Board approved joint venture with Lithuanian electric bus manufacturer "Dancer"

Signed TA agreement to renovate public buildings in Bolzano, Italy

2

3

Collaborated with Ukmerge District, Lithuania, to upgrade school buildings

Energy efficiency financing in the public sector – challenges and solutions

By Lada Strelnikova and Jennifer Finke Investment Manager European Energy Efficiency Fund managed by Deutsche Bank AG

Significant investment is needed to meet the European Commission's target of 32.5 % energy savings by 2030 and its ambitious commitment to tackling climate change as set out in the European Green Deal. Given that cities represent almost two thirds of global energy demand, the public sector, particularly at the municipal level, has an important role not just in shaping policy but also actively implementing projects to improve the energy intensity of public infrastructure. Retrofitting buildings, optimising transportation efficiency, reforming electricity grids and upgrading public lighting all represent tangible and actionable opportunities for public authorities to reduce greenhouse gas emissions and achieve savings in energy costs.

Although energy efficiency projects with high savings are commercially viable and bankable, public authorities are presented with numerous hurdles in designing, implementing and, in particular, financing such projects. Local authorities may lack the technical expertise to plan, negotiate and manage the projects. Further, energy efficiency related investment tends to involve a large number of small and bespoke projects, for which a typical project finance approach is not economical. Public debt limits constrain a public authority's capacity to support energy efficiency projects and public projects must be prioritised when competing for scarce financial resources.

To address these challenges, public sector energy efficiency projects require a flexible and tailored financing structure with project level support. An important first step is to aggregate smaller projects to achieve a critical project volume that warrants a dedicated financing structure. Public authorities must then consider their financial capacity, technical skills and existing operational set-up in weighing up the financing structure. It should not be underestimated that this is also a political decision. The public authority must decide between a direct and an indirect financing approach, each of which offers certain advantages and drawbacks.

Direct financing involves a loan agreement with the public authority itself, who then commits to use the proceeds for specific energy efficiency projects. This form of financing best suits public authorities with the capacity to take on more debt on balance sheet, the in-house capabilities to manage the project and the appetite to take on the technical risk of realising the energy savings. The benefits of this structure are a simplified tender procedure, know-

how retained at the public authority, improved financial terms and full realisation of the savings flowing to the public authority.

An example of direct financing from European Energy Efficiency Fund (eeef) is the Dutch City of Venlo's upgrades to the existing street lighting network with energy efficient LED lamps. The fund has a 15 year loan agreement directly with the City of Venlo and the existing Operations & Maintenance (O&M) contract for the street lighting network with a private service company stays in place. City of Venlo therefore bears the technical and operational risk of the street lighting project whilst retaining 100 % of the savings, which can then be deployed for other projects.

Typical indirect financing instruments include equity, mezzanine or debt financing of a project SPV in conjunction with private entities such as energy service companies (ESCOs), utilities or facility management companies that provide services to a public authority. Another type of indirect financing is a forfaiting agreement with the public authority for the receivables associated with the planned energy savings that are guaranteed by the ESCOs.

These structures bring the financing "off balance sheet" and so require no upfront investment from the public authority. They are appropriate for public authorities with limited or no capacity to increase debt levels. The public authority benefits from private sector expertise to design and implement the project, the sub-contractors manage the renovation works and O&M on behalf of the public authority and responsibility for realisation of the energy savings is transferred to the private party.

An example of indirect financing is the eeef's 12 year forfaiting facility with the ESCO I-Quatro LDA to upgrade the street lighting of 14 municipalities in Portugal, represented by the Comunidade Intermunicipal do Alentejo Central (CIMAC). Of the estimated €7 m in economic savings for the municipalities over the 12 year concession, 75 % will be transferred to the eeef as remuneration for the funding of the transaction and to I-Quatro for O&M and 25 % will be retained by CIMAC. In this structure CIMAC transfers the technical, operational and financial risks to the I-Quatro and eeef, in return for their participation in the achieved savings.

The optimal financing must be structured in parallel to the project development, as the structure depends on project revenues that are inextricably linked to the tender requirements and the energy performance guarantees. Projects are only bankable with a viable feasibility study and project preparation, which typical commercial banks do not support. Programmes such as the eeef Technical Assistance Facility (TAF) provide grant support for feasibility studies, energy audits, evaluation of the economic viability of the investments and legal support. The eeef may then provide financing of between €5 m and €25 m for projects in the European Union that avoid CO2e emissions to at least 20 % of baseline, provided there is a public link.

In all cases, a strong and stable political environment with commitment and support for the project is key. By providing technical and financial support, funds such as eeef, in conjunction with the TAF, are able to bridge the gap between the political will to boost energy efficiency of public infrastructure and successful project implementation.

Dancer Mobility: eeef engages **to promote sustainable public transport**

Sustainability in urban transport is becoming increasingly important, with a growing push to develop electric vehicles for use in the public transport sector. Manufacturers and suppliers of the automotive industry are actively working to align their production more and more with the principles of sustainability. The aim is to achieve sustainability goals while balancing financial profitability with social and environmental responsibilities.

The electric vehicle market is expanding quickly due to the global need for environmentally friendly, low carbon transport. As Europe is determined to shift to zero-emission public transport, electric buses are expected to lead the trend. The 2030 Climate and Energy Framework, adopted by the EU, requires governments of the member states to achieve 100 % electrified public transport. Scandinavian countries have already set to use zero emission public transport by 2025, while most of remaining Europe is targeting 2030-2040[2].

The main barriers to the adoption of electric vehicle solutions in public transport are relatively high initial investment, lack of charging and service infrastructure, and concerns about technical reliability of electric technology (battery replacement cycles, range, etc.). However, increasing emission restrictions, falling battery prices and advancements in technology will push electric vehicles into the leader role among alternative fuels already in 2021.

Currently about 4,000 electric buses are running in Europe, compared with 500,000 in operation globally, 99 % of which are in China. There, the government subsidises both the production and use of e-buses. The forecast shows that electric buses will count for 28 % of the European bus market by 2030, representing a cumulative annual growth rate of 33 %.[3] Alone in 2019 the European electric bus sales volume set a new record, tripling the figure of 2018.[4]

The “Dancer” model electric bus is an example of a visionary project in the automotive industry, developed by young engineers of Klaipeda in cooperation with 3 European universities. The concept and brand development of the fully electric city bus Dancer started with an idea of promoting a healthier city life by company Vëjo Projektai Group. The Group, founded by Mr. Alvydas Naujëkas, consists of five companies, each being responsible for a specific area of zero-emission urban transport solution: production of Dancer buses, installation of charging infrastructure and provision of green energy, service and maintenance of e-buses, R&D project management, and sales of the combined Dancer solution.

A bold vision and continuous innovation over the last seven years resulted in the reliable zero-emission electricity city bus. It is designed and produced in Lithuania and has received an EU wide certificate for passenger transportation. The shell for Dancer buses is made of composite materials, partly derived from PET plastic bottles and the electricity is purchased exclusively from wind farms. Twelve meters long, it can be charged in 10 minutes and run 90 km. Dancer, the lightest among its counterparts, requires 20-40 % less energy than its conventional rivals and has advanced noise reduction measures. Hence, it is considered to be extremely energy efficient and nearly vibration-free. It is a super-low weight (9.8 tons), fully-electric city bus with a capacity of up to 93 passengers and will be used as a replacement for current old diesel buses used in the Lithuanian city of Klaipeda.

The aspiration to promote greener city life led the European Energy Efficiency Fund (eeef) and Vëjo Projektai to collaborate on the Dancer Mobility initiative. The initiative should contribute to significant improvements in the carbon footprint and promote sustainable electric buses in European cities.

2 ZeEUS (2020)
3 International Association of Public Transport (2020)
4 The big leap forward of e-bus market in Western Europe, Sustainable bus (2020)

Maintaining the focus on climate change **despite the COVID-19 pandemic**

At the time of compiling this report, Europe is tentatively emerging from the economic and social standstill associated with the harsh lockdown required to combat the COVID-19 health pandemic, which is expected to result in the worst economic crisis since the 1930s. The lockdown measures imposed in most countries of the world have implicated the demand and supply sides of businesses alike resulting in GDP contraction, job losses, and fall in confidence. The European Union's GDP is predicted to contract by 15 % y-o-y in Q2-2020. Overall, the EU economy is expected to shrink by more than 7 % in 2020.

While we remain focussed on winning this battle against the COVID-19 pandemic, we should remain mindful of not losing the existential war against climate change! There should be no doubts in our mind that our choices today will invariably define the future of the next generations.

When the panic caused by the COVID19 pandemic begins to settles down, the EU recovery phase will kick in. It needs to be marked by decisions to bounce forward with the European Green Deal. The recovery should catalyse a green and digital transition of EU economies towards a net-zero carbon emission by 2050.

On 28th May, the Commission proposed the European Recovery Plan of € 2.4 trillion which along with a Multiannual Financial Framework (MFF) Budget of € 1.1 billion and the package of € 540 billion already agreed by the Parliament and council, included the Next Generation EU instrument worth € 750 billion. Besides the objective to kick-start the EU economy, these funds need to fast forward recovery in a sustainable manner – overcome the economic slump and propel EU economies towards 2050 goals.

As intermediate check points, the EU needs to improve energy efficiency by 32.5 % by 2030. Energy efficiency is a strategic priority. It can not only promote the EU's competitiveness but also cut emissions, improve energy security and reduce energy expenses. On similar lines, EU needs to increase renewable energy supply by 32 % by 2030. These sources can systematically substitute fossil fuel as primary energy sources thereby decarbonizing the economies. Likewise, adopting cleaner transportation and using alternative fuel can significantly lower emissions. With that backdrop, let us have a look at some relevant sectors.

Building Renovation

Roughly 75 % of the EU building stock is energy inefficient; 35 % of them are over 50 years old. It accounts for 40 % of energy consumption and 36 % of CO_2 emissions in the EU. Yet, on average, less than 1 % of the national building stock is renovated each year.

Big energy savings hide behind simple building works such as insulating the attic, walls and foundations, installing double or triple glazing and upgrading the heating & cooling systems. Furthermore, nature-based solutions, such as vegetation, green roofs and green walls for insulation and shade also reduce energy demand. Overall, building renovation could lower the total energy consumption in the EU by 5-6 % and CO_2 emissions by about 5 % in 2050.

Heating and Cooling systems

Heating & cooling in industry and household consumes approximately 50 % of the EU's energy. In industrial setting, heating accounts for 70.6 % of the total final energy use while in household setting, it accounts for 79 %. It is worth pointing out that approximately 75 % of the fuel used by heating & cooling system comes from fossil fuels.

Substantial energy efficiencies can be released in industries by refurbishing these systems and incorporating smart energy management. Additional, savings can be realized through the synergies between heating, cooling and electricity production (i. e. Cogeneration/Tri-generation), and using renewable energy sources. A green transition of existing heat & cooling systems could lower energy demand by 42 % by 2050.

Transportation Sector

The sector accounts for a quarter of the EU's greenhouse gas (GHG) emissions. In particular, road transportation is responsible for over 70 % of these emissions. In 2016, Light-duty vehicles produced around 15 % of the EU emissions of CO_2 while Heavy-duty vehicles produced about 5 % of total EU emissions.

The emission from transportation can be lowered by adapting to automated mobility, smart traffic management and mobility service applications. Furthermore, freight transportation could increasingly move to rail and waterways. The infrastructure for fueling and recharging needs to be built rapidly. By 2050, the commission anticipates over 90 % reduction in emission from transportation. For that about 13 million low-emission vehicles and over 1 million recharging and refueling stations will be needed by 2025.

Renewable Energy Supply

In 2015, the share of energy from Renewable Sources (RES) in gross final consumption of energy in the EU reached 16.7 %, nearly double the figure of 8.4 % for 2004. It reflects an improvement but much more needs to be done to realize EU's energy transition.

Consumers should be empowered to produce electricity with greater ease and get paid for electricity they feed into the grid. RES should be sufficiently integrated into EU energy markets. They needs to be able to access cross-border markets to smooth out the availability of solar and wind energy. By 2030, at least half of the EU's electricity generation should come from renewables and by 2050 our electricity should be completely carbon-free. According to Reuters, EU needs to tender 15 gigawatts of renewable energy capacity in the next 20 years, with expected investments of € 25 billion.

The above examples illustrate the magnitude of EU's 2050 net-zero carbon emission project. It is clear that it requires massive contributions of private and public capital each year leading to 2050. The European Energy Efficiency Fund (eeef) has been financing and encouraging projects that decouple growth and greenhouse gas emissions. With a track-record of over € 200 million committed in projects since 2011, the Fund embraces the opportunities and challenges inherent in the European Green Deal and looks forward to making significant contributions to the green transition.

THE EUROPEAN ENERGY EFFICIENCY FUND **AT A GLANCE**

'By using the European Green Deal as our compass, we can turn the crisis of this COVID-19 pandemic into an opportunity to rebuild our economies differently and make them more resilient'

Ursula von der Leyen, EU Commission President, 28 April 2020

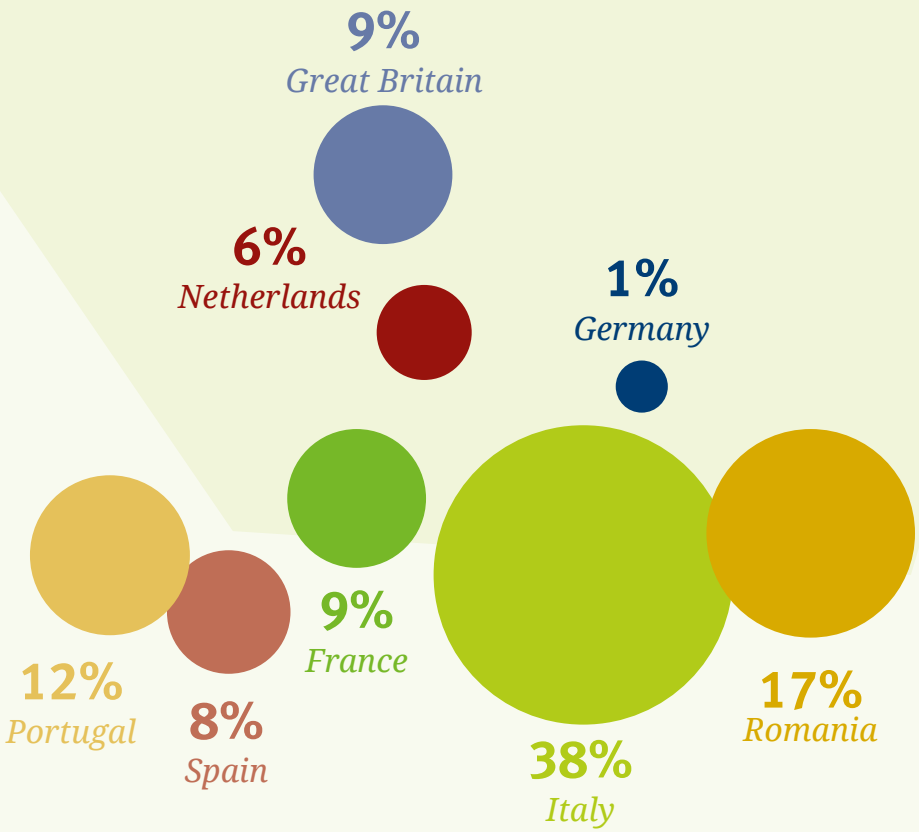
102

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*

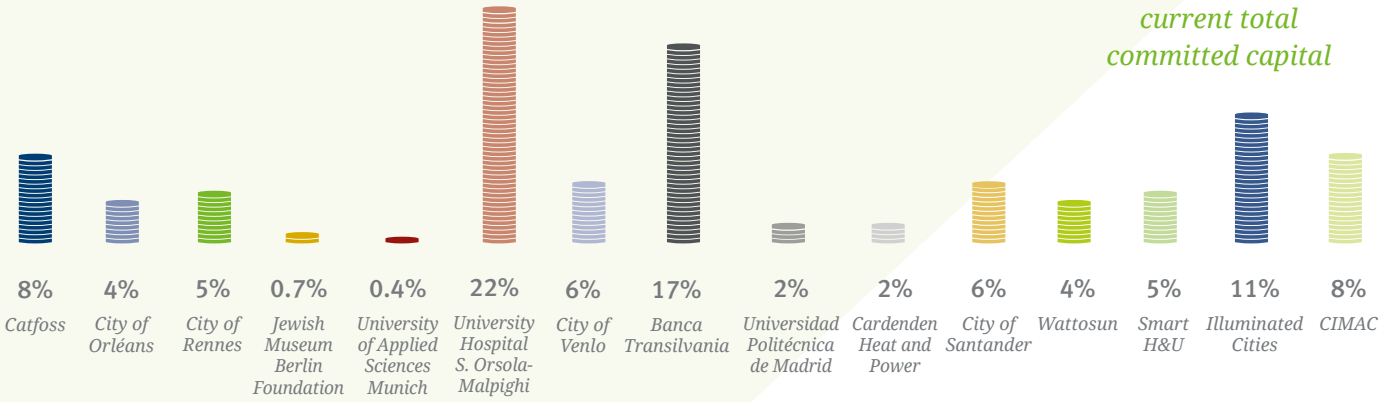


*Based on commitments signed to projects, not including repayments or accrued interest. Matured investments not included.

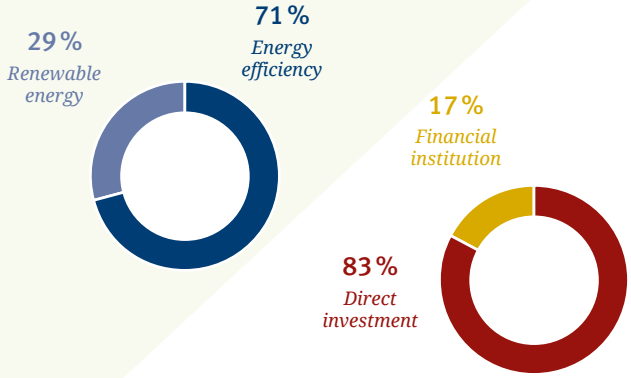
145**

million euros current total committed capital

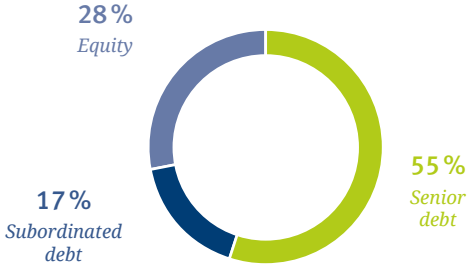
Investments by partner institution *



Investments by type of partner institution *



Investments by financial instrument *



* Based on commitments signed to projects, not including repayments or accrued interest. Matured investments not included. Any discrepancy is due to rounding.

** Due to a lower demand for heat off take from the public authority, the Catfoss project has been scaled down in size with a reduction of the investment accordingly to €11.5 m vs Q3/2019

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

The Fund's **set-up**

The Supervisory Board represents the Fund's shareholders. It provides 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 at 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 eeef TAF at arm's length. Previously, the Investment Manager also managed the European Commission Technical Assistance Facility.

Reduction in greenhouse gas emissions by at least

40 %

below 1990 levels

Increase in the use of renewable energy by at least

32 %

of EU energy consumption

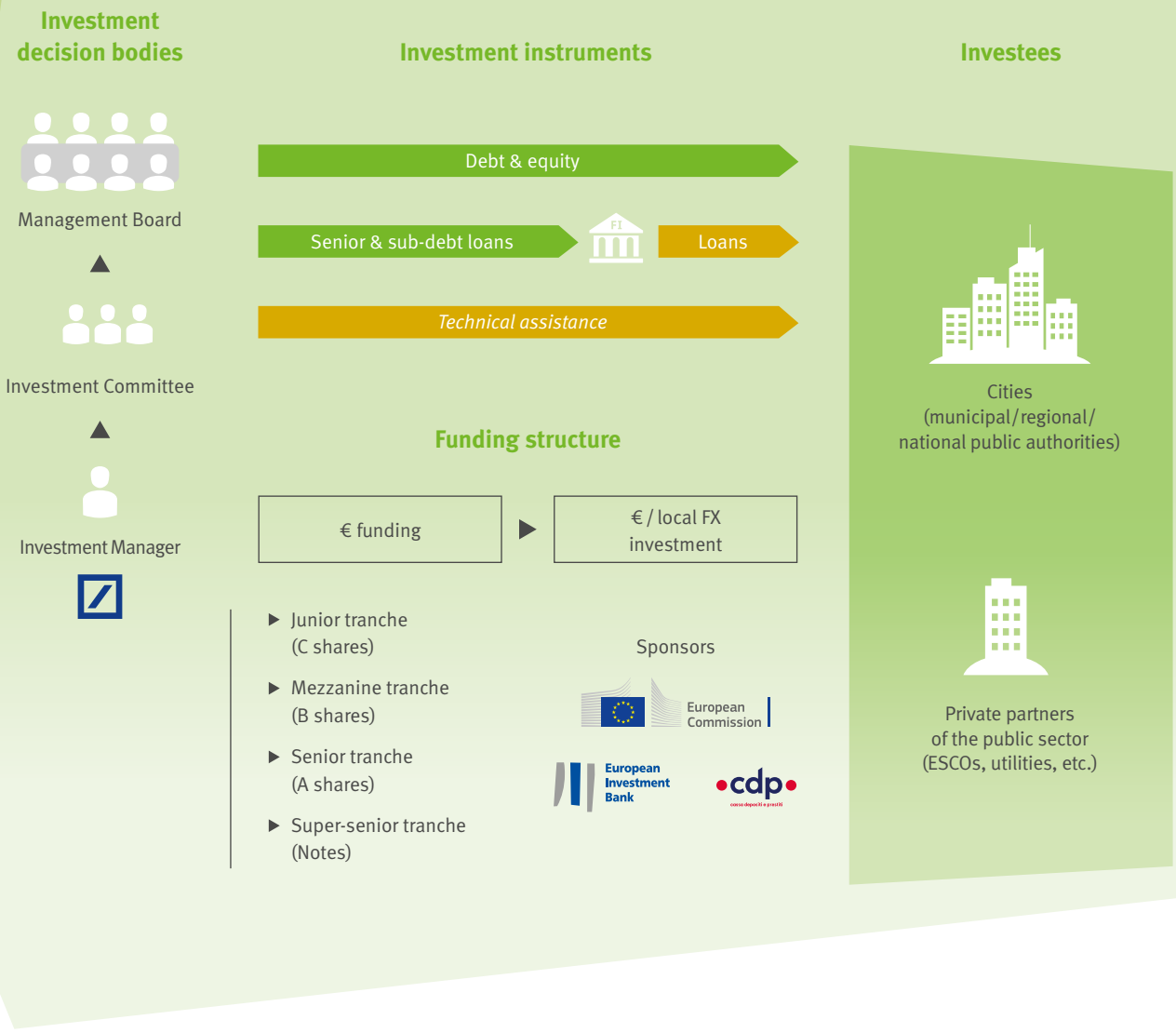
Increase in energy efficiency by

32.5 %

The eeef's **business proposal**

If you are a	developing a project in	with these features	the eeef can support your project, providing
Public entity ... similar to the city of Venlo (NL), the Ore Valley Housing Association (UK) ...	**Renewable energy** As we have done with: the city of Orléans/Rennes (FR), the Ore Valley Housing Association (UK)	**Avoiding CO_2e emissions to at least 20 % of baseline**	**TAILOR-MADE FUNDING:** **Debt** E. g. the city of Venlo (NL), Bolloré (FR), the Ore Valley Housing Association (UK), University Hospital S. Orsola-Malpighi (IT)
Private company liaising with a public entity ... similar to Manutencoop (IT), Enertika (ES), Bolloré (FR), EDF Group (FR), Johnson Controls (DE) ...	**Energy efficiency** As we have done with: the city of Venlo (NL), the SPL – Région Rhône-Alpes (FR), University Hospital S. Orsola-Malpighi (IT), Universidad Politécnica de Madrid (ES), Banca Transilvania (RO), Jewish Museum Berlin Foundation (DE), University of Applied Sciences Munich (DE), the Ore Valley Housing Association (UK)	**Looking for funding in a (flexible) range between EUR 5 and EUR 25 m**	**Equity** E. g. the city of Rennes (FR), the city of Orléans (FR)
Financial institution financing the above ... similar to Banca Transilvania (RO) ...	**Clean urban transport** As we have done with: Bolloré – Paris, Lyon, Bordeaux (FR)	**In one of the 27 EU countries**	**Mezzanine** E. g. Banca Transilvania (RO)
			Forfaiting structures E. g. Universidad de Politécnica de Madrid (ES)
			TECHNICAL ASSISTANCE: **Closed EU TAF –** 16 public authorities across Europe
			New eeef TAF launched Six TA beneficiary contracts signed

Investment **structure**



The Investment Manager proposes potential new investment in line with the eeef'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 eeef 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.

Partnership dedicated to mitigating climate 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 set-up of the Fund is finalised

March

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

November

- Financing of building retrofit project at the University of Applied Sciences Munich via the ESCO Johnson Controls

December

- The city of Santander cooperates with the eeef to receive technical assistance from the EC TAF

2013

May

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

June

- The eeef achieves financial close on its first equity investment, the city of Orléans' CHP plant in France
- La Palma benefits from the EC TAF

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, Scotland, and the region of Rhône-Alpes benefit from the EC TAF

December

- The eeef achieves financial close for its second equity investment, the city of Rennes' CHP plant
- The eeef closes its first clean urban transport with Bolloré, France
- The cities of Marbella, Terrassa and Elche cooperate with the eeef via the EC TAF

Investment activity · Fund operations · TA activity

2014

April
- Financial close for street lighting upgrade project with 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 via the EC TAF

July
- The Limerick and Clare Education and Training Board benefits from the EC TAF

August
- GRE-Liège cooperates with the eeef on technical assistance via the EC TAF

September
- Alentejo Central signs a technical assistance agreement via the EC TAF

December
- The municipality of Zaanstad and the Roscommon County Council benefit from the EC TAF

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

2016

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

June
- The eeef cooperates with ADHAC, the business association for the promotion of sustainable district heating and cooling networks, in Spain

September
- The eeef deploys final EC TA amount to 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 (Scotland)

December
- The eeef initiates the Fund's own technical assistance scheme, the eeef TAF

▶ Investment activity ▶ Fund operations ▶ TA activity

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 becomes the first city to join the eeef to collaborate on the new eeef TAF
- 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 via the EC TAF

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 TAF

October

- ISOM completes its award-winning energy efficiency upgrade of the Italian hospital S. Orsola-Malpighi

December

- The eeef signs a MoU in Portugal for small-scale PV installations across seven municipalities' public buildings

2018

February

- Three projects complete the final stage under European Commission technical assistance managed by the eeef successfully, including the Spanish cities of Terrassa and Marbella as well as the Portuguese public authority Alentejo Central

March

- The Italian Ministry of Defence collaborates with the eeef TAF to refurbish the Ducal Palace of Modena

October

- The eeef and Siram become partners to advance smart cities in Italy via a new joint venture

December

- The eeef and Sinloc collaborate towards Smart Hospitals and Universities in Italy via a new joint venture
- The eeef and CIMAC via I-Quatro enter into a forfaiting agreement to upgrade the street lighting infrastructure in 14 municipalities
- The Kaunas District Municipality Administration in Lithuania joined the eeef Technical Assistance Programme to enhance energy efficiency of the street lightning infrastructures, expanding eeef's activity into Eastern Europe.

2019

June

- A Technical Assistance Agreement was signed to renovate public buildings in the Autonomous Province of Bolzano in Italy
- eeef has launched discussions with potential private investors in Germany

September

- The eeef TAF collaborates with the Ukmerge District Municipality Administration in Lithuania to upgrade municipal school buildings

December

- The Management Board approved the Joint Venture with the Lithuanian electric bus manufacturer "Dancer"

2019 ACTIVITIES REPORT: **INVESTMENTS**

200

million euros committed by the eeef since inception

The eeef's **investments**

Since its inception, the eeef has committed a total of EUR 200 m in 17 partner institutions, of which EUR 169 m have been disbursed.

Germany *(Berlin, Munich)*

€ 1.5 m

- **€ 0.9 m** forfaiting loan to the Jewish Museum Berlin Foundation via the ESCO of Johnson Controls
- **€ 0.6 m** forfaiting loan to the University of Applied Sciences via the ESCO of Johnson Controls

Italy *(Bologna, Northern Italy)*

€ 54.8 m

- **€ 31.8 m** senior loan and VAT facility to Progetto ISOM for the upgrade of the University Hospital S. Orsola-Malpighi
- **€ 16.0 m** equity investment in the JV Illuminated Cities with Siram by Veolia for a portfolio of investments (EE: smart public lighting)
- **€ 7.0 m** equity investment in the JV Smart Hospitals & Universities with Sinloc for a portfolio of investments

Spain *(Madrid, Santander)*

€ 11.7 m

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

France *(Orléans, Rennes, Paris, Lyon, Bordeaux, 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

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€ 30.0 m senior debt to Bolloré (matured)

€ 5.0 m senior debt to the Société Publique Locale d'Efficacité Énergétique (SPL) in the Région Rhône-Alpes (matured)

Romania *(various locations inc. Cluj-Napoca, Bucharest)*

€ 25.0 m

- Subordinated loan to Banca Transilvania for on-lending into energy efficiency and renewable energy projects

Portugal *(Lisbon, Alentejo region)*

€ 17.2 m

- **€ 5.1 m** junior funds to be invested in the installation of solar panels developed by Wattosun
- **€ 12.1 m** forfaiting facility to CIMAC I-Quatro to upgrade existing street lighting

Netherlands *(Venlo)*

€ 8.5 m

- Senior debt facility to the city of Venlo for smart public lighting

United Kingdom *(Cardenden, Scotland)*

€ 29.3 m

- **€ 4.3 m** senior debt facility to the Ore Valley Housing Association via the SPV Cardenden Heat and Power*
- **€ 25.0 m** senior debt facility to the Catfoss Renewable Energy for the construction of a CHP plant to run organic waste

Lithuania *(Klaipeda)*

€ 4.0 m

- **€ 4.0 m** joint venture with Lithuanian electric bus manufacturer Dancer**

* The initial commitment was GBP 3.65 m (GBP/EUR FX: 1.18)

** The project is under financial closing

Investment locations

France City of Orléans

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 regional source, allows 15,000 households in the city to achieve annual savings of around EUR 200 each with the new energy source and increases the environmental sustainability.

Sector:
Renewable energy/ biomass CHP

Key figures

Type of investment:		Total project size (€m):	**36.0**	Maturity	**19 years**
Equity and shareholder loan		eeef investment size (€m):	**5.1**	Observed t CO_2e emission savings (p.a.):	**17,266**
Financial close:	**12.03.2013**				

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

The project enables a decentralised energy supply for the city of Rennes using an existing district network. The plant enables 21,000 households in the city both to save money with the new energy source and to increase their environmental sustainability. The project generates sustainable heat aligned with offtake requirements and, due to the biomass fuel, achieves significant carbon savings compared to baseline.

Key figures

Type of investment:		Total project size (€m):	**47.6**	Maturity	**20 years**
Equity and shareholder loan		eeef investment size (€m):	**7.3**	Observed tCO_2e emission savings (p.a.):	**12,695**
Financial close:	**12.12.2013**				

Sector:
Renewable energy/ biomass CHP

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 eeef's initial investment totalled EUR 1.7 m. In 2015, the project scope was revised and consequently the eeef's investment size was reduced to EUR 0.9 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 2018 annual primary energy savings equated to 3,856 MWh.

This year's audit identifies that the project is achieving increased savings compared to last year due to full and consistent operations. Primary energy savings in 2019 equated to 14,775 MWh.

Sector:
Energy efficiency/ building retrofit

Key figures

Type of investment:	**Forfaiting loan**	Total project size (€m):	**1.4**	Maturity	**13 years**
Financial close:	**20.03.2012**	eeef investment size (€m):	**0.9**	Observed tCO_2e emission savings (p.a.):	**3,359**

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 EUR 1.1 m.

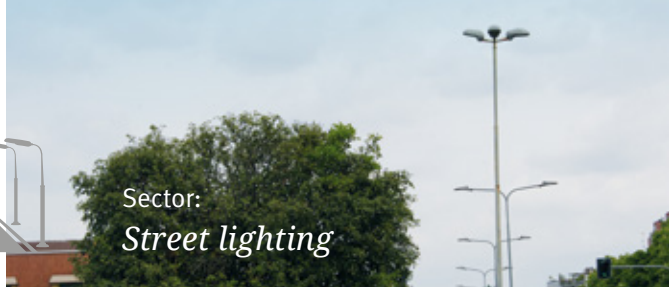
The ESCO and the university agreed to energy efficiency measures composed of the optimisation of the heating, lighting, metering, building management and pumping systems, as well as the installation of a 49.5 kW combined heat and power (CHP) plant. The project was implemented in 2013 and continues to achieve savings aligned with projections. In 2019, it achieved 1,751 MWh of primary energy savings compared to baseline, which is equivalent to 30 %.

Key figures

Type of investment:	**Forfaiting loan**	Total project size (€m):	**1.1**	Maturity	**10 years**
Financial close:	**15.11.2012**	eeef investment size (€m):	**0.6**	Observed tCO_2e* emission savings (p.a.):	**160**

* The University of Applied Sciences purchases a renewable energy electricity blend, impacting the actual observed carbon savings.

Italy
Illuminated Cities



Città Illuminate S.r.l. (Illuminated Cities) is the holding company for the joint venture (JV) between the eeef and Siram by Veolia, targeting a portfolio of street lighting projects in Italy, mainly benefitting small to medium-sized municipalities. The newly established joint venture will enable public entities to implement technically advanced solutions known as smart lampposts and enable the integration of multiple services within the street lighting infrastructure. These projects will enhance public infrastructure whilst reducing public energy consumption. This is thanks to measures including the instalment of LEDs, management systems, video, Wi-Fi and charging stations for electric vehicles. The eeef is the main investor in the JV, while Siram acts as the industrial partner and full contractor for each project's commissioning and operation.

The JV realized its first investment in the municipality of Rozzano, Milan Province, where 5,250 lighting points are in the process to be upgraded to LED technology. The renewed infrastructure will deliver not only more efficient and better lighting quality, but will also integrate equipment to enable multiple services, such as video surveillance, park management and pollution control. This project perfectly embodies the JV spirit, showing how also a small town of 42,500 inhabitants can become a smart city.

Key figures

Type of investment: **Junior funds (equity and shareholder loan)**		Total project size (€m):	**20.0**	Maturity	**12 years**
		eeef investment size (€m):	**16.0**	Estimated tCO_2e emission savings (p.a.):	**3,245**
Financial close:	**27.09.2018**				

Italy Smart H&U

The eeef and Sinloc have launched a joint venture, which will contribute to enhancing energy efficiency in the healthcare and education sectors. The partnership takes the name Smart Hospitals and Universities (or Smart H&U) and targets a portfolio of investments in public hospitals and universities distributed across Italy. These facilities will scale up their energy efficiency profiles as well as the level of services provided to the end users. Patients, students and staff will benefit from modernised infrastructures, including state-of-the-art building automation, heating and cooling systems, smart illumination and clean energy systems.

On average, it is estimated that primary energy and carbon savings will improve by half and the energy performance of each facility will increase due to the installed energy efficiency measures.

Sinloc and the eeef will pool together smaller projects and inject a total of EUR 15 m risk capital in special purpose vehicles. Projects will be awarded by each grantor after a public call for tender and will each have a signed concession. Smart H&U already has a promising pipeline of projects which continues to strengthen.

Key figures

Type of investment: **Junior funds (equity and shareholder loan)**		Total project size (€m):	**22.0**	Maturity	**12 years**
		eeef investment size (€m):	**7.0**	Estimated tCO_2e emission savings (p.a.):	**8,292**
Financial close:	**21.12.2018**				

Italy

University Hospital S. Orsola-Malpighi

Project video link: 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 of EUR 31.8 m.

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

In 2019, carbon savings were 31 % compared to baseline, and primary energy savings were at 28 %.

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:	**Senior debt**	Total project size (€m):	**41.0**	Maturity	**20 years**
Financial close:	**08.05.2013**	eeef investment size (€m):	**31.8**	Observed t CO_2e* emission savings (p.a.):	**15,941**

* Numbers based on contracted conversion factors.

Sector:
Energy efficiency/upgrade of entire energy system

Netherlands City of Venlo

Project video link: www.eeef.lu/video-venlo.html

The city of Venlo and the eeef signed a long-term financing contract for EUR 8.5 m. The city's existing public lighting is the biggest consumer of electricity on its electricity bill. The city therefore prioritised upgrading its street lighting in order to reduce its energy consumption and CO_2e emissions as well as to save costs for the public budget. By the end of 2019, 1,674 lighting poles were replaced and 17,169 luminaires were replaced with LED technology. The project is further proof of the city's commitment to achieving environmental sustainability.

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

Sector:
Energy efficiency/ street lighting

Key figures

Type of investment:	**Senior debt**	Total project size (€m):	**8.6**	Maturity	**15 years**
Financial close:	**03.04.2014**	eeef investment size (€m):	**8.5**	Observed tCO_2e emission savings (p.a.):	**917**

Portugal CIMAC

Sector: *Street lighting*

In December 2018, the eeef signed the 12-year forfaiting facility of EUR 12.14 m with I-Quatro LDA (an ESCO company) to implement its first aggregated street lightning infrastructure transaction, with the mission to upgrade over 56,000 luminaires within 14 municipalities, including the UNESCO World Heritage site of Évora, represented by Comunidade Intermunicipal do Alentejo Central (CIMAC).

The project will realise 74 % in primary energy (of 40,655 MWh) and carbon savings (of 6,890 t CO_2e) annually compared to baseline consumption. Furthermore, it will result in EUR 7.1 m in economic savings for the municipalities over the 12-year concession.

By December 2019, renovation of 13,600 luminaires was completed and certified by CIMAC. The execution phase is expected to conclude by April 2020 and service phase to kick-off in May 2020.

Key figures

Type of investment:	**Forfaiting facility**	Total project size (€m):	**16.6**	Maturity	**12 years**
Financial close:	**27.12.2018**	eeef investment size (€m):	**12.1**	Estimated tCO_2e emission savings (p.a.):	**6,890**

Portugal Wattosun

The eeef signed a memorandum of understanding (MoU) with Wattosun, Portugal, for a EUR 5.1 m equity facility to finance a portfolio of self-consumption PV installations. The agreement encompasses seven subprojects estimating ca. 21,100 of 1.68 m^2 solar panels (PV). When compared to baseline (the Portuguese electricity grid), the combined subprojects should annually save 2,726 tonnes of CO_2e and 20,093 MWh of primary energy.

The electricity is for self-consumption and would provide municipalities, state-owned companies and other public authorities with a financially attractive and environmentally friendly way to lower effective electricity costs and reduce their exposure to the volatile energy market.

Two different business models are being considered to attract public clients:

- UPAC model: the public entity receives electricity for self-consumption and in turn pays rent for the new PV set-up.
- UPP model: the small subproject owns the new PV set-up on public properties and receives a payment from the utility company for energy fed into the grid.

As of December 2019, the Fund was evaluating 2 subprojects submitted by Wattosun under the UPP model that would deliver benefit to public authorities. The construction of the subprojects are being performed under a fixed-price turnkey energy performance contract (EPC) with a qualified EPC and operations and maintenance (O&M) partner. Starting Q4 2020, a selected O&M contractor will comply with all industry best practices and follow international standards. The subprojects are intended to have long-term tenors to ensure economic feasibility.

Key figures

Type of investment: **Junior funds (equity and shareholder loan)**		Total project size (€m):	**10.0**	Maturity	**14 years**
		eeef investment size (€m):	**5.1**	Estimated tCO_2e emission savings (p.a.):	**2,726**
Financial close:	**29.12.2017**				

Romania Banca Transilvania

The eeef 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 investment, by the public sector in Romania. Via this investment, the eeef has gained a strong local partner with a history of financing several energy efficiency projects and which has a solid footprint in financing SMEs. This cooperation is helping to strengthen the Romanian banking sector by providing financing to energy efficiency and small-scale renewable energy projects. BT is using eeef funding to give financial support to public and private building owners, homeowner/condominium associations, municipalities, public sector entities and private sector companies acting on behalf of the public sector.

It is the first cooperation between the eeef and a financial institution as well as being the first investment into Eastern Europe. The eeef is supporting BT in sourcing and evaluating underlying projects where needed, and the latter ensures that the financed projects comply with the eeef's requirements with respect to a CO_2e emission/primary energy consumption reduction of at least 20%. Furthermore, the eeef can jointly finance projects with BT if larger financing amounts are required. At the end of 2019, BT had financed and enabled nine projects. The to-date cumulative savings of the projects are 317,571 MWh in primary energy.

Sector:
Energy efficiency/renewable energy/ clean urban transport

Key figures

Type of investment:	**Subordinated debt**	Total project size (€m):	**25.0**	Maturity	**10 years**
Financial close:	**26.09.2013**	eeef investment size (€m):	**25.0**	Estimated tCO_2e emission savings (p.a.):	**9,154**

BANCA BT TRANSILVANIA®

Portfolio facts

41.1
million euros total volume financed through the facility

13
different project locations reached

74,645
tons of cumulative CO_2e savings

3
technologies funded

9
subprojects funded

317,571
megawatt hours of cumulative primary energy savings

* Cumulative savings are based on subprojects loan maturity

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 heat and water supply systems across the campus and to reduce CO_2e emissions by switching to a cleaner fuel source. In August 2015, the project was awarded to Enertika (Ingeniería y Servicios de Eficiencia Energética S. L.), an engineering company specialising in energy generation, energy efficiency and remote management services.

The project replaced 63 gas oil boilers, consuming on average 946,479 litres of gas oil per year, with 66 natural gas boilers in all 32 campus buildings.

The recent 2019 annual energy audit validated that carbon was above 20 % compared to baseline.

Sector:
Energy efficiency/building retrofit

Key figures

Type of investment:	**Forfaiting loan**	Total project size (€m):	**2.5**	Maturity	**9 years**
Financial close:	**18.11.2015**	eeef investment size (€m):	**2.5**	Observed tCO_2e emission savings (p.a.):	**994**

Spain Municipality of Santander

The municipality of Santander is located in the Cantabria region in Spain. It benefitted from funding from the European Commission Technical Assistance Facility (EC TAF) managed by the eeef in order to conduct feasibility studies and, subsequently, launch the ESCO tender for the renovation works. The tender was awarded to Elecnor S.A., an international company from Bilbao with 60 years of experience in developing, building and maintaining infrastructure assets and in renewable energy and energy efficiency projects.

The eeef provided a forfaiting facility to Elecnor S.A., where the latter received EUR 9.2 m to finance the works. The facility will be fully repaid within the 15 years of concession period.

The project is to upgrade 22,700 lighting points to LED luminaires. Each luminaire will also have wireless connectivity to the municipality's digital communication network and control system. In addition, it will result in EUR 5.4 m in monetary benefits for the municipality over the period of concession. The official acceptance of the renovation works was signed in December 2018 and first 12 months audit report identified an annual primary energy savings of 39,435 MWh.

Key figures

Type of investment:	**Forfaiting facility**	Total project size (€m):	**9.2**	Maturity	**14 years**
Financial close:	**18.08.2017**	eeef investment size (€m):	**9.2**	Observed tCO_2e emission savings (p.a.):	**4,908**

United Kingdom

Ore Valley Housing Association

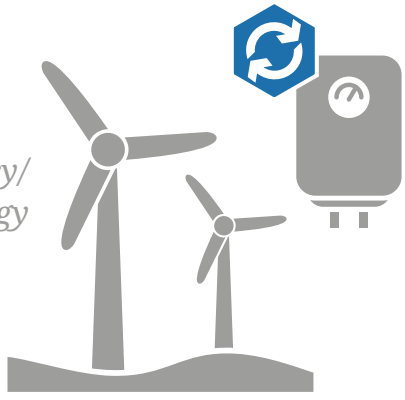
Project video link: www.eeef.lu/video-edinburgh.html

The eeef has 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), which 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 EUR 5.5 m) is a combination of a small-sized on-shore wind turbine and boiler replacements in social housing. The wind turbine is located at Cardenden close to the housing association's main office sites in Fife and was provided by market leader Enercon. Operations commenced during 2017 and the project secured a guaranteed feed-in tariff for 20 years from the Office of Gas and Electricity Markets (Ofgem); however, to increase project returns, the CHAP entered into a two-year power purchase agreement with EDF to secure a better tariff than the feed-in tariff for electricity sale 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 to realise investments. The eeef supported the OVHA in the development of a new project scope for a on-shore wind turbine and the replacement of over 170 outdated gas boilers in residential buildings owned by the housing association in the Fife council area in Scotland.

Sector:
Energy efficiency/ renewable energy



Key figures

Type of investment:	**Senior debt**	Total project size (€m):	**4.3**	Maturity	**16 years**
Financial close:	**04.11.2016**	eeef investment size (€m):	**2.2**	Observed tCO_2e emission savings (p.a.):	**499**

The eeef's matured **investments**

France Bolloré

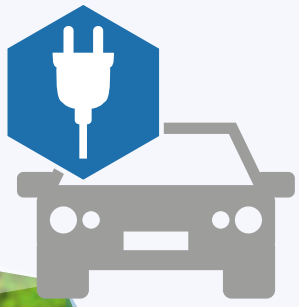
The French company Bolloré, a provider of car-sharing services for electric cars, signed a bond agreement worth EUR 30 m with the eeef in 2013. The investment financed electric cars and the infrastructure (i. e. charging stations, rental places, etc.) required for Bolloré's European electric car rental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

The project, which provides cities with environmentally friendly electric cars, started in Paris and has subsequently been extended to Lyon and Bordeaux. The eeef's bond has mainly been utilised in these regions. At the end of 2018, Bolloré had 4,000 cars and 6,500 charging stations installed across the locations where the eeef's funding was utilised.

Key figures

Type of investment:	**Senior debt**	Total project size (€m):	**30.0**	Maturity	**5 years**
Financial close:	**23.12.2013**	eeef investment size (€m):	**30.0**	Estimated tCO_2e emission savings (p.a.):	**8,658**

Sector:
Clean urban transport



France SPL – Région Rhône-Alpes

Project video link: www.eeef.lu/video-lyon.html

The Société Publique Locale d'Efficacité Énergétique (SPL) benefitted from funding from the European Commission Technical Assistance Facility (EC TAF) managed by the eeef for the initial preparation works and the finalisation of the project scope. Subsequently, the SPL signed a loan agreement of EUR 5.0 m 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.

In 2018, The SPL repaid their debt facility as all 10 building retrofit projects were fully completed and commissioned, fulfilling the purpose of the project. On the one hand, the project continues to contribute to the eeef's carbon balance aligning with carbon accounting standards until the end of economic maturity; on the other hand, according to the vice president of high schools in the Auvergne-Rhône-Alpes region, Béatrice Berthoux, the SPL project supports the essential movement to sustainable development of the region as well as helps raising the awareness of sustainability among the school pupils, which has longer-term effect.

As shared by Éric Fournier, the vice president of the reginal council in the delegate for Environment, sustainable development, energy and regional nature parks, the eeef which supported SPL project, has set an effective example of public private partnership (PPP) in upgrading the public building energy efficiency and showcases eeef's crucial role in the start-up phase in terms of construction financing and TAF. The region intends to progressively upgrade all their public school building in the coming years. SPL OSER– of which the region Auvergne-Rhône-Alpes is the majority shareholder, is a main regional actor in its mission to upgrade the public building efficiency refurbishment projects and renewable energy installation in public buildings. The valuable lessons from the success story of the SPL project will pave way for SPL and Rhône-Alpes region to achieve long-term objectives of energy savings and greenhouse gas reduction.

Sector:
Energy efficiency/ building retrofit

Key figures

Type of investment:	**Senior debt**	Total project size (€m):	**25.0**	Maturity	**5 years**
Financial close:	**03.04.2014**	eeef investment size (€m):	**5.0**	Estimated tCO_2e emission savings (p.a.):	**992**
Repayment:	**12.02.2018**				

2019 ACTIVITIES REPORT: **FUNDING**

'eeef was very important for CIMAC in order to demonstrate to the decision makers that this was not a change driven by impulse, but rather a sustainable project in which we would improve the service level, the quality of the material and the relation that each municipality has with public lighting along with achieving huge economic and environmental savings. CIMAC municipalities will be able to make a change in a couple of years (i.e. after planning and construction) that would have taken more than a decade to achieve otherwise.'

André Espenica, First-Secretary of CIMAC

97

million euros capital provided by the European Commission

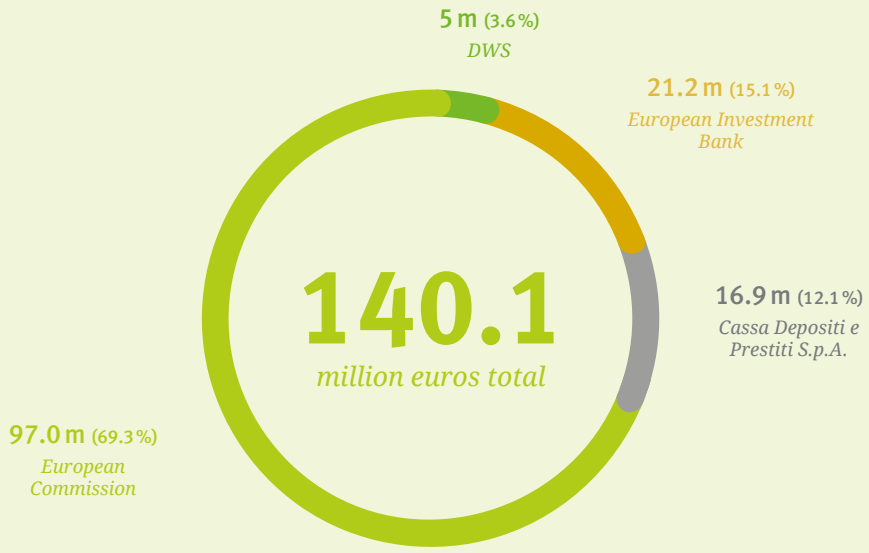
Funding **situation**

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 (EUR 125.0 m) was increased by contributions from sponsors comprising the European Investment Bank (EUR 75.0 m), Cassa Depositi e Prestiti (EUR 59.9 m) and the Fund's Investment Manager, DWS (EUR 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

European Commission	European Investment Bank	cdp cassa depositi e prestiti	DWS
97.0 m (69.3 %)	21.2 m (15.1 %)	16.9 m (12.1 %)	5.0 m (3.6 %)
European Commission (EC)	*European Investment Bank (EIB)*	*Cassa Depositi e Prestiti S.p.A. (CDP)*	*DWS**

140.1
million euros total

* DB's class B-shares in eeef have been transferred to DWS which at majority is owned by DB Group.

Current division of share classes according to called amounts and remaining commitments

	Total commitment in €	Drawn in €	Undrawn in €
Notes	–	–	–
A shares	32,881,080	32,881,080	–
B shares	10,166,319	10,166,319	–
C shares	97,044,399	97,044,399	–
Total	**140,091,798**	**140,091,798**	**–**

The eeef funds itself 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 eeef's TAF will facilitate the renovation of public buildings in the Autonomous Province of Bolzano, Italy. As a result, the Province is expected to consume less energy in the near future.

'A win-win situation for both the economy and the environment, which leads to a reduction of administrative costs and significant CO_2 emissions.'

The Autonomous Province of Bolzano in the role of TA Beneficiary

The eeef's technical **assistance facility**

- ► **EUR 389,500 approved to Ferrara Province**
- ► **EUR 400,000 approved to the city of Gijón**
- ► **EUR 340,000 approved to the Italian Ministry of Defense**
- ► **EUR 180,000 approved to Kaunas District Municipality**
- ► **EUR 400,000 approved to the Autonomous Province of Bolzano**
- ► **EUR 160,000 approved to Ukmergė District Municipality Administration**

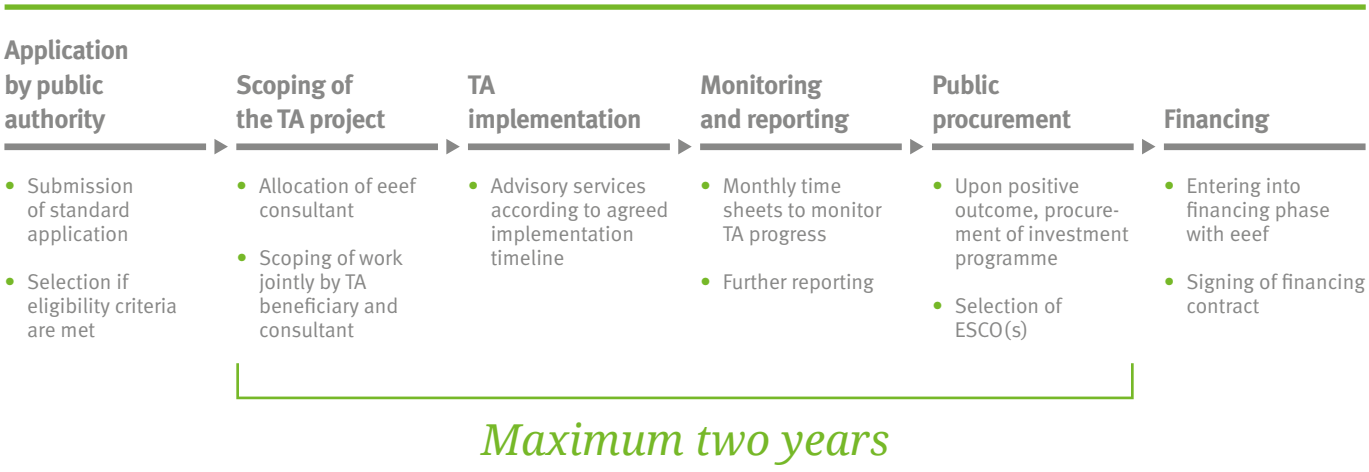
Following the European Commission TA Facility managed by the eeef, the Fund set up the **eeef TAF** to support ambitious public beneficiaries in developing bankable sustainable energy investment programmes. These projects shall relate to the energy efficiency sector, renewable energy and/or public urban transport. The eeef TAF 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, public-owned water companies 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 1.5–2 years by directly allocating consultancy services to the TA beneficiaries (tender of these consultancy services 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 and financial viability of their investments. Legal support for the investment programmes to draft the PPP tender documents is also included in the TA 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 TAF has received funding from the ELENA facility under the Horizon 2020 Programme of the European Union. The first call for proposals of the eeef TAF was successfully closed on 1 March 2017. The recently launched facility attracted interest among various public authorities seeking support to develop their sustainable project plans. Up to now six public beneficiaries have been selected under this facility.

The eeef has also received further applications of public authorities in Lithuania. By the end of 2019, the eeef published an open call for proposals to allocate consultant services required for the Lithuanian projects, subject to availability of funds. The new call for proposals was closed on 04 December 2019. The consultant selection process is still ongoing and the results are expected to be published on the Fund's website by Q1/2020.



Eligibility criteria and application procedure

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

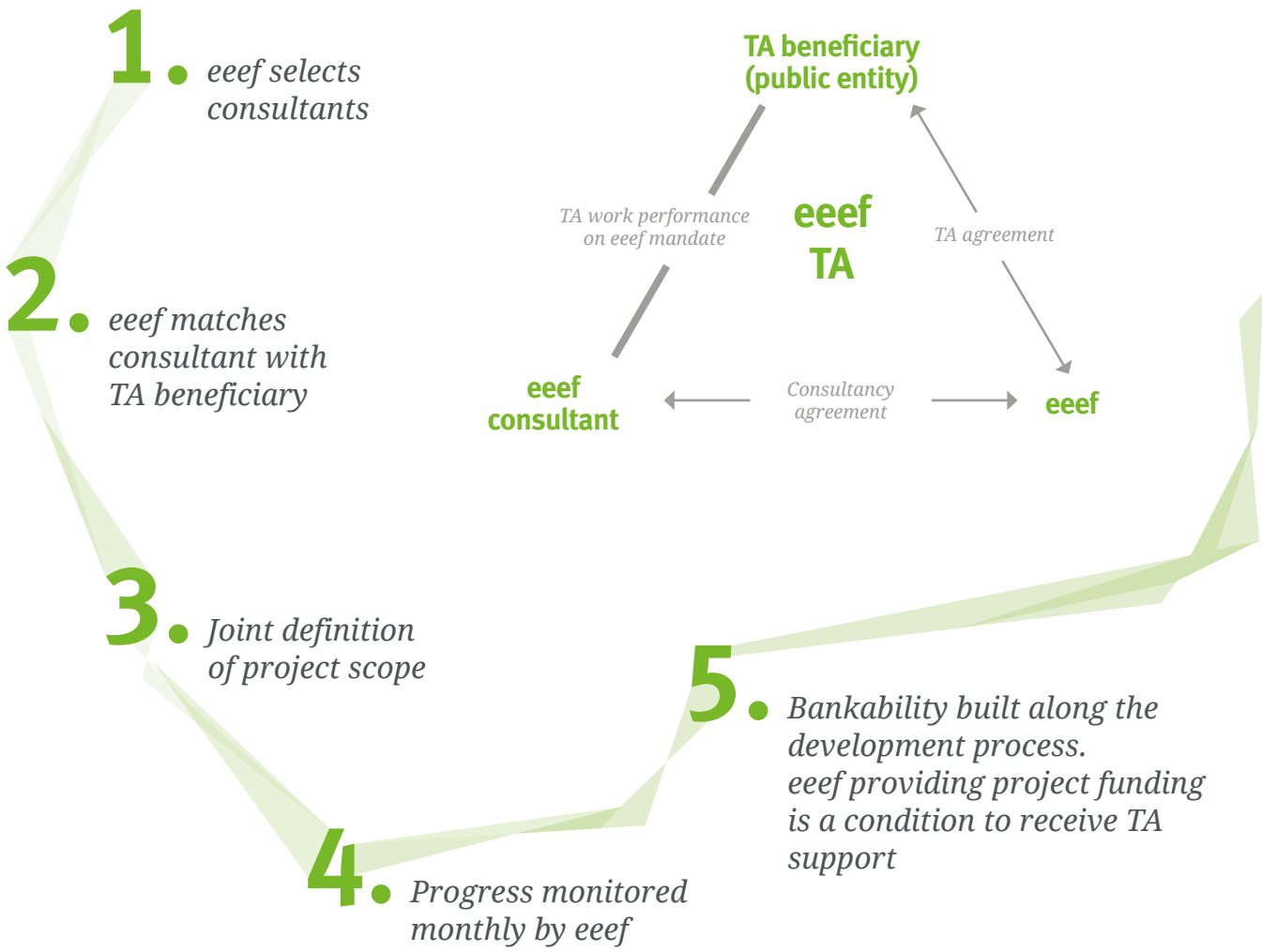
- Beneficiary has to be a public authority (municipal, local, regional or national) or a public-owned company
- Primary energy savings of at least 20 % on an annual basis (20 % reduction of CO_2 equivalents for certain other technologies, i.e. renewable energy)
- Minimum leverage factor of 20 (final investment volume of the project divided by TA support amount)
- Financing of the project to be provided by the eeef (EUR 5 – EUR 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.

During 2019, the eeef TAF has received applications of several TA beneficiaries from Lithuania. Therefore, the eeef published a new open call for proposals in November 2019 to search for consultants to assess potential projects in the country. The call for proposals was closed on 04 December 2019. The consultant selection process is still ongoing and the results are expected to be published on the Fund's website by Q1/2020.

New applications can be submitted to:
technical_assistance@eeef.eu

Further details:
http://www.eeef.eu/eeef-ta-facility.html



Street lighting

Gijón is the first city to join the eeef to collaborate on the new eeef Technical Assistance Facility

Ayuntamiento de Gijón was the first public authority to participate in the new eeef Technical Assistance Facility

With the full commitment of its mayoress, the city of Gijón 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 EUR 15–20 m investment programme (estimated) in renovation works and selecting an ESCO company to realise the measures within a two-year time frame. The eeef has been accompanying the city during the whole process by collaborating with the management team proposed by the city. The majority of the feasibility studies have been completed and the street lighting upgrade part of the project is almost ready to be tendered.

Recent developments

In May 2019, Spain went through local elections and a new authority was appointed in the city of Gijón. Currently, the new Government is discussing internally the time point to publish the tender. The tender is envisaged to be published by Q2/2020 (eeef expectations).

Project Partner

The city of Gijón is the largest municipality within the community of Asturias, Spain, with a population of 270,000 citizens. For over 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.

Street lighting

Building upgrades

The Province of Ferrara is the second public authority to join the eeef to collaborate on the new eeef Technical Assistance Facility

Ferrara Province (Italy) was the second public authority, following in the footsteps of the city of Gijón, to participate in the Fund's new technical assistance facility

Joining forces with SIPRO (Agenzia Provinciale per lo Sviluppo) – a development agency with a 40-year track record – the circa EUR 31 m investment programme of the Province of Ferrara is aimed at addressing the implementation of energy efficiency measures in several municipalities to reduce energy consumption and heat loss going forward.

The Province of Ferrara has a total of 24 municipalities, of which 22 have adopted sustainable energy action plans (SEAPs) but are in need of support to boost the implementation of their projects. Municipalities directly involved in this TA project are Ferrara, Cento, Mesola and Voghiera. These municipalities are leading the way and encouraging further public authorities to pursue their sustainable investment paths.

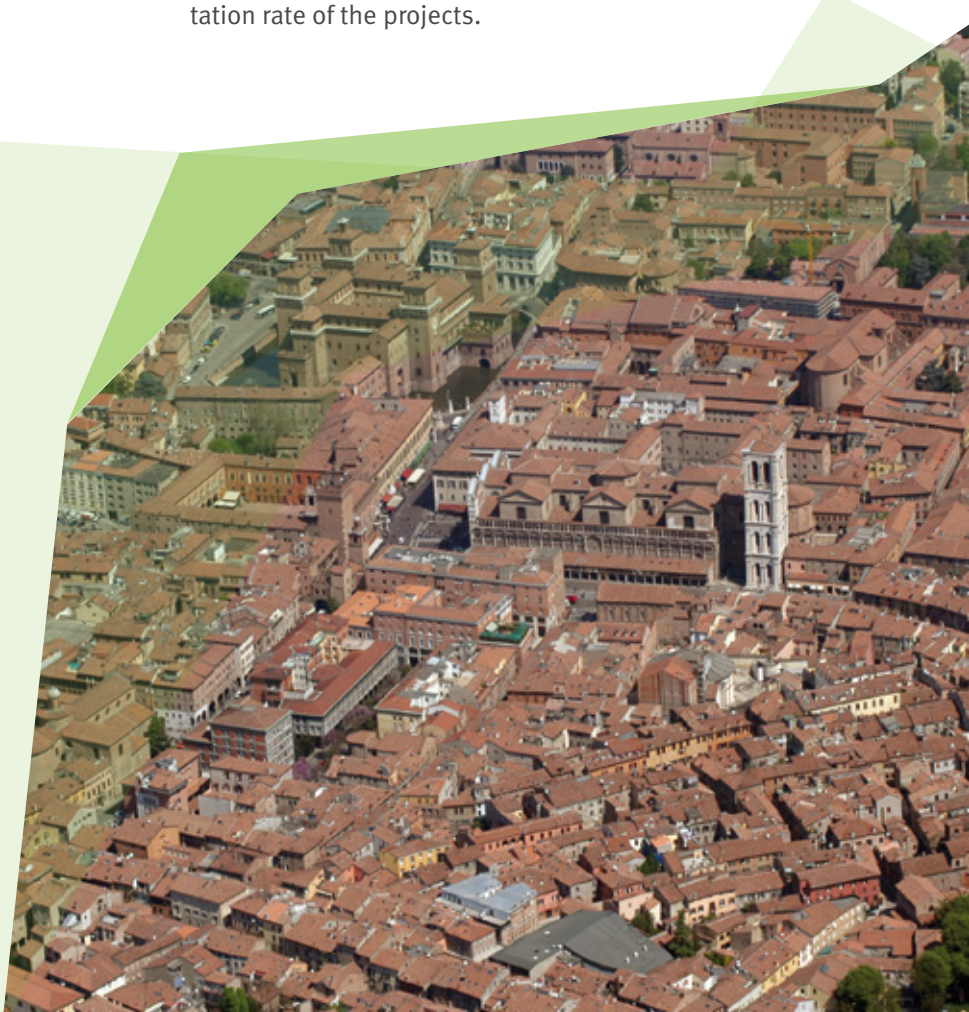
The investment programme includes deep energy retrofitting measures (in 12 buildings such as schools, offices, town halls and sport facilities) in the municipalities of Mesola, Ferrara and Cento and the replacement of over 27,616 public lighting points with LED technology in the cities of Ferrara and Voghiera. The tenders for the public building projects in Mesola and Ferrara were published in April and December 2018, respectively. The tender for the LED replacement in Ferrara was launched in March 2018. By mid 2019, Ferrara granted a provisional awarding to a company, which was later confirmed as the awarded ESCO.

SIPRO, as the TA beneficiary, has coordinated and managed the whole development phase of the involved municipalities and collaborated closely with the consultant team assigned by the eeef to perform the TA works. Clustering a number of municipalities in one mutual project is enabling valuable synergies and optimising the implementation rate of the projects.

Project Partner

Located in the Emilia-Romagna region, the Province of Ferrara has a total of 354,000 inhabitants living throughout the 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.



Building upgrades

The Italian Ministry of Defence is the third public authority to join the eeef to collaborate on the new eeef Technical Assistance Facility

The Ducal Palace in Modena (Italy) is owned by the Italian government and is currently used by the Italian Ministry of Defence (MoD). The Ducal Palace houses the headquarters of the Military Academy, where military students are trained. Additionally, part of the Eastern Tower of the palace houses the University of Modena and Reggio Emilia's (UNIMORE) geophysical/meteorological observatory, and the first floor is used as a museum where guided tours are offered by the municipality of Modena.

The MoD is the beneficiary of the eeef. The technical assistance facility (TAF) set up a task force to elaborate on energy efficiency and renewable energy measures for retrofitting the palace under an EPC model.

The total project volume is EUR 8.1 m, which includes EUR 5.0 m to upgrade thermal systems and EUR 3.1 m to renovate the building's envelope. Planned measures include the following:

- **Upgrade of the thermal system:** installation of new pipes for the network distribution plus improvements to existing ones, installation of advanced climate control systems, replacement of old radiators, installation of highefficiency boilers, retrofitting of the entire hot water system by disconnecting it from the central plant through new heat pumps.

- **Building envelope:** (i) reduce thermal losses from the building envelope by installing thermal insulation in internal opaque walls with innovative materials and (ii) reduce the amount of air infiltration by improving window fittings.

The project site is in the city of Modena in the Italian region of Emilia-Romagna. The Ducal Palace of Modena is one of the most important historical buildings in Italy. The palace was the residence of the Este dukes of Modena for more than two centuries.

The eeef TAF provided consultancy services to complete fully fledged feasibility studies within the palace to clearly identify the current infrastructure and propose appropriate improvement measures within a building of such historical value. All of the recommendations have been in compliance with the architectural constraints required by law to protect the historical heritage of the palace. The proposed measures will help to maintain one of the most historical buildings in Italy according to the latest energy standards and promote energy efficiency. It is almost ready for public tender.

Recent developments

With the TA works already completed, the tender documents have been reviewed by the TA beneficiary. Due to the change of administration / staff of the Italian Ministry of Defense in July 2019, the new staff is currently assessing again the tender documents. The tender is envisaged to be published by Q1 / 2020.

The Kaunas District Municipal Administration is the fourth public authority to join the eeef to collaborate on the new eeef Technical Assistance Facility

The Kaunas District Municipal Administration, Lithuania, is planning the implementation of an ambitious investment programme to enhance the energy efficiency of the public street lightning infrastructure in several elderships. There is a total of 25 elderships directly involved in this project including: Akademija, Alšėnai, Babtai, Batniava, Čekiškė, Domeikava, Ežerėlis, Garliava, Garlia parish, Kačerginė, Karmėlava, Kulautuva, Lapės, Linksmakalnis, Neveronys, Raudondvaris, Ringaudai, Rokai, Samylai, Taurakiemis, Užliedžiai, Vandžiogala, Vilkija, Vilkija parish and Zapyškis.

This project supports The Kaunas District Municipal Administration through their eldership structure to initiate a multitude of smaller projects which all fall under the same financing umbrella and therefore benefit from reduced investment cost.

The project site is located in the Kaunas District Municipality, one of the biggest and most densely inhabited municipalities in Lithuania. It is one of the 60 district municipalities in the country and has a population of nearly 100,000 inhabitants. The Kaunas District Municipal Administration seeks to become an attractive centre of tourism services and infrastructure. Furthermore, it is trying to attract private investments to increase the district's attractiveness for business, citizens and tourists. The Kaunas District Municipality has identified that renovating the current public lighting infrastructure would support the transition towards a more desirable community whilst improving public energy consumption.

The envisaged total project volume is circa EUR 6 m. The final project design is one deliverable by the eeef TAF.

Recent developments

By the end of 2019, the Draft of tender documents has been completed, which included both technical and administrative specifications and the evaluation matrix to guide the Municipality through the selection process of the ESCOs. Currently, the tender documents are being evaluated by the Municipality and the CPMA. The tender is expected to be published by Q1/2020.

The Autonomous Province of Bolzano is the fifth public authority to join the eeef to collaborate on the new eeef Technical Assistance Facility

The Autonomous Province of Bolzano in Italy, is planning the implementation of an ambitious investment programme for the renovation of up to 263 public buildings. The initial technical assistance activities will focus on identifying a representative sample of buildings from 27, which have been pre-selected.

The Province has a population of nearly 530,000 inhabitants with a surface of almost 7,400 km². The project site is located in the north of Italy, particularly in the cities of Bolzano, Brunico, Bressanone and Merrano (buildings location), which are four of the main towns in the Province.

The envisage project volume for the pilot programme is circa EUR 42 m. The aim is to develop a large pilot project to verify the overall feasibility of the retrofit model, to expand it to all 263 eligible buildings whilst minimising costs and risks for investors. Planned measures are the following:

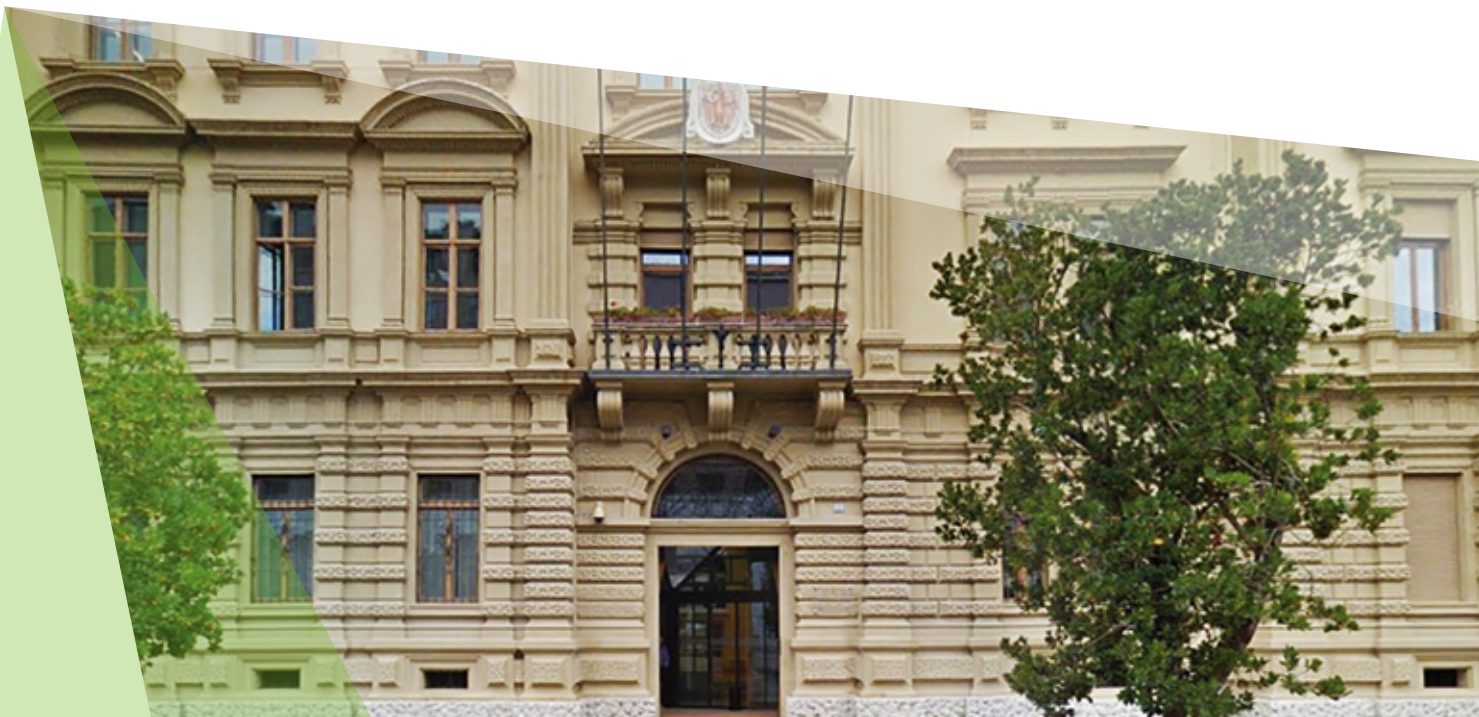
- Public buildings upgrades including room and façade insulation, installation of new windows and condensing boilers.
- Installation of photovoltaic systems and efficient lighting.

Once the studies and audits will be completed, the second phase of the project will begin, with the selection of the relevant companies for the renovation and management works.

Recent Developments

In June 2019, the eeef signed the Technical Assistance Agreement to renovate 27 public buildings in the Autonomous Province of Bolzano.

By the end of 2019, the energy audits were verified and reviewed with technical and economic analysis of reference buildings still ongoing. The analysis of the risk matrix has already started, as well as the evaluation of financial and management tools. The tender is expected to be published by Q3/2020



The Ukmergė District Municipality Administration is the sixth public authority to join the eeef to collaborate on the new eeef Technical Assistance Facility

The Ukmergė District Municipal Administration is the second public authority from Lithuania that will benefit from the eeef's Technical Assistance programme. The capital of the municipality is Ukmergė and is the largest settlement in the municipality. It is situated in Vilnius County and it has 34,000 inhabitants. Currently, there are 12 elderships in the district: Deltuva, Lyduokiai, Pabaiski, Pivonia, Siesikai, Sesuoliai, Taujenai, Ukmerge, Vepriu, Vidiskes, Zelva, Zemaitkiemis, 10 towns, 508 villages, 104 communes

The project site is in Vilnius County, Lithuania. In September 2019, the eeef signed a TA Agreement with Ukmergė District Municipality Administration, to help them preparing and implementing an ambitious investment program for the renovation of five municipal public buildings: Ukmergė Dukstynos Primary School, Ukmergė District Taujenai Gymnasium, Ukmergė District Vidiskes Basic School, Ukmergė children's nursery "Eglute" and the Ukmergė Uzupis Primary School.

The aim of this project is to improve the buildings energy efficiency and ensure that they meet the national energy performance requirements, to facilitate a positive contribution to the national strategic objectives in energy efficiency.

A preliminary assessment identified an estimated investment volume of EUR 5 m. The TA services, provided by experienced local consultants, will support the efforts of the Administration's employees to prepare the investment project. Supported services include the preparation of energy audits, the evaluation of the economic viability of each investment and structuring the tender documents to align with the PPP/ESCO model.

Recent developments

By the end of 2019, the performance of energy audits was completed. The TA Consultant has started with the financial analysis of the investment project, including the evaluation of calculations and the project implementation alternatives. The tender is expected to be published by Q3/2020.

The eeef's Technical Assistance Facility
An overview

The eeef Technical Assistance Facility (eeef TAF) was set up to catalyse investments for public entities within the energy efficiency and small-scale renewable sectors.

To date, the eeef has approved six public beneficiaries, which are currently receiving consultancy services in various forms with the common aim of bringing the projects to fruition. The eeef TAF's scope of work ends once the public beneficiary has launched the tender. However, the Fund's support is not limited to provide technical assistance services; it also targets to provide project financing through a variety of different financial instruments to ensure that the projects materialise. It is the eeef's intention that the TAF remains active for the foreseeable future, with the mission to turn public sector climate mitigation projects into reality.

110,237,118

euros
envisaged total project investment volume supported by the eeef TAF

59.00

potential total leverage factor (weighted average)

3

countries involved

86,113

MWh per year estimated primary energy savings

13,733

t CO_2e per year estimated carbon equivalent emission saving

11

public authorities involved

CARBON, ENVIRONMENT & IMPACT **MANAGEMENT**

Fund criteria: *for all projects to save at least 20 % CO_2e 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 and other investment criteria are fulfilled.

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 environment impact management (CEIM) tool, greenstem™ (greenstem). For projects with higher investment volumes and / or more complex technologies, detailed energy analyses are required in the form of third-party validated reports.

As part of the Fund's due diligence process and for the duration of the loan, the eeef evaluates and monitors the project's savings performance in alignment with the International Performance Monitoring and Verification Protocol (IPMVP), which requires every project to establish a baseline energy consumption and then 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. The Fund provides guidance to project partners on how to conduct project analysis via third-party validated annual audit templates. This ensures the entire portfolio reports using a consistent methodology.

greenstem™

All of the eeef portfolio reported 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 up-to-date 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. Electricity emission factors are sourced from the International Energy Agency and are updated annually in line with ISO 14064-2, the carbon accounting standard followed. 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 that 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 eeef aims to conduct its operations in line with the highest expectations regarding social and environmental responsibility. The eeef'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 eeef SEMS has specific performance requirements and procedures which are applied.

Compliance with these is assessed during the due diligence process and monitored later on throughout 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:*

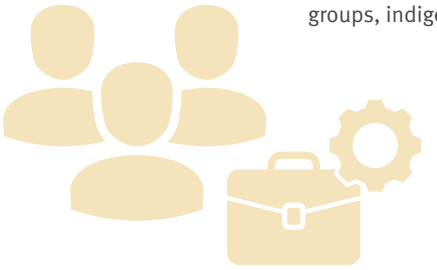
EU policy, legal context and compliance, environmental impact assessment process, E&S principles and standards

2. *Environment, biodiversity and climate change:*

Environmental/transboundary impacts, protected areas, critical habitants, 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 emissions **savings 2019**

The eeef's 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_2 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_2e 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 17 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 530,454 t CO_2e and 921,369 MWh of primary energy savings through the end of 2019.

Key technologies

currently included in the portfolio:

Building upgrades | *Street lighting* | *Wind and solar* | *Combined heat and power* | *Electric cars*

Project Name	Reporting as of Q4 2019 [1–6]			
	Cumulative Primary Energy Savings (MWh)	Primary Energy Savings (%)	Cumulative CO_2e savings (tCO_2e)	Carbon Savings (%)
Bolloré	34,167	15	47,540	93
City of Orléans	–228,658	-47	119,284	67
City of Rennes	–295,629	-42	88,886	53
Jewish Museum Berlin Foundation	67,793	90	15,367	94
University of Applied Sciences Munich	13,991	30	663	19
Illuminated Cities	33,570	56	4,868	56
Smart H&U	80,770	55	10,365	46
University Hospital S. Orsola Malpighi	318,326	28	74,310	31
City of Venlo	26,963	60	5,354	60
CIMAC	50,818	74	8,269	74
Wattosun	45,209	100	6,266	100
Banca Transilvania	317,571	50	74,645	50
Universidad Politécnica de Madrid	8,975	15	4,380	36
Municipality of Santander	99,207	79	11,646	79
Cardenden Heat and Power	15,960	99	2,029	96
Catfoss	315,708	100	52,616	97
SPL Région Rhône-Alpes	16,628	42	3,968	58
Total (all projects)	921,369	47	530,454	65
Total (EE & CUT only)	1,445,656	60		

1 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 eeef 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 eeef 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. All cumulative numbers are based on investments loan maturity. EE means Energy Efficiency, CUT means clean urban Transport, RE means renewable energy. The entire projects cover EE, CUT and RE projects.

2 The cumulative BT savings represent 9 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.

3 For carbon, cumulative and percentage savings are based on the entire portfolio, percentage savings use the average. For primary energy, cumulative and percentages saving are presented for projects from the portfolio which provide primary energy savings, ie. energy efficiency and clean urban transport projects. For the sake of completeness, the cumulative and percentage primary energy savings are also provided for all projects. Matured investments are included within the total.

4 Cumulative data include 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 (ie. eeef and non-eeef investments).

5 Wattosun, Smart H&U and Catfoss are based on signed commitments. Illuminated Cities are partly based on signed commitments as the construction for one sub-project has already completed. The savings for these three projects are based on estimates.

6 SPL matured in Q1 2018. Bolloré matured in Q1 2019.

investments/signed commitments achieved CO_2e and primary energy savings

FINANCIAL **STATEMENTS**

4.0

*million euros total income**

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

Balance sheet

Statement of financial position
(in €)

	31 December 19	31 December 18
Assets		
Financial assets at amortised cost		
Debt instruments	71,968,972	102,083,544
Financial assets at fair value through profit or loss		
Debt instruments	8,836,024	11,109,619
Investments in subsidiaries	10,386,331	6,303,741
Restricted cash	32,462,664	–
Interest receivable	806,730	816,300
Prepaid expenses and other receivables	944,232	–
Cash and cash equivalents	26,379,802	23,460,528
Total assets	151,784,755	143,773,732
Liabilities		
Derivative financial instruments	2,111,507	1,371,565
Payable on eeef Technical Assistance Facility	280,286	276,575
Interest payable	42,177	–
Accounts payable and accrued expenses	1,491,026	1,433,475
Distribution to holders of redeemable ordinary shares	435,560	548,875
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	10,166,330	6,602,445
Net assets attributable to holders of redeemable ordinary C shares	104,376,789	100,659,717
Total liabilities	151,784,755	143,773,732

Income **statement**

Statement of profit or loss and other comprehensive income
(in €)

	31 December 2019	31 December 2018
Income		
Interest income on loans and receivables measured at amortised cost	3,515,999	4,056,686
Interest income on loans and receivables measured at fair value through profit and loss	275,542	435,699
Dividend income	219,440	–
Change in unrealised fair value of investments in subsidiaries	4,082,590	2,039,603
Change in unrealised in fair value of shareholder loans	140,611	–
Commission and fees income	81,290	2,871
Change in unrealised gain on exchange	124,137	–
Realised gain on exchange	19,791	–
Reversal of loans and receivables loss allowance	–	13,797
Other income	28,731	–
Total income	**8,488,131**	**6,548,656**
Expenses		
Change in unrealised fair value of investments in subsidiaries	–	(593,742)
Direct operating expenses	(2,263,732)	(2,220,332)
Realised loss on exchange	–	(6,807)
Change in unrealised loss on derivative instruments	(739,942)	(117,050)
Change in unrealised loss on exchange	–	(19,449)
Performance fees	(496,573)	(472,710)
eeef Technical Assistance Facility	(280,286)	(276,576)
Loans and receivables loss allowance	(18,797)	–
Interest expenses	(536,169)	(517,418)
Total operating expenses	**(4,335,499)**	**(4,224,084)**
Operating profit	**4,152,632**	**2,324,572**
Distribution to holders of redeemable ordinary A shares and B shares	(435,560)	(548,875)
Complementary dividend attributable to holders of redeemable ordinary C shares	(108,684)	(459,345)
Allocation attributable to holders of redeemable ordinary C shares	(3,608,388)	(1,316,352)
Total comprehensive income for the period	**–**	**–**

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
As of 31 December 2017	**138,287,888**
Issue of redeemable shares	–
Redemption of redeemable shares	–
Increase in net assets attributable to shareholders from transactions in shares	–
Complementary dividend attributable to holders of redeemable ordinary C shares	459,345
Increase in net assets from operations attributable to holders of redeemable ordinary C shares	1,316,352
Loans and receivables reclassified to FVPL (IFRS 9 impact)	200,903
Loans and receivables loss allowance (IFRS 9 impact)	(121,246)
As of 31 December 2018	**140,143,242**
Issue of redeemable shares	3,563,885
Redemption of redeemable shares	–
Increase in net assets attributable to shareholders from transactions in shares	3,563,885
Complementary dividend attributable to holders of redeemable ordinary C shares	108,684
Increase in net assets from operations attributable to holders of redeemable ordinary C shares	3,608,388
As of 31 December 2019	**147,424,199**

Supplementary information

	31 December 2019	31 December 2018	31 December 2017
Number of shares outstanding			
Class A shares – tranche 1	328.8108	328.8108	328.8108
Class B shares – tranche 1	203.3266	132.0489	132.0489
Class C shares – tranche 1	1,569,960.9156	1,569,960.9156	1,569,960.9156
Net asset value per share class (€)			
Class A shares – tranche 1	32,881,080	32,881,080	32,881,080
Class B shares – tranche 1	10,166,330	6,602,445	6,602,445
Class C shares – tranche 1	104,376,789	100,659,717	98,804,363
Net asset value per share (€)			
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	66.48	64.12	62.93

Cash flow **statement**

Statement of cash flows

(in €)

	For the year ending 31 December 2019	For the year ending 31 December 2018
Operating profit after distributions to holders of redeemable ordinary A shares and B shares	3,717,072	1,775,697
Net changes in operating assets and liabilities		
Adjustments for non-cash items	(3,464,462)	(1,334,608)
(Increase) / decrease in prepaid expenses and other receivables	(944,232)	20,189
(Decrease) / increase in accounts payable and accrued expenses	57,551	168,507
(Decrease) / increase in contribution to the Technical Assistance Facility	3,711	(278,584)
(Increase) / decrease in interest receivables	9,570	(3,504)
(Decrease) / increase in interest payable	42,177	–
Distributions paid to holders of redeemable ordinary shares	(113,315)	(38,805)
Net cash flow (used in)/from operating activities	(691,928)	308,892
Cash flows used in investing activities		
Decrease / (increase) in loans and receivables financial assets	32,509,981	4,915,953
Acquisition of subsidiaries	–	(8,000)
(Increase) in restricted cash	(32,462,664)	–
Net cash flow (used in)/ from operating activities	47,317	4,907,953
Cash flows from financing activities		
Issue of redeemable ordinary shares	3,563,885	–
Net cash flow from financing activities	3,563,885	–
Net increase / (decrease) in cash and cash equivalents	2,919,274	5,216,845
Cash and cash equivalents at beginning of the year	23,460,528	18,243,683
Cash and cash equivalents at end of the year	26,379,802	23,460,528

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