

Advancing Sustainable Energy for Europe

Quarterly Fact Sheet as of 31/12/2017

eeef highlights

On December 29th eeef has signed a Memorandum of Understanding with Wattosun, Portugal, for a EUR 5m facility to finance a portfolio of small-size PV installations for self-consumption. The target beneficiaries are users in the public sector, including municipalities, state-owned companies and other public authorities. Wattosun's proposition will enable each public beneficiary to get access to a solution to reduce electricity bills, which is at the same time financially attractive and environmentally friendly.

Wattosun completed an in-depth market study on the appetite for public entities to move to renewable energy systems for self-consumption and their wishes to reduce energy costs and associated risks. Through this process, the firm established strong relationships with public entities, and gained insight that the average investment size within this sector would be below EUR 1m individually. Currently, the company is in ongoing discussion with several parties from the public sector interested to adopt the scheme, with a pipeline targeting up to seven of them in various locations throughout Portugal and publication of the first tenders occurring in the first half of 2018.

The total project, with an impact on seven public authorities, estimates CO₂e savings of 2,650 tonnes per year and primary energy savings of 20,736 MWh per year. The self-consumed electricity will enable those public authorities to minimise or even eliminate any exposure to fluctuations in the energy prices and benefit from effective electricity cost reduction.

In December eeef disbursed €9.2m to Elecnor S.A., the concession winner for the street lighting upgrade in the City of Santander, thanks to a forfeiting agreement signed in August 2017. Elecnor has been working on the installations since February 2017 and for the time of disbursement the City Council confirmed 98% of project had being completed. The final commissioning is expected by the end of April 2018.

Earlier in October the Fund has been pleased to announce the successful completion of the energy efficiency upgrade to the University Hospital S. Orsola-Malpighi, in Bologna (Italy), and to join the inauguration event on 20 October 2017. With the aim to support the entire initiative, in 2013 the eeef subscribed a 20 years bond facility of EUR 31.8m and has been pursuing the implementation of the project over the last four years, together with its project partners Progetto ISOM (Concessionaire), Manutencoop and Siram (EPC/O&M consortium and sponsors), and Sinloc (financial arranger and sponsor). A team of 750 workers and 60 engineers realised new generation power plants and a tri-generation system producing a combination of electric, thermal and cooling energy, connected to a district heating and cooling network of 15 kilometers within the premises of the hospital and related distribution system. This Public Private Partnership (PPP) allowed the hospital to renovate the facility at the same as to lower energy consumption, costs and pollution and improve the service offered to the citizens.

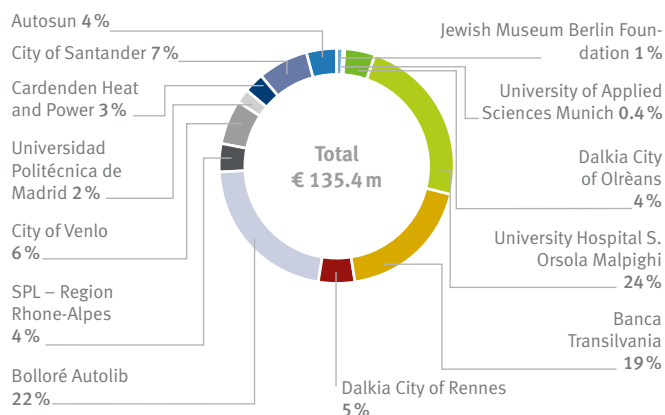
For the local public healthcare, it is a significant step forward, as S.Orsola-Malpighi with namely 20,000 visitors a day is one of the largest hospitals in the country, making it a model for others to follow.



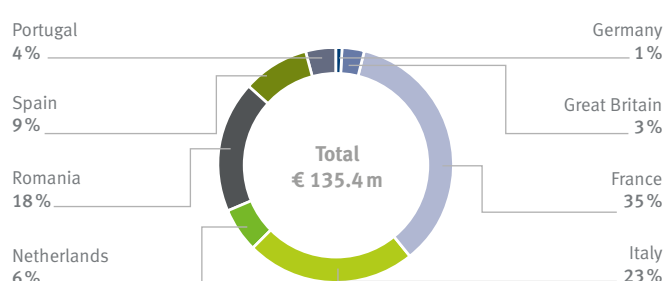
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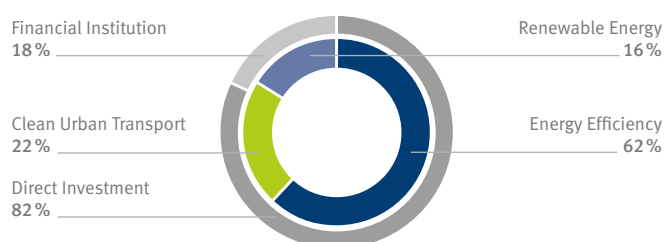
Investments by Partner Institution*



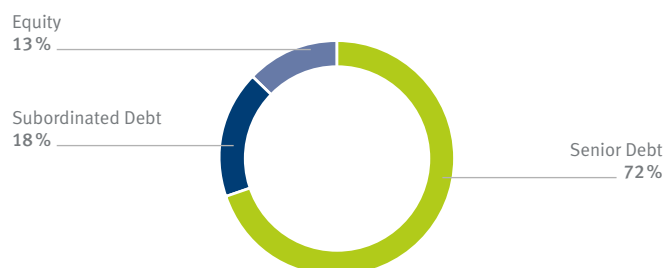
Investments by Country*



Investments by type of Partner Institution*

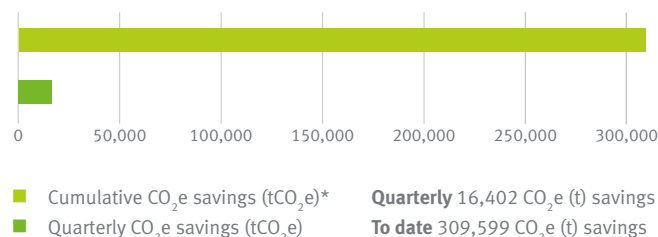


Investments by Financial Instrument

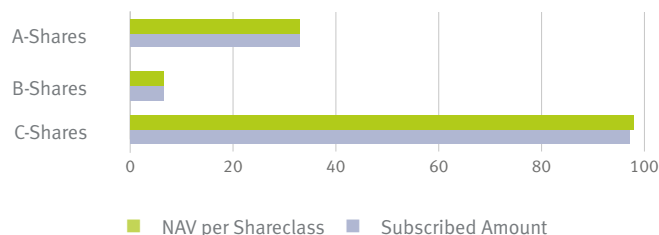


* Based on commitments signed to projects, not including repayments or accrued interests.

CO₂ savings (in tCO₂e)

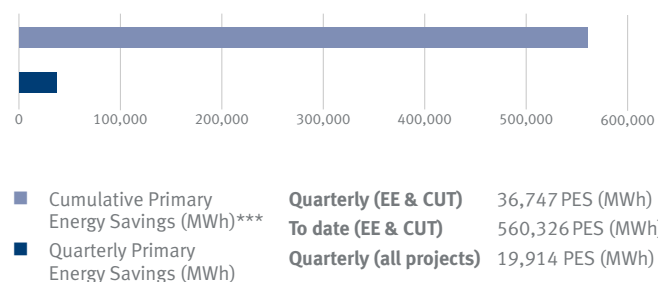


NAV as at 30/09/2017 (in € million)**



** Year-end values currently under audit.

Primary Energy Savings (PES)






*** Cumulative data includes calculations from financial close to loan maturity, based on estimations for projects under construction and less than one year of operations and actual data for projects which have been in operation for over one year. Savings are for total project investment volume (i. e. eeef and non-eeef investments). Portfolio Primary Energy Savings CUT & EE (absolute and percentage) is for 100% energy efficiency (EE), clean urban transport (CUT) and additional capacity RE projects only.

EE – energy efficiency.
CUT – Clean urban transport.

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eeef closed transactions Existing projects

Project: Jewish Museum Berlin 	Country: Germany Sector: Energy Efficiency Type of Investment: Forfeiting Total project size (€ m): 1.4 eeef investment size (€ m): 0.9 Financial close: 20 March 2012 Maturity: 10 years Status: In construction
General description	
Johnson Controls' Energy Service Company (ESCO) and the Jewish Museum Berlin entered into an amended Energy Performance Contract (EPC) for both buildings of the museum with a total EPC volume of € 1.4 m. Agreeing on energy efficiency measures comprising of the optimisation of heating, ventilation & air conditioning and an efficient energy management system, the project is expected to achieve a 26 % reduction of CO2 emissions compared to the baseline. It is a lighthouse project because of its innovative financing structure using forfeiting as a funding source.	
Recent developments	
<ul style="list-style-type: none"> • Project performance in line with envisaged plan 	
Project: University of Applied Sciences Munich 	Country: Germany Sector: Energy Efficiency Type of Investment: Forfeiting Total project size (€ m): 1.1 eeef investment size (€ m): 0.6 Financial close: 15 November 2012 Maturity: 10 years Status: In operation
General description	
Johnson Controls' ESCO and the University of Applied Sciences Munich (UoM) entered into an energy performance contract (EPC) for both buildings of the UoM's campus in Munich-Pasing with a total EPC volume of € 1.1 m. The ESCO and UoM agreed on energy efficiency measures comprising the acquisition of a 49.5 kW combined heat and power (CHP) plant, the optimisation of heating, lighting, metering, building management and pumping. The implementation of all measures achieves an 6 % reduction of CO2 emissions compared to the baseline. The ESCO guarantees the UoM certain energy savings p. a. and performs maintenance and building operation services for the 10 year contract period. This project is a role model for further energy efficiency investments in educational facilities such as schools, universities etc.	
Recent developments	
<ul style="list-style-type: none"> • Project performance in line with envisaged plan 	
Project: City of Orléans 	Country: France Sector: Energy Efficiency Type of Investment: Junior Funds Total project size (€ m): 36.0 eeef investment size (€ m): 5.1 Financial close: 12 March 2013 Maturity: Perpetual Status: In operation
General description	
The CHP plant with an installed capacity of 7.5 MW in electricity and 17 MW in thermal heat supplies the heat to the City of Orléans and sells the electricity via a Power Purchase Agreement (PPA) to Electricité de France (EDF) at a negotiated tariff fixed over 20 years. The plant is fired by wood biomass (90,000 tonnes p. a.) from a supply radius of less than 100 km. This project is the first equity investment of eeef (majority owner of the plant with 84 %). The operation of the CHP plant achieves a reduction of CO2 emissions by 18,533 tonnes p. a., approx. 65 % compared to the baseline.	
Recent developments	
<ul style="list-style-type: none"> • Project performance in line with envisaged plan 	

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eeef closed transactions

Existing projects (continued)


Project: University Hospital S. Orsola Malpighi 	Country: Italy Sector: Energy Efficiency Type of Investment: Senior Debt Total project size (€ m): 41.0 eeef investment size (€ m): 32.0 Financial close: 8 May 2013 Maturity: 20 years Status: In operation
General description	
<p>The project entity, Progetto ISOM S.p.A., a special purpose vehicle (SPV) which is the counterparty of eeef, signed a concession agreement with the University Hospital S. Orsola Malpighi (UHSOM) in Bologna. Planned initiatives are intended to raise the energy efficiency of the entire fluid production and distribution system and reduce energy consumption via adoption of energy efficient equipment such as centrifugal chillers and absorbers, reconstruction of heat distribution networks, renovation of heat exchange substations and inclusion of a tri-generation plant for the combined production of cooling, heat and power (CCHP) sized on the basis of the energy consumption of the hospital facility which is fuelled by methane gas. The project will achieve a reduction of CO₂ emissions by 7,881 tonnes p.a., approx. 26% compared to the baseline. It has been the largest energy efficiency upgrade in Italy under a public-private partnership (PPP) framework so far and is a lighthouse project which demonstrates the positive impact of energy efficiency measures in public healthcare.</p>	
Recent developments	
<ul style="list-style-type: none"> • Project performance in line with envisaged plan. 	
Project: Banca Transilvania 	Country: Romania Sector: Financial Institution Type of Investment: Subordinated Debt Total project size (€ m): 25.0 eeef investment size (€ m): 25.0 Financial close: 26 September 2013 Maturity: 10 years Status: Investment phase
General description	
<p>Banca Transilvania (BT), one of the leading banks in Romania, and eeef signed a letter of intent regarding green lending to support energy efficiency and renewable energy investments in Romania. It is the first cooperation of the eeef with a financial institution and also its first transaction in Eastern Europe. With BT, eeef has a strong local partner with experience in financing several energy efficiency projects.</p>	
Recent developments	
<ul style="list-style-type: none"> • N/A 	
Project: City of Rennes 	Country: France Sector: Energy Efficiency Type of Investment: Junior Funds Total project size (€ m): 47.6 eeef investment size (€ m): 7.3 Financial close: 12 December 2013 Maturity: Perpetual Status: In operation
General description	
<p>The fund has completed its second equity transaction, investing in Rennes Biomasse Energie, which operates a combined heat and power facility with an electrical output of 9.8 MWe and thermal output of 22 MWth over 20 years. This junior fund investment has been realised through the purchase of 85% of the shares of Rennes Biomasse Energie by eeef. Dalkia France is co-investor along with eeef and is shareholder of the remaining 15% of Rennes Biomasse Energie. The plant supplies 21,000 households in the city with green heat. The facility is estimated to save 13,258 tonnes of CO₂ per year.</p>	
Recent developments	
<ul style="list-style-type: none"> • Project performance in line with envisaged plan 	


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eeef closed transactions

Existing projects (continued)

Project: Bolloré 	Country: France Sector: Clean Urban Transport Type of Investment: Senior Debt Total project size (€ m): 30.0 eeef investment size (€ m): 30.0 Financial close: 23 December 2013 Maturity: 5 years Status: In operation
General description	
<p>The French company Bolloré signed a bond subscription agreement for floating rate notes worth € 30 m issued by Bolloré and purchased by the eeef with a maturity of 5 years. eeef's investment is used to finance electric cars and required infrastructure used in Bolloré's European electric car rental concession. This transaction is within the framework of a green transportation initiative for the cities of Paris, Lyon and Bordeaux.</p>	
Recent developments	
• N/A	

Project: Société Publique Locale Efficacité énergétique (SPL) 	Country: France Sector: Energy efficiency measures, public buildings upgrades Type of Investment: Senior Debt Total project size (€ m): approx. 25 eeef investment size (€ m): 5.0 Financial close: 3 April 2014 Maturity: 5 years Status: Implementation phase
General description	
<p>The Société Publique Locale d'Efficacité Énergétique (SPL) signed a mid-term loan agreement for € 5 m to finance the refurbishment of public buildings during their construction phase and to pave the way for raising further long term financing. The SPL was initiated by the Région Rhône-Alpes as a private special purpose company under the French Commercial Code, but operating with public capital. It is associated with a number of public authorities in the region and is dedicated to implementing energy-efficient refurbishment projects of public buildings (high schools, schools and gymnasiums), including renewable energy production. By setting an example of upgrading public buildings, while going beyond standard thermal regulations, the SPL is thinking ahead and aims to achieve its long-term objectives of energy savings and greenhouse gas reduction.</p>	
Recent developments	
• N/A	


Project: City of Venlo 	Country: The Netherlands Sector: Energy Efficiency Type of Investment: Senior Debt Total project size (€ m): 9.1 eeef investment size (€ m): 8.5 Financial close: 3 April 2014 Maturity: 15 years Status: In operation
General description	
<p>The City of Venlo signed a long-term financing contract for € 8.5 m to finance street lighting upgrades with the objective of equipping a minimum of 16,000 lighting points with LED lights (73 % of the total lighting points of the city) and achieving more than 56 % energy savings. The existing public lighting is the largest consumer of electricity with approximately 36 % of total consumption of the municipality. The large-scale street lighting upgrade is a further sign of the city's commitment towards environmental sustainability including, among other things, being one of the first cities in the world to support the principle of 'Cradle to Cradle' (C2C), a framework for using sustainable energy resources only, phasing out conventional energy sources.</p>	
Recent developments	
• Project performance in line with envisaged plan	

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eeef closed transactions

Existing projects (continued)

Project: Universidad Politécnica de Madrid 	Country: Spain Sector: Energy Efficiency Type of Investment: Forfeiting Total project size (€ m): 2.5 eeef investment size (€ m): 2.5 Financial close: 18 November 2015 Maturity: 9 years Status: In operation
General description	
<p>eeef provided financing for the replacement of existing oil boilers providing hot water and heating to the Universidad Politécnica de Madrid ("UPM"). The retrofit of new gas boilers, thermal valves and thermal PV solutions will be completed in 32 buildings of the UPM. The project will realise 22 % of Primary Energy Savings and 36 % CO₂e savings annually compared to baseline. The transaction resulted from the public tendering process launched by the UPM earlier this year. Ingeniería y Servicios de Eficiencia Energética S. L. ("Energika") was awarded with the nine year mandate, and the Energy Management Contract ("EMC") was signed on the 4th of September 2015. The EMC will consist of measures to provide and install the technology required to upgrade existing infrastructure and perform operation and maintenance services as required to ensure optimal performance of the new technology.</p>	
Recent developments	
<ul style="list-style-type: none"> • Project performance in line with envisaged plan 	
Project: Cardenden Heat & Power (CHAP) 	Country: United Kingdom Sector: Energy Efficiency, Renewable Energy Type of Investment: Senior Loan Total project size (€ m): 5.5 eeef investment size (€ m): 4.34 Financial close: 31 October 2016 Maturity: 16 years Status: In operation
General description	
<p>The project involves the replacement of gas boilers in residential buildings owned by Ore Valley Housing Association (OVHA) and small wind farms in the Fife Region in Scotland developed by CHAP. OVHA is a Scottish Housing Association, a registered social landlord with charitable status operating in central Fife, while CHAP is a subsidiary of OVHA. The boilers will be leased to OVHA and the wind plants will benefit of the national Feed in Tariff. The senior debt facility provided by eeef is complemented by junior funds from the Scotland's Renewable Energy Investment Fund (REIF) and equity from OVHA/CHAP. Overall, the project's target is to achieve cumulative annual savings of 99 % for primary energy and 96 % for CO₂e compared to baseline.</p>	
Recent developments	
<ul style="list-style-type: none"> • First disbursement in November 2016. • Implementation of boilers and wind turbine completed in March 2017. 	
Project: City of Santander 	Country: Spain Sector: Energy Efficiency Type of Investment: Forfeiting Loan Total project size (€ m): 9.2 eeef investment size (€ m): 9.2 Financial close: 18 August 2017 Maturity: 14 years Status: End of construction
General description	
<p>The project consists of the upgrade of the existing street lighting luminaires from predominantly high pressure sodium vapour lamps to the last generation PHILIPS LEDs. In the 12 months construction period, ending in November 2017, the number of lighting points replaced will come to a total of around 22,300 units. A system of UVEX wireless sensors will connect the whole infrastructure point-by-point with the City's digital communication network and the remote CEMILUX control system. Savings in CO₂ and primary energy are envisaged to reach 80 % compared to the baseline. The project emerges from the European Commission Technical Assistance, successfully completed in 2015, with the Municipality of Santander receiving €450k of funding to conduct energy audits, set up the street lighting investment programme and the tender documents. The project is one of the largest street lighting upgrades in Spain under a Public Private Partnership (PPP) framework.</p>	
Recent developments	
<ul style="list-style-type: none"> • €9.2m fully disbursed in December 2017 as planned, when more than 98 % of installations were completed. The project is expected to achieve final commissioning in April 2018. 	

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eeef closed transactions

Existing projects (continued)

Project: Wattosun 	<table><tr><td>Country:</td><td>Portugal</td></tr><tr><td>Sector:</td><td>Renewable Energy</td></tr><tr><td>Type of Investment:</td><td>Junior funds (equity and shareholder loan)</td></tr><tr><td>Total project size (€ m):</td><td>10</td></tr><tr><td>eeef investment size (€ m):</td><td>5.1</td></tr><tr><td>Financial close:</td><td>29 December 2017</td></tr><tr><td>Maturity:</td><td>15 years</td></tr><tr><td>Status:</td><td>Signed MoU, portfolio under construction</td></tr></table>	Country:	Portugal	Sector:	Renewable Energy	Type of Investment:	Junior funds (equity and shareholder loan)	Total project size (€ m):	10	eeef investment size (€ m):	5.1	Financial close:	29 December 2017	Maturity:	15 years	Status:	Signed MoU, portfolio under construction
Country:	Portugal																
Sector:	Renewable Energy																
Type of Investment:	Junior funds (equity and shareholder loan)																
Total project size (€ m):	10																
eeef investment size (€ m):	5.1																
Financial close:	29 December 2017																
Maturity:	15 years																
Status:	Signed MoU, portfolio under construction																
General description																	
<p>The project consists of a portfolio of small-scale PV plants, allowing self-consumption up to 5.6 MW in total to end-users in the public sector across Portugal. Beneficiaries will be public entities such as municipalities, state-owned companies and other public authorities. The portfolio developer is Wattosun, an agile player with a highly skilled management team, which comes to a total of over 50 years of experience in developing, financing and operating rooftop and ground mounted PV plants globally.</p>																	
<p>The portfolio, comprising seven sub-projects, foresees installation of circa 21,100 solar panels. When compared to the baseline and the Portuguese electricity grid, the project is expected to allow seven public authorities to save globally CO₂e emissions of 2,650 tonnes per year and primary energy savings of 20,736 MWh per year. The self-consumed electricity would enable the public authorities to minimise or even exclude any exposure to changes in energy prices and benefit from effective electricity cost reduction.</p>																	
Recent developments																	
<ul style="list-style-type: none">• Signed MoU, portfolio under construction																	

eeef created a number of videos to show the projects evolution, please watch them on the eeef website <https://www.eeef.eu/home.html>

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eeef Technical Assistance development

The new Technical Assistance (TA) Facility of the Fund, which has also received funding from the ELENA Facility under Horizon 2020 Programme of the European Union, was launched end of 2016. The objective of the new facility is to support public authorities to prepare investment programmes for a sustainable transformation in the areas of energy efficiency (mainly public building renovation

and street lighting upgrades) as well as small scale renewable energy. eeef has selected a pool of consultants to work closely with the public authorities during the preparation of feasibility studies, energy audits, public tender processes etc. Up to now, two projects have been selected under this facility: City of Gijón and Ferrara Province.

Project: City of Gijón 	Country: Spain Sector: Energy Efficiency Total investment volume (€ m): 21.7 TA amount approved (€): 400,000 Financial close: 24 April 2017
General description	
City of Gijón is planning the implementation of an ambitious sustainable investment programme to complete energy audits for 98 public buildings and 40,000 street lighting points, identifying the appropriate set of energy efficiency and/or renewable energy related interventions, preparing and publishing the tendering documentation as well as preferably selecting an ESCO company to realise the measures within a two-year timeframe. As a Covenant of Mayor and RECI member (Spanish Association for Smart Cities), the city is fully committed to share its experience and best practices with other public authorities, thereby boosting the replication potential for such type of projects in Spain but also Europe-wide.	
Recent developments	
<ul style="list-style-type: none"> • Data collection for street lighting inventory completed • Master lighting plan established, technical and economic analysis of proposed interventions in progress • Energy inventory of facilities ongoing 	
Project: Ferrara Province – via SIPRO 	Country: Italy Sector: Energy Efficiency Total investment volume (€ m): 15.3 TA amount approved (€): 389,500 Financial close: 31 May 2017
General description	
Joining forces with SIPRO (Agenzia Provinciale per lo Sviluppo) – a development agency with a 40-year track record – the investment programme of the Province of Ferrara addresses the implementation of energy efficiency measures in several municipalities to prevent high energy consumption and heat loss going forward. Municipalities directly involved in this TA project are Ferrara, Cento, Argenta, Bondeno, Mesola, Copparo and Voghiera. The investment programme includes deep energy retrofitting measures (in 13 buildings such as schools, offices, town halls and sport facilities) and the replacement of 27,000 public lighting points to LED technology in the cities of Ferrara and Voghiera. The tender for a LED replacement is planned to be launched by the end of 2017.	
Recent developments	
<ul style="list-style-type: none"> • Energy audits carried out for 15 buildings, reports in progress • Screening and validation of public lighting database for Voghiera finalised; reports in progress • Planning of public lighting interventions for Ferrara completed; tender specifications finalised; tender publishing expected in Q1 2018 	

















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EC Technical Assistance development

eeef provided grant money under the European Commission TA Facility (until 31 March 2014) facilitating nine investments with a total investment volume of around €130 m. The projects are at various stages. While Région Rhône-Alpes, OVHA and Venlo successfully achieved the financing stage with eeef, further three

projects (Santander, Terrassa and CIMAC) are currently discussing financing with eeef. A number of projects are under completion using other sources of funding, thereby generating €95 m worth of investment programmes.

Public authority	Country	Description of the investment programme	Total size of the investment programme (EURm)	TA volume approved (EUR)	Estimation of CO ₂ reduction (tonnes per annum)	Estimation of Primary Energy Savings (mWh/y)	EEEF share (EURm)
 City of Santander	Spain	EE – Public lighting/ building retrofit	14.3	452,560	4,396	39,848	9.2
 City of Cordoba ¹	Spain	EE – Public lighting/ building retrofit	1.7	527,968	N/A	N/A	other sources of funding
 Cabildo of La Palma	Spain	Public lighting/ building retrofit/ clean urban transport	TA termination, funds to be returned				
 City of Terrassa	Spain	Public lighting/ building retrofit/ clean urban transport/PV	16.2	623,467	3,952	12,695	5.0
 City of Marbella	Spain	Public lighting/ building retrofit/PV	8.8	417,596	3,725	8,466	5.0
 Région Rhône-Alpes ²	France	EE – Building retrofit	25.0	1,125,000	992	4,156	financing closed (€5 m)
 Municipality of Ringkøbing-Skjern	Denmark	RE – Biomass	Based on TA outcome, project not feasible				
 Ore Valley Housing Association ³	UK	EE – District heating	5.5	1,382,520	1,612	8,968	financing closed (€4.3 m)
 City of Elche	Spain	Public lighting/ building retrofit/ clean urban transport/ PV/biomass	TA termination, funds to be returned				
 City of Venlo	Netherlands	EE – Public lighting	9.1	425,000	948	4,632	financing closed (€8.5 m)
 University of Liège	Belgium	EE – Building retrofit	32.6	1,340,073	2,718	19,277	other sources of funding
 Limerick and Clare Education and Training Board	Ireland	Building retrofit/ PV/micro wind	Based on TA outcome, project not feasible				
 Groupement de Redéploiement Economique de la province de Liège	Belgium	EE – Building retrofit	59.9	2,000,000	1,449	29,900	other sources of funding
 CIMAC (Comunidade Intermunicipal do Alentejo Central)	Portugal	Public lighting/ building retrofit/ clean urban transport/ PV/biomass	21.3	513,441	6,909	19,000	14
 Municipality of Zaanstad	Netherlands	EE – Open and smart energy network	Based on TA outcome, project not feasible				
 Roscommon County Council	Ireland	EE – Biomass district heating	TA termination, funds returned				
Total:			194.4	8,807,626	26,701	146,942	51

¹ TA amount will be reduced due to non-achievement of leverage factor (LF)

² To be determined after project implementation phase

³ Based on a conversion factor of 1.1912 for GBP as of 10th May 2017. Since the initial project structure (which received TA funds) was not pursued, LF and saving data not applicable. For the new project scope savings of 8,968 mWh and 1,7321 CO₂ p.a. are expected

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Investors



Disclaimer

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