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**COMMISSION STAFF WORKING DOCUMENT**

**Mid-term evaluation of the European Energy Efficiency Fund**

*Accompanying the document*

**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND  
THE COUNCIL**

**On the implementation of The European Energy Programme for Recovery**

{ COM(2013) 791 final }  
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### REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

#### On the implementation of The European Energy Programme for Recovery Introduction

At the end of 2010, the European Energy Programme for Recovery (EEPR) was amended<sup>1</sup> to reallocate uncommitted appropriations of EUR 146.3 million to the establishment of a financial facility supporting energy efficiency and renewable energy initiatives.

The European Energy Efficiency Fund (EEE F) was subsequently established on 1 July 2011 through a delegation agreement with the European Investment Bank (EIB). It includes a EUR 125 million contribution to a newly established Investment Fund vehicle with variable capital (EEE F SICAV-SIF<sup>2</sup>) that has so far reached a total volume of EUR 265 million<sup>3</sup>, supported by a Technical Assistance grant facility with a budget of EUR 20 million to provide project development support to potential beneficiaries<sup>4</sup> of the EEE F. In addition EUR 1.3 million has been allocated to the European Public Private Partnership Expertise Centre (EPEC)<sup>5</sup> for awareness-raising activities.

As required by the EEPR Amending Regulation, this mid-term evaluation provides information on the status of the "Financial facility" (the EEE F, the Technical Assistance and the awareness-raising activities) focusing on cost-effectiveness, leverage, additionality, financial management and the achievement of objectives under the Regulation.

#### **1. OBJECTIVES OF THE EUROPEAN ENERGY EFFICIENCY FUND**

The cost-effective energy savings potential in the EU has been estimated to be of the order of EUR 600 billion for the period 2011-2020, with the biggest share in the

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<sup>1</sup> European Economic Plan for Recovery (EEPR) Amending Regulation (EU) no.1233/2010

<sup>2</sup> Société à capital variable –Specialised Investment Fund based in Luxembourg

<sup>3</sup> Additional investments have been made by: the European Investment Bank EUR 75 million, Cassa Depositi e Prestiti SpA (CDP) EUR 60 million and the Investment Manager Deutsche Bank (DB) EUR 5 million.

<sup>4</sup> Final beneficiaries of the EEE F are local, regional and (where justified) national public authorities and public or private entities acting on their behalf.

<sup>5</sup> The European PPP Expertise Centre (EPEC) is a joint initiative of the EIB, the European Commission and EU Member States and candidate countries. EPEC helps strengthen the capacity of its public sector members to enter into Public Private Partnership (PPP) transactions. <http://www.eib.org/epec/>

building sector<sup>6</sup>. Despite these investment opportunities, the energy efficiency market still faces a number of financial and non-financial barriers such as high transaction costs, fragmented and small investments, limited access to credit, complex deal structuring, low confidence of investors and lack of capacity of project promoters. In consequence, financial intermediaries are reluctant to engage in long term financing in a domain where they still perceive high risks due to a lack of track record and appropriate asset valuation techniques.

To address these barriers, the EEE F was launched with a two-fold ambition.

First, the Fund aims at supporting the development of a credible energy efficiency market through the provision of non-standard project finance<sup>7</sup> and dedicated financial products (both debt & equity)<sup>8</sup>. In particular, the Fund supports the development of an Energy Performance Contracting (EPC)<sup>9</sup> market through a "forfeiting scheme"<sup>10</sup>, long-term loans and equity investments in Energy Service Companies (ESCOs).

To tackle the lack of financing and the risk aversion of investors, the EEE F was established as a layered investment fund, with three classes of shares. The EU invested in junior C shares, absorbing the first losses and taking most of the risk to attract additional investors, including private ones.

Second, the EEE F intended to serve as a role model for innovative financial instruments investing in cost-effective and mature sustainable energy projects (with payback periods of up to 20 years) and attracting private capital while demonstrating the business case behind these investments and creating a credible track record.

EEE F specifically addresses the lack of debt financing, in particular long term, by retail banks for financially viable sustainable energy projects.

Through the progressive establishment of a solid track record of commercially viable projects, the EEE F intends to increase market confidence, reduce risk perception and attract additional investors into the market without distorting it.

## 2. MAIN FINDINGS OF THE EVALUATION

The following sub-sections assess the extent to which the progress and the functioning of the facility reflect the EEE F's objectives and meet market needs. In order to do so,

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<sup>6</sup> [http://ec.europa.eu/energy/efficiency/consultations/doc/2012\\_05\\_18\\_eeb/2012\\_eeb\\_consultation\\_paper.pdf](http://ec.europa.eu/energy/efficiency/consultations/doc/2012_05_18_eeb/2012_eeb_consultation_paper.pdf)

<sup>7</sup> Project finance is based on the project's cash-flow rather than on the balance sheet of its sponsors, creating value and risk assessment benchmarks for energy efficiency projects themselves.

<sup>8</sup> Such as senior and junior debt, mezzanine instruments, guarantees, equity, leasing structures and forfeiting loans. The EEE F does not provide grants or subsidised interest rates ("soft" loans), as these financial incentives are not considered appropriate for projects generating sufficient revenue.

<sup>9</sup> EPC means a contractual arrangement between the beneficiary and the provider of an energy efficiency improvement measure, verified and monitored during the whole term of the contract, where investments (work, supply or service) in that measure are paid for in relation to a contractually agreed level of energy efficiency improvement or other agreed energy performance criterion, such as financial savings.

<sup>10</sup> A forfeiting scheme consists of selling future receivables (energy savings) at a discount rate. Forfeiting schemes under EEE F are additionally secured through an energy performance guarantee provided in the energy performance contract as collateral. See case study 1 in Annex 2.

an external study<sup>11</sup> was commissioned. This shows some good first results and reasonably promising outlook, while pointing to lessons to be learned. The formal evaluation indicators (additionality, leverage effect, cost-effectiveness, and sound financial management) are complemented by a more integrated approach looking at the first results, current and future challenges, with dedicated sub-sections for Technical Assistance and awareness raising.

### 3.1 Additionality

Looking at existing EU, national and regional financing schemes, and despite the lack of available or comparable data, it has been found that most public sustainable energy financing schemes at the national level offer grants or preferential loans<sup>12</sup>. There is a general lack of monitoring of their impact, but it appears that their success depends on more factors than just financial terms and conditions, including governance, simplicity of access, information, administrative capacity and flexibility in funding conditions.

In that sense, the EEE F brings a new market-oriented approach with a simple one stop shop for both project financing and technical assistance with light administrative procedures. Although the EEE F offers a great deal of flexibility, there is a limit to the extent to which it can adapt to markets in all EU Member States. In some cases a targeted local/regional instrument might be more suitable to address the peculiarities of the national market or sector. The EEE F nevertheless serves as a role model for the deployment of innovative project finance, increasing market confidence for both investors and project promoters by establishing a solid project track record.

This confirms that EEE F is providing resources to the economy which are not otherwise provided, demonstrating additionality.

### 3.2 Leverage effect

Leverage has been evaluated at two levels. At programme level, the EU contribution (EUR 125 million) has been more than doubled by additional investor commitments (EUR 140 million)<sup>13</sup>. For every EUR 100 committed by the EU in project financing, more than EUR 110 is being provided by other investors, giving a leverage of more than 2. In the future, it is of course desirable that more investors decide to invest, however this will not happen until the EEE F has achieved a convincing track record.

At project level, the sample of investments funded so far is too limited to draw general conclusions. According to the case studies carried out on two projects, leverage effects are minimal. In the first case (Jewish Museum), the EEE F is taking 70% of the project risk, by acquiring a repayment right on future receivables (energy cost savings resulting from the project). In the second (San Orsola Malpighi Hospital

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<sup>11</sup> Mid Term evaluation of the European Energy Efficiency Fund, June 2013, *PricewaterhouseCoopers*

<sup>12</sup> *Etude comparative sur l'efficacité des soutiens publics aux investissements de maîtrise de l'énergie dans l'Union européenne*, February 2013, Stefan Scheuer SPRL

<sup>13</sup> See footnote no.3 for a breakdown of investors' commitments.

Heating and Cooling system), 76% of the EUR 41.5 million of investment has been provided by the EEE F.

Such limited leverage can be explained in the first case by the small size of the investment (EUR 3.1 million), making it less attractive for investors but also reducing the need for additional investors due to small risk exposure for the EEE F. In the second case, possible explanations are the general scarcity of financing and the reluctance of credit institutions and private operators to take risks, especially in times of crisis. This high risk perception is also linked to the lack of a credible track record of technical and financial viability for such complex energy efficiency projects.

### **3.3 Cost-effectiveness**

Although it is difficult at this stage to provide a thorough analysis of the EEE F's impact (effectiveness) and to relate it to Fund management expenditures, due to the limited number of finalised projects, Annex 1 (figure 1.2) provides elements on the EEE F's management expenditure and Annex 2 on the outcomes of the two case studies.

The EEE F 2013 indicative budget foresees EUR 1.48 million of administrative expenditure and EUR 160 million of investment allocation. In concrete terms, if achieved, this will represent EUR 1 spent on administrative expenditures leading to approximately EUR 108 of investment. This does not take into account income generated in the form of interest rate and principal reimbursement (EUR 21,804 for 2012), which is first allocated to cover EEE F's administrative expenditures.

As shown by the project pipeline and case studies, the EEE F is aiming at the diffusion of technologies which have achieved a satisfactory level of cost-effectiveness and maturity. The EEE F also promotes investments with higher upfront costs and longer payback periods which are more risky but still financially viable.

### **3.4 Sound financial management**

The financial management of the EEE F is based on investment guidelines and principles laid down by the European Commission and the EIB and follows high banking standards monitored and assessed in the various investment steps (see annex 1 figure 1.6). At the selection stage, the Investment Manager (Deutsche Bank) is responsible for screening all the applications and performing due diligence analysis. Once a project is mature and financially sound it is assessed by the Fund's Investment Committee (whose members are nominated by investors) and, upon that Committee's recommendation, transmitted to the Management Board in which all the investors are represented (including the Commission) to give final approval. The Investment Manager produces monthly investment portfolio reports, quarterly reports and annual business plans in which yearly targets are set and impacts on the EEE F's balance sheet are forecast. These targets are set on the basis of an assessment of projects' maturity, drawing data from the project pipeline which is updated through day-to-day contact with promoters.

As foreseen, the EEE F is operating with its own resources and it is run with business management criteria which should ensure the full coverage of costs by revenues once sufficient investments have been made and disbursed.

The Commission ensures continuous monitoring of the EEE F at working level and through its representation in the Supervisory and Management Boards of the EEE F. It is also responsible for approving Technical Assistance requests prepared by the Investment Manager.

### **3.5 First results and findings**

The project pipeline of the Fund (Annex 1) holds out the prospect of promising results in terms of market response and project replication.

An investment structure has been created, with balanced governance to ensure the Commission's ability to verify compliance with the investment guidelines (see Annex 1 figure 1.6). A professional Investment Manager has been recruited and applies to the EEE F the same logic it uses in its own activities (planning, monitoring and controlling, risk management with due separation of functions, etc).

In order to run the EEE F efficiently, the Investment Manager deployed an initial workforce which is now being increased in response to the need for a faster uptake.

The first operational objective was to make bankable deals and this has been achieved, as shown by the case studies. The EEE F seems to be receiving good acceptance by the market.

A number of the projects in the pipeline demonstrate that municipalities and other eligible actors are moving away from a grant approach when deciding to invest in sustainable energy solutions.

However, mature projects in the pipeline are tending to materialise at a slower pace than initially expected. This is partly due to market fragmentation, which represents a major hurdle. Each Member state may have different rules and a different level of advancement regarding their approach to energy efficiency in the various market segments. In particular, the existence of a "grant culture" in certain countries may impede the development of market based tools and the involvement of market actors (investors, ESCOs).

This slow uptake represents a challenge especially in view of the short allocation period for the EU investment (by 31 March 2014). An acceleration accompanied with a focus on larger investments is thus desirable.

Additional points on achievements can be made on the basis of the analysis of the pipeline, as presented in Annex 1.

- **Project pipeline:** 6 projects have been approved so far leading to a total of around EUR 79 million allocated. The project pipeline contains, in the most mature category, a further EUR 114 million of potential investments. For commitment

projections for 2013-2015 see Annex 1 figure 1.3. The first EEE F project (Jewish Museum Berlin) is a good example of how EPC can be financed (cf. annex 2). This financing structure was then replicated for the Pasing University project. The San Orsola project is viewed as the first project bond financing under Italy's newly enacted project bond rules.

- **Geographical coverage:** the project pipeline (all maturity stages) includes 21 countries (cf. annex 1.4), suggesting a good penetration of the EEE F also in countries where financing instruments supporting energy efficiency investments have a significant maturity. The presence – albeit limited – of project in Member states where International Financial Institutions, such as EBRD, are active, suggests additional value of the EEE F presence in those countries.
- **Market operator mobilisation has started** with municipalities providing a good response (30 projects) as well as ESCOs (20 projects), and project developers, utilities and private investors (10 projects in total).
- **Most projects are of significant size** - 80% of candidates fall between EUR 4 and EUR 20 million. Despite the image of a market composed of small sized projects, this shows a welcome trend towards more aggregated initiatives.
- **Synergies with Structural and Cohesion Funds:** The Structural Funds General Regulation prohibits expenditure co-financed by the Structural and Cohesion Funds (SCF) from receiving assistance from another Community financial instrument<sup>14</sup> (such as the EEE F). However, different funds can finance different, separate actions and, as a result, a project can be split into different parts, each being treated and declared as expenditure separately to each fund (SCF and EEE F). In addition, EEE F may finance non-eligible expenditure under SCF such as expenditure related to revenue-generating projects within the meaning of Article 55 of the Structural Funds General Regulation which are not covered by the funding gap. The Commission has given guidance to the Investment Manager on options for using the two sources of financing as complements. Nevertheless, the prohibition of direct co-financing and the relative complexity of alternative synergy options have proved somewhat challenging in countries where Structural and Cohesion Funds represent the major source of funding for sustainable energy projects. This has had an impact on the EEE F objective of geographical balance.

### 3.6 Technical Assistance

To limit transaction costs a dedicated technical assistance (TA) facility has been created, helping beneficiaries to bundle their projects together and improve their replicability.

Up to EUR 20 million of TA can be provided to accelerate the development of projects to be subsequently financed by the EEE F. The objective is to develop investment projects, facilitate their financing and overcome barriers that hinder this type of investment.

TA can be requested for feasibility and market studies, project structuring, business plans, energy audits, preparation of tendering procedures and contractual

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<sup>14</sup> COUNCIL REGULATION (EC) No 1083/2006 of 11 July 2006, art. 54 (5)  
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:210:0025:0078:EN:PDF>

arrangements, financial structuring and funding preparation/documentation and any other assistance necessary to develop investment projects to be submitted for financing to the EEE F.

The development of sustainable energy investments is often administratively difficult. Complex public procurement systems may slow down the process. Many municipalities, while familiar with grant applications, are not accustomed to structuring bankable projects. TA programmes are a good way to overcome these barriers and to fill gaps at municipal level in knowledge and technical expertise.

Eighty TA requests have been received by the Investment Manager for first screening since the inception of the Fund. Of these, only a dozen have reached the level of official submission and only eight have so far been approved by the Commission (Spain (5), France (1) and UK (1) and Denmark (1)) for a total allocated amount of EUR 6.3 million, with an average leverage factor of 46 (the minimum is 20) (see Annex 1 figure 1.1). Initial observations suggest that the TA requested will improve the quality of project preparation, accelerate certain procedures (complex tendering), while enlarging the project scope in certain cases and potentially increasing replication potential.

Until March 2014 the Investment Manager forecasts the commitment of an additional EUR 2.3 million of TA. It follows that there might be a risk that about EUR 11 million will stay unspent.

The slow uptake of TA can be explained in many cases by the low level of preparation of requests and the lack of aggregation: in the majority of cases, the Investment Manager has had to discuss with applicant authorities in order to clarify the eligibility of costs, the organisational set up of the project, the implementation time, the impact of measures etc. The efforts needed have been higher than estimated at the inception of the EEE F.

Organisational solutions will be sought to fully exploit the Fund's TA potential, as TA processes, when properly managed, increase the number of quality projects and enhance the chances of Fund's success.

### **3.7 Awareness raising**

**EPEC** is responsible for **awareness-raising** activities supporting the EEE F in three ways:

- Supporting the development of Energy Performance Contracting in the Member States (as the national component of the Energy Performance Contracting Campaign<sup>15</sup>);
- Encouraging optimal use of Structural and Cohesion Funds for energy efficiency and renewable energy (addressing project selection, use of financial instruments and PPP...);

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<sup>15</sup> See [http://ec.europa.eu/energy/efficiency/financing/campaign\\_en.htm](http://ec.europa.eu/energy/efficiency/financing/campaign_en.htm)



- Spreading information on recent policy changes (Energy Efficiency Directive, cohesion policy regulatory amendments) and priorities for the next Multiannual Financial Framework (MFF).

EPEC pursues a country-specific approach, establishing country strategies, identifying a target audience and relevant stakeholders to organise capacity building workshops at national level to achieve its objectives.

EPEC has established a website<sup>16</sup> providing information and guidance on the EU policy framework and financial support for energy efficiency, EPC and PPP related issues.

EPEC has conducted or participated in 32 meetings/conferences across 11 Member States. It is now focusing on national capacity building workshops (as part of the EPC Campaign) with participants from Ministries of finance, energy, employment, territorial development, national agencies and other public bodies.

The Commission and EPEC have identified the following issues that need to be addressed in order to expand the use of financial means other than grants for renewable energy and energy efficiency:

- Energy performance contracting legal framework and accounting rules lack precision in many countries, leading to a perception of necessarily increasing public debt and deficit of general government, even when most of the project related risk/reward is borne by the private partner (ESCO);
- Public sector capacity/awareness is low and often needs political involvement as application of EPC in the government sector requires inter-ministerial coordination.

### 3. CONCLUSIONS & ACTIONS

The following **conclusions** can be drawn from this mid-term report:

Slow budget absorption has represented a challenge in view of the limited EU allocation period. This is mainly due to problems that typically affect such instruments in the take-off phase (long lead times, learning curve etc). Additionally, the EEE F addresses a fragmented market with long tendering procedures. Legal issues at the Fund level have also caused delays in finalising deals, including banking license requirements in certain member states.

Contrary to a traditional EU support programme, the establishment of an innovative financial instrument requires relatively long and complex steps, including negotiation with potential investors, the selection of an Investment Manager and the building up of a sound, bankable and diversified project pipeline. These steps have been achieved.

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<sup>16</sup> <http://www.eib.org/epec/ee>

The additionality of the EEE F has been demonstrated, by its ability to provide long term financing, promoting market-based and quality investments with replication impacts (cf. forfeiting structure used in the first two projects).

To deal with market fragmentation, the Fund has been reaching out to small size projects (below EUR 5 million) which constitutes a challenge in terms of transaction costs and considering the limited commitment period of the EEE F.

The Fund's TA is capable of addressing the lack of capacity and administrative barriers within project promoter that hinders the bundling of larger projects to reach critical mass. EPEC's awareness and capacity building activities bring additional support. However, both have developed more slowly than first planned.

The EEE F has been successful in attracting external funding which, so far, is more than twice the EU contribution. The project leverage ratio is however more limited for reasons including fund scarcity and risk aversion by credit institutions and operators.

Geographical balance is being ensured in the project pipeline. 21 countries are represented among the proposals (all maturity stages) confirming a good penetration of the EEE F also in countries where financing instruments supporting energy efficiency investments have a significant maturity. Presence of project in countries where long term banks like EBRD are active shows an interest in the EEE F suggesting its added value for the market.

It is too soon to fully assess cost-effectiveness.

Sound financial management is ensured by the Fund's solid governance structure, and through the reporting and fiduciary duties of the Investment Manager. In addition to due diligence, the Investment Manager ensures that projects comply with the investment guidelines. This includes a regular (quarterly and annual) review of the financial, social and environmental performance of the Fund.

The experience with the EEE F has helped to understand the dynamics of the energy efficiency market and its relation with the financial instruments including innovative ones, suggesting that:

- Financing instruments collectively need to reflect the diversity of EU territories; differences in economic background between countries and market segments, their cultural, historical and behavioural characteristics and variability in financial sector development.
- Proximity of the financing instrument to the market actors is a key factor of success.
- Costs of any new EU instruments need to be carefully analysed and compared with expected benefits, and possibilities to use the existing instruments more effectively should be duly considered before new instruments are set-up.
- Innovative financing instruments and products for sustainable energy need to be flexible and variable, reflecting the local market needs. Mobilisation of investments at national and regional level seems to be a key driver for market transformation.

- The gap in capacity (and motivation) to develop, structure, launch and finance energy efficiency investments can be effectively tackled by provision of project development assistance, independent on the financing source of the investment itself, but conditional to investment triggered. This support needs to be accompanied by robust independent monitoring which would enable the creation of a verified track record on energy efficiency investments' impacts, thus contributing to standardisation and confidence building vis-à-vis financiers and investors. Such project development assistance can be modelled on the current Elena Facility<sup>17</sup>, while extending its scope (toward appropriate private sector operators).
- This might help the energy efficiency market to develop further and reach investment grade, as standardisation and reliable valuation of underlying assets and contracts is a necessary pre-condition for attracting the private capital.
- Therefore, the EU intervention should address the common barriers (such as lacking project structuring skills, poor enforcement of EU legislation leading to market fragmentation, low level of market confidence and knowledge), market failures (unwillingness to invest/finance economically viable projects, high risk perception and high transaction costs) and impacts of the financial crisis (downgraded creditworthiness of retail banks and businesses, low access to affordable credits).
- EU-level instruments should usefully complement national or regional schemes in place, avoiding duplication and crowding out private investments.

The following **actions** are made:

- (1) In order to allocate the full EU contribution to investment projects by 31 March 2014, the EEE F needs to refocus, when possible, on larger size projects (EUR 10-15 million), and even above the EUR 25 million threshold laid down in the investment guidelines, when justified and appropriate. TA should also support project development for initiatives to materialise beyond March 2014.
- (2) To overcome market fragmentation and reduce transaction costs, demand aggregation through bundling single projects into larger ones should be actively sought.
- (3) Another way of overcoming market fragmentation is to work through financial intermediaries to achieve greater market proximity. This approach should be pursued more intensively.
- (4) Guarantee instruments could also be developed to reinforce the attractiveness of the Fund for certain projects.

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<sup>17</sup> ELENA (European Local Energy Assistance) Facility is a project development assistance facility financed under the Intelligent Energy – Europe II Programme, implemented via EIB, EBRD, KfW and CEB. The facility provides the grant support for development, tendering and launch of sustainable energy investments by local and regional authorities.

- (5) Aggregation should also be pursued under the TA to increase its leverage effect. A more proactive role of the Investment Manager in prospecting for national/regional aggregators (such as energy agencies) should be supported. Such aggregators could facilitate in bundling projects together, establish joined procurement procedures and identify replication potential.
- (6) Disconnecting the TA from the EEE F financing could possibly also be considered as a way to enlarge the TA scope of activities and support project funded by other sources.
- (7) At present, an increase of the EU financial contribution does not seem justified. However, once the Fund will have reached its maturity level and proved its attractiveness to the market, while still addressing EU policy challenges, an additional contribution could be considered if leverage effects of different orders of magnitude could be expected.

**Annex 1**  
**Project pipeline (approved and most mature projects)**

**Figure 1.1 first results as of September 2013**

EEE F					
Projects	Country	Category	Status	EEE F share [€ million]	Type of investment
Jewish Museum Berlin	DE	EE-Building retrofit	approved	1.70	forfeiting loan
University Pasing	DE	EE-Building retrofit	approved	0.59	forfeiting loan
City of Orléans	FR	EE-CHP	approved	5.14	equity/loan
San Orsola Malpighi Hospital	IT	EE-Combined heating and cooling system	approved	31.78	project bond
	FR	EE-CHP	approved	15	equity
	RO	EE-RES	approved	25	intermediation
			<b>Total</b>	<b>79.21</b>	
	FR	EE-urban transport	to be approved	30	Bond structure
	FR	EE building upgrade	to be approved	5	loan
	NL	EE	Due diligence	25	loan
	PT	RE	Due diligence	12	Loan to SPV
	HU	EE public lighting	Due diligence	21	Loan to ESCO
	DE	Urban transport	Due diligence	5	Loan
	LT	EE lighting upgrade	Due diligence	16	Loan to SPV
			<b>Total</b>	<b>114</b>	

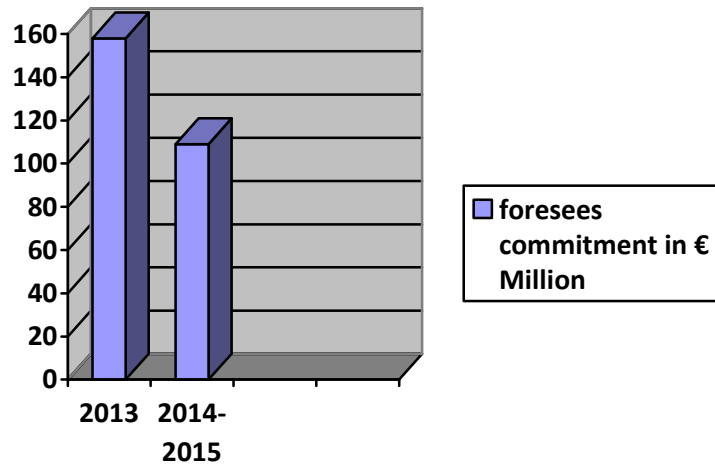
<b>TECHNICAL ASSISTANCE</b>			
<b>Project</b>	<b>Amount (€)</b>	<b>Status</b>	<b>Leverage factor</b>
Public lighting/building retrofit (ES)	407,326	signed	22
Building retrofit/public lighting (ES)	623,332	signed	29
Street/building lighting (ES)	820,885	signed	56
Building retrofit (FR)	1,125,000	approved by EC	22
Combined heat and power (UK)	458,448	approved by EC	87
Energy efficiency-Biomass (DK)	1,918,000	approved by EC	90
Public lighting/building retrofit (ES)	423,000	approved by EC	29
Public lighting/building retrofit (ES)	527,000	approved by EC	35
<b>Total</b>	<b>6,302,991</b>	<b>Average</b>	<b>46</b>

**Figure 1.2**

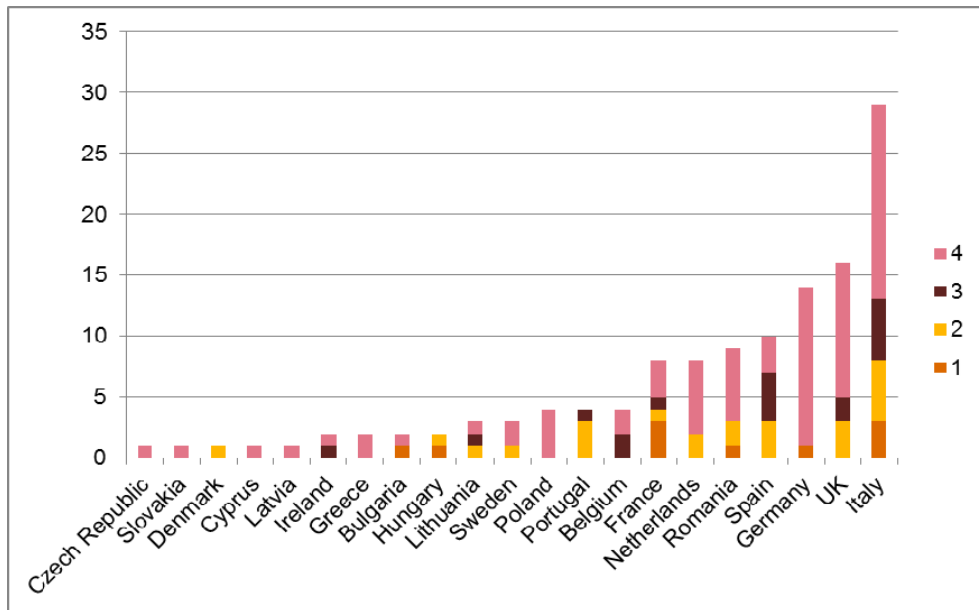
**Direct Operating Expenses**

<b>EUR</b>	<b>2012</b>	<b>2011</b>
Custodian and Administrative Agent fees	82,765	15,975
Investment Management fees	3,468	750,000
Carbon Reporting fees	200,000	101,362
Technical Assistance Management Fee	75,000	0
Luxembourg state, local, foreign or other taxes	3,124	2,736
Auditors, counsel, accountants and other advisors fees	41,078	34,500
Legal fees	149,740	82,511
Director and officer liability or other insurances	27,048	13,635
Marketing, placement, structuring and promotion fees	23,584	42,335
Due diligence expenses	35,266	0
Preparation of reports	10,000	0
Other expenses	523	35,793
<b>Total Direct Operating Expenses</b>	<b>651,596</b>	<b>1,078,847</b>

**Figure 1.3 Potential 2013/2015 commitments by the EEE F**



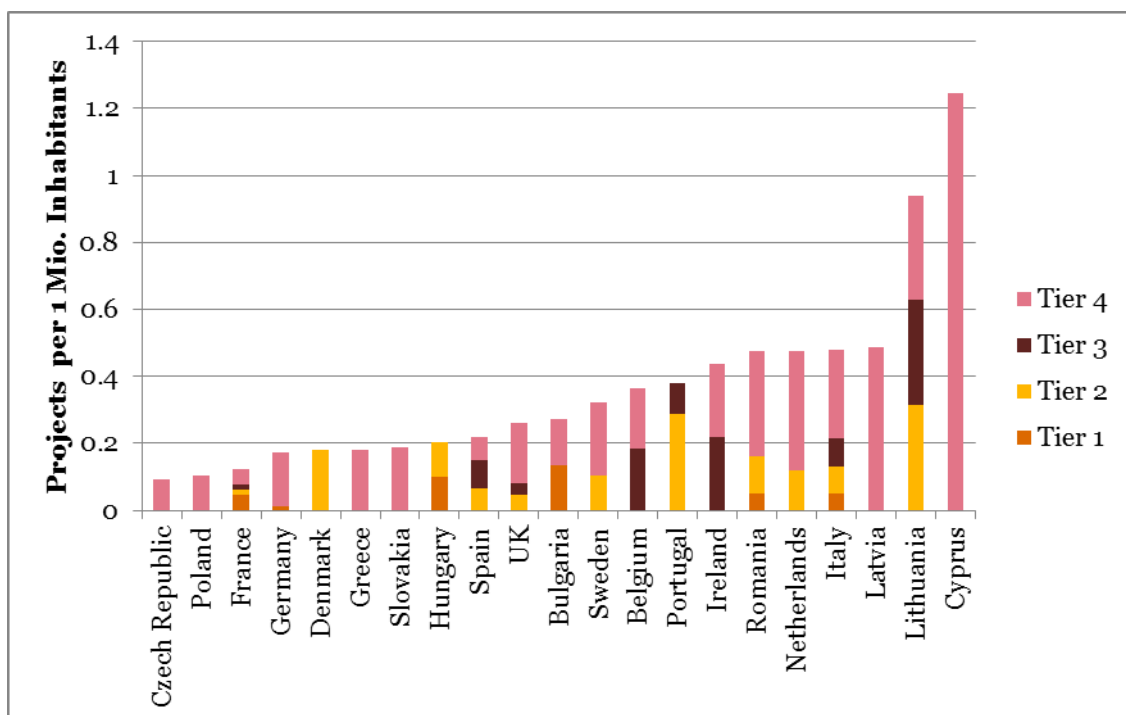
**Figure 1.4 Project pipeline (all maturity stages): number of projects and status by country**



The maturity or the progress status of the projects is expressed in 4 tiers:

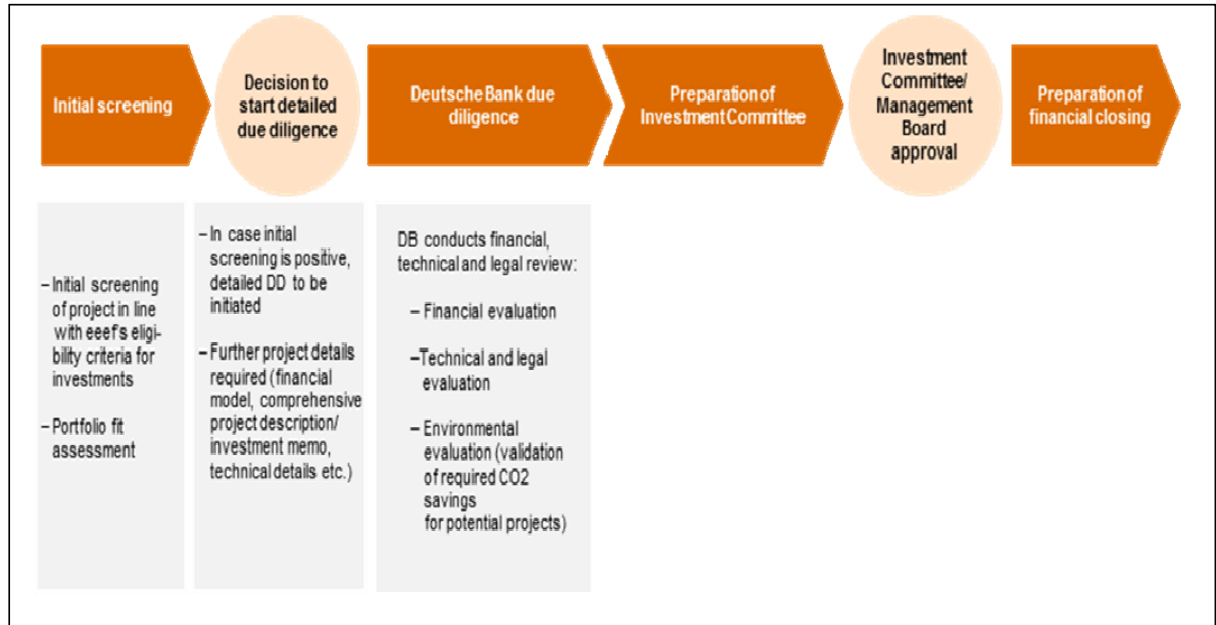
1. ready to finance
2. under due diligence
3. under first screening
4. preparatory stage

**Figure 1.5 Number of projects per inhabitant and status by country**





**Figure 1.6 EEE F Approval process**



The Investment Manager (Deutsche Bank), which was selected by the EIB, acts as the entry point for both technical assistance and financing requests.

The Investment Manager is responsible for a first screening and further due diligence on mature projects which are then submitted to an Investment Committee (composed of experts nominated by the core investors) providing an advisory opinion to the Management Board (in which all the core investors nominate a member) which gives final approval.

## Annex 2 Case Studies

### 1. CASE STUDY 1: JEWISH MUSEUM BERLIN PROJECT (DE)

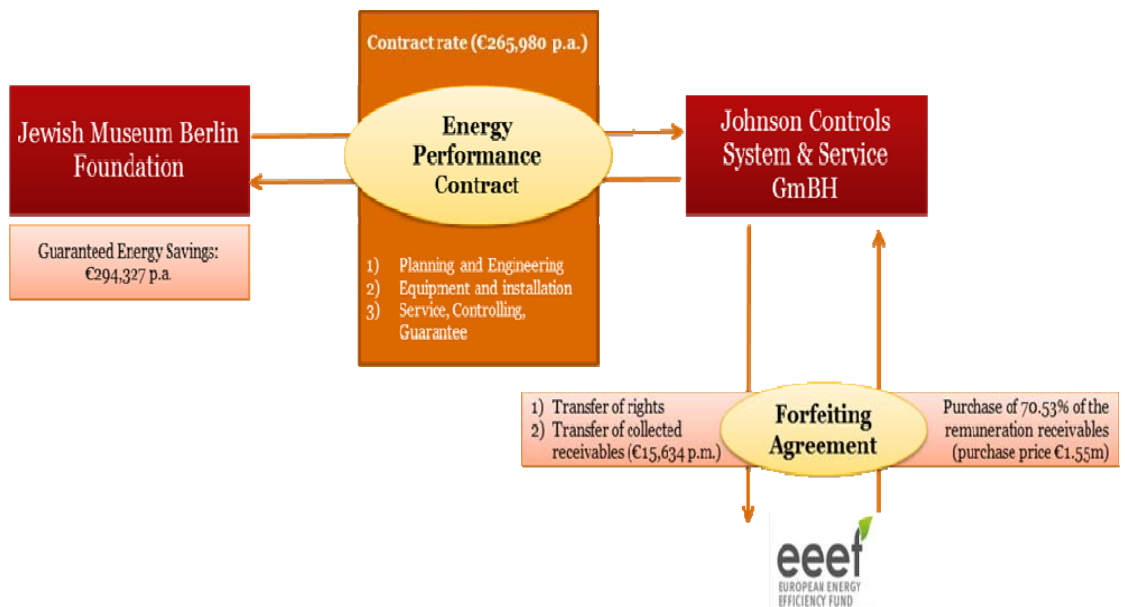
#### Beneficiary of the EEE F

Jewish Museum Berlin Foundation (“JMB”) is the final beneficiary of EEE F.

#### Project description

Johnson Controls Systems & Service GmbH (“JC”) - assuming the role of an ESCO and JMB entered into an Energy Performance Contract (“EPC”) for the buildings of the museum with a total EPC volume of EUR 3.1 million. Energy efficiency measures comprising the optimization of heating, ventilation and air conditioning, energy efficient lighting and the optimization of the energy management system will achieve annual energy savings of 43% and a reduction in CO<sub>2</sub> emissions of 55% compared to the baseline. JC will guarantee to JMB energy savings of EUR 290 000 per annum and will carry out the maintenance and building operation services for the 10 year contract period. Investment size of EUR 1.5 million (net price purchase of receivables) and a tenor of 10 years.

#### Structure



By entering into a forfeiting agreement with JC the EEE F took a step towards establishing a new financial product in line with the target of the Fund. This financial product has replication potential in the public sector which as demonstrated in the second transaction of the EEE F, a similar energy efficiency project with the University of Munich (Pasing).

## **2. CASE STUDY 2: SAN ORSOLA MALPIGHI HOSPITAL HEATING AND COOLING PROJECT (IT)**

Out of a project of EUR 41.5 million, EEE F has invested EUR 26.2 million senior debt for a tenor of a maximum of 20 years (24.5 year concession period). The grantor of the concession is one of the biggest Italian hospitals. Furthermore, a VAT facility of EUR 6.07 million related to this investment has been established for a tenor of 8 years, to be recovered by the Italian tax authority starting as of the 3rd year (to be confirmed by tax opinion). A special purpose vehicle has been established to build and manage - under a Public Private Partnership - the new technological centre for efficient energy production and distribution for the hospital. It is intended to raise the energy efficiency of the fluid production and distribution system and reduce energy consumption through:

- adoption of energy efficient equipment such as centrifugal chillers, absorbers, etc.
- reconstruction of heat distribution networks including the reduction of the delivery water heat from 170° C to 90° C
- 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 energy consumption of the hospital facility, fuelled by methane gas.

An energy monitoring system will be implemented for each energy station and pavilion. The system will be able to account for the consumption of both fluids and power. The system will also enable the control of the main parameters; it will provide historical consumption trends and will detect any abnormalities such as possible sources of waste.

### **Impact of the project**

Reduction of CO<sub>2</sub> emissions: 14.136t per annum, 31% compared to baseline;

Primary Energy Savings: 237062 MWh primary annum, 33.7% compared to baseline.

Due to an increased electricity output from the CHP methane gas supply, the overall MWh production is higher with the proposed design but results in lower primary energy consumption due to the switch from electricity to gas supply and the energy efficiency improvement of the system. The project makes also a significant contribution to the reduction of CO<sub>2</sub> emissions of the overall project (31%) using much more efficient technologies.

### **The cost-effectiveness of the investment in both Case study 1 & 2**

In both cases, the savings are substantial: 31% to 55% CO<sub>2</sub> savings and 33.7% to 43% of primary energy savings.