



Facility for Euro-Mediterranean Investment and Partnership • Facility for Euro-Mediterranean Investment and Partnership



Final report

Energy Efficiency and Renewable Energy project preparation
programme in urban areas of the Mediterranean Partner Countries



Project Reference:

**ENERGY EFFICIENCY AND RENEWABLE ENERGY PROJECT PREPARATION
PROGRAMME IN URBAN AREAS OF THE MEDITERRANEAN PARTNER COUNTRIES**
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"The authors take full responsibility for the contents of this report. The opinions expressed do not necessarily reflect the opinion of the European Investment Bank"

EXECUTIVE SUMMARY

The EU has a strong and long-lasting commitment to supporting the development of the Southern and Eastern Mediterranean Region and especially the Mediterranean Partner Countries (MPCs). A main component of the EU policy focuses on promoting energy efficiency (EE) and renewable energy (RE) in urban areas of the MPCs, which will help support economic development as well as contributing to reducing GHG emissions and to fulfilling the requirements of Multilateral Environmental Agreements.

The EIB decided to assess the need and feasibility for promoting EE and RE investment in the MPCs' urban areas via a financing facility called ELENA-MED, inspired from ELENA EU through the present study.

The main conclusion of this assessment is that the investment potential and the identified needs justify the creation of ELENA-MED, a facility designed to finance technical assistance and provide funding for eligible projects. The facility should include active project identification and selection and the technical assistance should encompass all phases of the project, from design to final commissioning. The EIB, or other participating IFIs, may then provide loans to bankable and technically sound projects.

The assessment study was carried out by the Lavola – Albea Consortium between March 2012 and November 2013 and consisted of the following phases:

- **Phase I: Scoping exercise.** Proposal of eligibility criteria, screening of a preliminary projects pipeline, pre-selecting eligible investment projects and then ranking the preselected projects to identify 3 pilot projects.
- **Phase II: Detailed analysis of pilot projects.** Detailed assessment and analysis of the TA needs for the three pilot projects, including missions to most of the countries.
- **Phase III: ELENA-MED facility design.** Assessing the investment potential and the needs for creating the ELENA-MED Facility and proposing an approach to structure and design the Facility.

The investment potential in EE and RE in the MPCs has been determined by two methods:

- A top down approach, analysing country market potential studies carried out for EIB and other IFIs and extrapolating the potential to all MPCs.
- The investment potential appears to be significant, around EUR 17 billion up to 2030. Considering that 25% of the projects could be eligible for ELENA-MED, the facility could concern EUR 4.2 billion over this period, EUR 0.8 billion in the short term (until 2020), EUR 1.3 billion between 2021 and 2025 and EUR 2.1 billion in the long term (2026 to 2030)
- A bottom up approach, by evaluating the potential of identified and eligible existing projects. The investment corresponding to these projects is EUR 0.9 billion until 2020.

The project screening and analysis allowed the selection of 3 pilot projects that are mature enough to be considered for ELENA-MED's deployment.



The investment potential in urban EE and RE projects is significant enough to justify the creation of ELENA-MED, a technical assistance (TA) and funding facility put in place by the EIB in collaboration with national authorities and potentially with other participating IFIs.

The facility would encompass the entire process, from sectorial studies, project detection, applications for TA, complete technical assistance during the design and bidding phase, possibly funding, project TA for construction or deployment, commissioning until failure free operation. The facility also comprises loans and possibly grants for projects.

This final report briefly presents the methodology, the main findings and the conclusions of the entire study.

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1 INTRODUCING ELENA-MED

The EU has a strong and long-lasting commitment to supporting the development of the Southern and Eastern Mediterranean Region and especially the Mediterranean Partner Countries (MPCs).¹ A main component of the EU policy focuses on promoting energy efficiency (EE) and renewable energy (RE) in urban areas of the MPCs, which will contribute to reducing GHG emissions and to fulfilling the requirements of Multilateral Environmental Agreements.

The EIB plays a key role in promoting the EU's objectives by providing long-term financing for assisting the economic and social development of the MPCs. One of the instruments used is the FEMIP (Facility for Euro-Mediterranean Investment and Partnership) created in 2002.

The EIB decided to assess the need and feasibility for promoting EE and RE investment in the MPCs' urban areas via a financing facility called ELENA-MED, inspired from ELENA EU². The assessment study was carried out by the Consortium Lavola – Albea between March 2012 and December 2013 and consisted of the following phases:

- **Phase I: Scoping exercise.** Proposal of eligibility criteria, screening of a preliminary projects pipeline, pre-selecting eligible investment projects and then ranking the preselected projects to identify 3 pilot projects.
- **Phase II: Detailed analysis of pilot projects.** Detailed assessment and analysis of the TA needs for the three pilot projects, including missions to most of the countries.
- **Phase III: ELENA-MED facility design.** Assessing the investment potential, the needs for creating the ELENA-MED Facility and proposing an approach to give structure to and design the Facility.

This report presents the main outputs of this project:

- Section 1: Introduction.
- Section 2: The identification of the overall estimated investment potential and of a project pipeline based on eligibility criteria.
- Section 3: An in-depth assessment of 3 pilot projects.
- Section 4: A proposal for the design of the ELENA-MED facility.

¹ Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine (West Bank and Gaza) and Tunisia. Libya is not yet eligible for EIB funding; EIB operations in Syria have been suspended.

² The EIB has implemented a successful technical assistance facility in Europe for projects focused on energy efficiency (EE) and renewable energy (RE), called ELENA (European Local Energy Assistance). This facility, which utilises European Commission funding, supports technical assistance for projects submitted by signatories of the Covenant of Mayors.

2 ASSESSMENT OF INVESTMENT POTENTIAL AND PROJECTS PIPELINE FOR LOCAL EE&RE IN THE MPCS

2.1 INVESTMENT POTENTIAL OF EE & RE IN THE MPCS

The investment potential of energy efficiency and small-scale renewable energy projects has been estimated by two different methods in the present study:

- A top-down approach, that consists in utilising market study figures, where existing, extrapolating them for each technology based on a cost per inhabitant ratio considered for the urban population in the MPCs. This shows an investment potential of EE&RE projects in the MPCs of no less than EUR 16.7 billion from 2014 to 2030.
- A bottom-up approach, by analysing the pipeline of existing eligible projects. This appraisal shows an investment potential of some EUR 875 million until 2020 (some EUR 175 M/year from 2016 to 2020 considering two years of preparation) . This figure is consistent with the short-term investment potential calculated under the top-down approach.

2.1.1 TOP-DOWN ASSESSMENT

The top down assessment was undertaken by extrapolating EE & RE investments from market studies on four countries, to all the MPCs proportionally to urban population. The main results of this assessment are summarised in Table 1. Overall a significant potential for investment seems to be available both in the short and longer terms in both energy efficiency and renewable energy. The present analysis does not include the transport sector due to missing data but this sector equally has a significant investment potential. More detail per sector and technology is shown in appendix I.

Table 1 Total EE and RE Investment potential in Mediterranean Partner Countries
estimated from market studies

	TOTAL POTENTIAL MARKET (M EUR)								
	Algeria	Egypt	Israel	Jordan	Lebanon	Morocco	Palestine	Tunisia	TOTAL
COMMERCIAL SECTOR									
EE	540	610	120	90	60	310	50	120	1 900
RE	430	480	90	70	50	240	40	90	1 490
SUBTOTAL	970	1 090	210	160	110	550	90	210	3 390
MUNICIPAL/PUBLIC INFRASTRUCTURE SECTOR									
EE	1 200	1 340	270	210	150	680	140	280	4 270
RE	1 690	1 890	360	280	190	960	170	370	5 910
SUBTOTAL	2 890	3 230	630	490	340	1 640	310	650	10 180
RESIDENTIAL SECTOR									
EE	620	690	130	100	70	350	60	140	2 160
RE	270	300	60	40	30	150	30	60	940
SUBTOTAL	890	990	190	140	100	500	90	200	3 100
TOTAL	4 750	5 310	1 030	790	550	2 690	490	1 060	16 670
With ELENA MED (25%)	1 190	1 330	260	200	140	670	120	270	4 180

Considering a capture ratio of 25% by ELENA-MED, the investment needs could be as high as EUR 4.2 Bn: EUR 0.8 Bn in the short term (2014-2020), EUR 1.3 Bn in the medium term (2021-2025) and EUR 2.1 Bn in the long term (2026-2030).

The annual investment should increase progressively, from an average of EUR 100 million per year in the first period to EUR 450 million per year in the long term. In the short term, the actual investment is considered to start from 2016 as also being integrated in the design of the ELENA-MED facility. The average investment over the whole period until 2030 would be EUR 280 million per year.

2.1.2 BOTTOM UP ASSESSMENT

The bottom up analysis was carried out from the project pipeline. Potential EE and RE investment projects in urban areas of the MPCs were identified during phase I from an initial list of 45 projects out of which 14 were considered eligible and able to be implemented in the short term. The list was put together from projects communicated by the EIB as well as by national institutions, such as ministries of energy, national energy agencies and international cooperation organisations. 6 missions were carried out: Morocco (twice), Tunisia, Egypt, Jordan, and Palestine, in order to investigate the identified projects, update the initial list and find new projects.

The analysis of the existing pipeline of eligible concrete projects shows an investment potential of some EUR 875 million until 2020 (Table 2). The duration of the projects is from 3 to 7 years depending on sector and size.

Table 2 Main characteristics of the pre-selected projects by sector

SECTOR	INVESTMENT COSTS (M EUR)	NUMBER OF PROJECTS	ENERGY SAVINGS (MWh/year)	ENERGY RENEWABLE PRODUCTION (MWh/year)	AVOIDED CO ₂ EMISSIONS (tCO ₂ /year)
Increasing energy efficiency in buildings	175	2	51 250	8 800	32 800
Integration of RES in buildings	55	4	13 850	37 250	24 700
Building integrated PV	50	2	0	17 250	12 150
Urban transport	525	2	111 400	0	188 700
Public lighting	30	2	26 700	0	19 000
Energy-efficient urban equipment	15	1	26 250	0	23 000
EE&RE EE measures in new urban areas (new cities)	25	1	24 750	16 300	24 450
TOTAL	875	14	254 200	79 600	324 850

2.2 ESTABLISHMENT AND ANALYSIS OF A PROJECTS PIPELINE

24 projects (the pipeline) out of 45 were considered to be eligible according to the criteria established during phase I of the present study and presented below out of which 14 projects appear to be able to be implemented. The list of projects in the pipeline is presented in Appendix II .

- **Relevant investment size:** Preferably around EUR 20 million but smaller projects, at least above EUR 2 million, would also be eligible.
- **Urban areas:** Only projects in urban areas will be considered.
- **Public promoter.**
- **Concrete investment project,** with potential to be implemented in a reasonable timeframe.
- **Relevant sectors:**
 - Energy efficiency in private and public buildings.
 - Transport energy efficiency.
 - Energy-efficient urban equipment.
 - Efficient street and traffic lighting and improved management.
 - Integration of RE.
 - Information and communication technology for energy efficiency.
 - PV implementation (only integrated in buildings/transport/urban infrastructures).
 - Energy management systems and tools.

An overview of the number of projects in the pipeline is shown in Figures 1 and 2, broken down by sector and country. It can be seen that there are some countries, such as Morocco, which have more ready projects than others, followed by Egypt and Jordan. Similarly, the building sector (both RE in buildings and also EE in buildings) presents significantly more projects than other sectors.

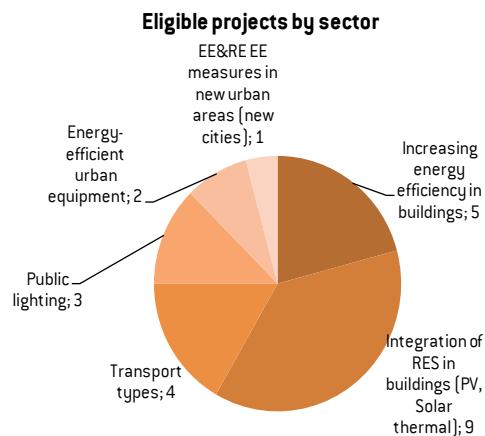


Figure 1 : Number of eligible projects in the pipeline by sector

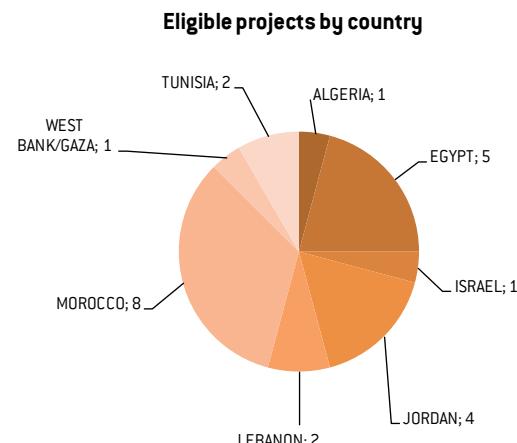


Figure 2 : Number of eligible projects in the pipeline by country

The bottom up analysis shows that the most promising sectors, in terms of bankability and replicability, are the implementation of RE in buildings, EE measures in new buildings, public lighting efficiency and EE in urban infrastructures.

Based on the analysis of the pipeline, Morocco appears to be the most active country in terms of EE & RE investment due to political stability, a favourable regulatory framework favouring EE&RE, a strong commitment in improving public transports, the construction of several new towns by a state-owned promoter, and a national energy agency that has an active support policy through a call for projects called Jiha Tinou ("My Region"). Two pilot projects have been selected in Morocco.

Egypt has several projects in early development stages that are on standby due to the political instability; besides, the national energy agency (NREA) shows limited interest in urban EE & RE projects. It focuses mainly on large RE grid connected projects, as found from the discussions with the Agency's officials.

Jordan's identified projects are driven by the German cooperation society GIZ and concern mainly the infrastructure sector based on a pay-as-you save financial scheme that seems to be replicable throughout the region.

Identified projects in Israel and Lebanon appeared to be relatively small; those in Tunisia are not mature yet.

The project in Palestine is being promoted with the cooperation of AFD and concerns EE & RE in hospitals.

An exhaustive analysis of the project pipeline appears in the report of phase 1.

3 PILOT PROJECTS ANALYSIS

3.1 APPROACH TO PILOT PROJECT SELECTION

A pipeline of concrete investments in local / urban EE&RE was established, containing 24 projects. The list was further reduced in order to select three pilot projects, which could be used as case studies for a detailed needs assessment in terms of technical assistance.

These 14 projects were then scored and ranked based on their attractiveness to be pilot projects and be analysed in detail to understand TA needs. Aspects taken into account to calculate each project's score included:

- Commitment of promoter to implement the project.
- Promoter's capacity to prepare and implement the project.
- Project size.
- Replication potential.
- Financial and economic viability.
- Socioeconomic impact .
- Energy-Environmental impact:
 - Cost of energy savings
 - Cost of reduced or avoided CO₂ emissions
 - Cost of renewable energy production
 - Energy production and energy savings
 - Amount of reduced or avoided CO₂ emissions

All criteria were rated from 0 to 5 with a minimum score to attain eligibility. Different weights were given to the criteria according to their relevance. More details about criteria can be found in the document "*Project Selection Criteria - Energy Efficiency and Renewable Energy Project Preparation Programme in Urban Areas of the Mediterranean Partner Countries. Contract: TA2011032 R0 FTF (2013, April). Lavola 1981, SA; Albea Transenergy SARL.*

3.2 RESULTS FROM PILOT PROJECTS SELECTION

Three pilot projects were selected during the project assessment phase. The methodology used to select the pilot project was:

- Step 1: Selection of the highest rated projects amongst the eligible projects.
- Step 2: Verification that all criteria reach the minimum score required.
- Step 3: Assessment of the key factors for successful implementation of the project: TA needs, Commitment of public sector, Timeline and Financial plan

The three selected pilot projects are:

- MA-06: The new town of Chrafate (Morocco) : Adding EE for new buildings and public lighting and implementation of RE to a large concrete urban development project.
- MA-11: Implementation of the Energy Efficiency Plan for Public Lighting in Agadir (Morocco), one of the best projects from Jiha Tinou call for projects.
- PS-02: Implementing solar water heating for hot water and boiler preheating in hospitals (Palestine).

During the selection process projects from Algeria and Lebanon did not reach the minimum score in every criterion. On the other hand, Information from the Jordan projects is complete and of outstanding quality. However the projects could not apply for TA because they were not proposed by a public promoter. This fact could justify extending the eligibility of projects for ELENA-MED to include projects with promoters other than the public sector.

3.3 ASSESSMENT OF NEEDS FOR THE PILOT PROJECTS

Selected pilot projects were assessed in depth in order to detect their needs , including technical assistance for further development. The needs concern technical, financial and organisational aspects and are different for each project:

- **Technical studies:** The pilot projects are all feasible, yet the technical solutions have to be studied from general approaches, masterplans, to detailed technical specifications and bid packages.
- **Financing engineering:** The project estimates are based on ratios and need to be estimated precisely. The projects depend on external financing such as grants, financing through energy services companies and public – private partnerships. Therefore they are in need of TA for their financing engineering.
- **Organisational approach:** the technical and financial setup has to be supported by legal and organisational advice since some of the proposed schemes are not common in the MPCs.

The specific needs for TA are specified with the description of each project.

The main barriers appear to be:

- The lack of technical experience in the field of EE & RE: the TA component of ELENA-MED could respond to dealing with this issue
- The lack of financing specifically dedicated to EE & RE: the TA for financing engineering as well as the financing component could help projects to be successfully implemented.

A brief description of pilot projects is shown in the following table:

Table 3 Pilot project summary

Project	Description	TA needs	TA Cost (EUR)	Investment Costs (MEUR)
The new town of Chrafate, Morocco	Implementation of EE building specifications in new building (in advance of Morocco's legislation), EE public lighting and SWH and other RES (such as district heating from adjacent industries) in the new town of Chrafate, located near Tanger Tétouan and Tanger.	<ul style="list-style-type: none"> - TA for set up a Project Implementation Unit (PIU) for the implementation of the investment programme. - Technical assistance for the implementation of the financial scheme - TA to improve the energy efficiency standards to be implemented in building construction - TA to implement an efficient public lighting system with LEDs 	701 200	16.5
Energy Efficient lighting for Agadir, Morocco	<p>The project concerns public lighting efficiency investment to be carried out via a PPP / ESCO or public investment in the city of Agadir.</p> <p>The public lighting of Agadir is composed of 30,000 luminaires (sodium, incandescent and metal halide) controlled by 600 control cabinets. The annual energy consumption is roughly 22 GWh.</p>	<ul style="list-style-type: none"> - TA for managing and coordinating the project. - TA to implement an efficient public lighting system (Public lighting Master Plan, support in tendering process and Verification of savings) - TA to define and implement the financial scheme 	452 000	10.5
EE & RE for hospitals in Palestine	<p>EE & RE actions in all 76 hospitals in Palestine (West Bank/Gaza) based on the preliminary energy audits.</p> <p>The investment programme comprises:</p> <ul style="list-style-type: none"> - Energy management system implementation - Installation and operation of solar water heater systems - the supply, installation and operation of cogeneration system for heating/cooling (CHP, combined heat and power) - "Zero cost" actions based on good practices, 	<ul style="list-style-type: none"> - TA for set up a Project implementation Unit (PIU). - Energy audits for all hospitals. - TA for developing a detailed economic and financial plan for the investment programme. - TA for developing technical guides and bid documents on EE in the health sector, and on the implementation of SWH and CHP in hospitals. - Financial and technical support through all project implementation. 	250 400	5

3.4 PILOT PROJECT PRESENTATION: THE NEW TOWN OF CHRAFATE, MOROCCO

Introduction

Chrafate is one of the four new towns built by the state owned promoter Al Omrane in Morocco. It is located near Tanger Tétouan and Tanger MED. The surface area of this project is 770 ha, and the numbers of inhabitants and homes are 150,000 and 30,000 respectively. The total investment is MAD 24 billion (EUR 2.14 billion) until 2020.

The project concerns phase 1 (2014-2018) which consists of 8000 dwellings (1000 built by Al Omrane, 7000 by Dyar Al Mansour).

Brief project description

The proposed investment programme for ELENA-MED is the implementation of EE building specifications in new building (in advance of Morocco's legislation), EE public lighting and SWH and other RES (such as district heating from adjacent industries).

The global project cost has been estimated at EUR 16.5 million (as additional costs to current construction methods).

Organisation

The Promoter of the project is Al Omrane Chrafate (SAOCH). He will rely on the Project Implementation Unit who will deliver own expertise and contract external consultancy services.

PROPOSED TA ACTIVITIES

Project Implementation Unit.

Assistance for the implementation of the financial scheme.

Master plan & specifications for public lighting.

Study of technical requirements and specifications regarding energy efficiency in Chrafate buildings.

Direct staff costs (EUR) 360 000

External experts / subcontracts (EUR) 341 200

TOTAL ELIGIBLE COST (EUR) 701 200

Leverage factor 24

Assessment of identified needs

TA is needed for the project implementation, its financial scheme, engineering for EE improvement in buildings, RES as well as for public lighting. The estimated cost is EUR 0.7 million for 3 to 4 years.

Economic / financial aspects

The main investment sources proposed to install the proposed technologies might be the own resources of Al Omrane, Société d'Investissements Energétiques (SIE), the Ministry of the Interior, or other financial institutions (EIB, EBRD, etc.), or a private energy service company.

EE measures will make the dwellings more expensive and the overcost could be paid for either via a grant or by the future buyers.

A PPP-type contract on a 'pay-as-you save' basis is one of the options considered to finance the public lighting EE investment project.

According to the financial analysis, the initial investment would be recovered after 8 years, which indicates that the project is financially viable.

Summary

- Investment supported by TA: EUR 16.5 million; TA: EUR 0.7 million
- The EE & RE investment costs will be included in higher sales prices of the dwellings (or covered by grants): EE & RE investment will not be made if not supported via ELENA-MED.
- Technical expertise: pilot project for Morocco.
- The promoter is financially robust.
- The replication potential is high: 22 000 more dwellings to be built in Chrafate and more in the other new town projects under preparation in Morocco.

3.5 PILOT PROJECT PRESENTATION: ENERGY EFFICIENT LIGHTING FOR AGADIR, MOROCCO

Introduction

Agadir City, with 440,000 inhabitants and 90 km², is one of the most important cities in southwest Morocco. The public lighting of Agadir is composed of 30,000 luminaires (sodium, incandescent and metal halide) controlled by 600 control cabinets. The annual energy consumption is roughly 22 GWh.

Brief project description

The project concerns public lighting efficiency investment to be carried out via a PPP / ESCO or public investment.

- Lighting diagnosis and master plan.
- Installing voltage reducers on all panels.
- Replacing ballasts with electronic ballasts.
- Replacement of lighting fixtures (a current hypothesis of 40% has been made for the project sizing purposes)
- The installation of 100 astronomic switches

The investment costs have been estimated at EUR 10.5 million and it will be implemented over a period of three years

Organisation

The approach to implementing the Investment Programme is as follows:

- The City of Agadir is the promoter, and as such, will lead the financial shareholder consortium and name the project manager and constitute a steering committee;
- The Project Manager will prepare the tenders for external consultants and contractors / ESCOs; He is also responsible for supervising the studies and the works.

Assessment of identified needs

Technical assistance financed under MED-ELENA would consist of:

- A lighting master plan to determine equipment renewal needs.
- Engineering studies.
- Legal / contractual studies to determine how the investment is to be financed and the works to be done combined with operations and maintenance, possibly via a PPP/ESCO.
- Monitoring of the progress of the implementation of the Investment Programme;
- Management of the financial issues associated with the implementation of the Investment Programme.

The estimated TA cost is EUR 0.45 million over three years.

Direct staff costs	81 000
External experts / subcontracts	371 000
TOTAL ELIGIBLE COST (EUR)	452 000
Leverage factor	22

Economic / financial aspects

The Agadir project has been proposed by the municipality in response to the Jiha Tinou call for projects launched by ADEREE, Morocco's Energy Agency. The latter has committed itself to assisting the municipality in making informed decisions on significant energy investment, by facilitating the links between the municipality and potential partners, offering strategic advice and technical assistance and helping the municipality to raise funding.

The main investment sources proposed to implement the project may be the following:

- SIE (Société d'Investissements Energétiques), a Moroccan public company under the control of the Ministry of Mines and Energy, which may finance up to 17% of the total investment;
- The municipality, through the Fonds d'Équipement Communal (FEC), the municipal bank, which would finance up to 34% of the total investment;
- Other financial institutions (EIB, EBRD, etc.);
- A private energy service company.

A PPP-type contract on a 'pay-as-you-save' basis is one of the options being considered to finance the public lighting EE investment project.

Summary

- Investment supported by TA EUR 10 million; TA: 0.5 million.
- Technical and financial needs covered by TA have been clearly identified: technical, legal and financial support to implement PPP.
- The forecast risk is low while energy benefits are significant.
- A high degree of replicability in Morocco and in the MPCs more generally.

3.6 PILOT PROJECT PRESENTATION: EE & RE FOR HOSPITALS IN PALESTINE

Introduction

Energy prices in Palestine are amongst the highest in the region. In 2009, the PEA set up a National Framework Programme called the "Promotion of Energy Efficiency & Renewable Energy in Strategic sectors" (PEERE), which consists of EE actions for all sectors (industry, services, households, transport and public services). The PEA works together with the Ministry of Finance in order to ensure the success of all investment programmes.

AFD and FGEF have financed energy audits, EE and RE works in some sites.

In November 2013 the Ministry of Finance put in place a financial mechanism (a revolving fund of EUR 3 M) that will allow the initiative to be continued.

Brief project description

The proposed investment programme comprises EE & RE actions in all 76 hospitals in Palestine (West Bank/Gaza) based on the preliminary energy audits.

"Zero cost" actions are based on good practices. Investment and energy savings have been calculated for the total of 76 hospitals. They include minimal cost EE actions (see table below), as well as the implementation of SWH and possibly CHP for bigger hospitals (more than 100 beds).

ACTION	Investment (EUR)	Energy savings (GWh/year)	Savings (EUR/ year)
Zero cost actions (76 hospitals)	0	3	406 800
Minimal cost actions (all hospitals)	81 700	1.6	224 100
SWH system (57 hospitals)	875 500	1.9	258 200
SWH / CHP (19 hospitals)	4 014 000	12.3	1 691 300
TOTAL	4 971 200	18.8	2 580 400

Organisation

The promoter of the programme is the Palestinian Energy & Natural Resources Authority (PEA).

Assessment of identified needs

The main proposed TA activities are:

- The creation of a Project implementation Unit (PIU).
- Energy audits for all hospitals.

- Developing a detailed economic and financial plan for the investment programme.
- Developing technical guides and bid documents on EE in the health sector, and on the implementation of SWH and CHP in hospitals.
- Financial and technical support through all project implementation.
- Performance monitoring.

Expected cost is EUR 250 400 (of which EUR 175 400 is for external experts) for 3 years.,

Direct staff costs	75 000
External experts / subcontracts	175 400
TOTAL ELIGIBLE COST (EUR)	250 400
Leverage factor	20

Economic / financial aspects

The financing of the investment will be assured via a revolving fund that will finance EE & RE investment in hospitals based on achieved savings compared to the actual expenses. The fund has been initiated by the AFD and the FGEF. The Ministry of Finance, which pays the energy bills, will return a large proportion of the savings to the fund.

A revolving fund with clear legal, regulatory and administrative procedures could attract donor funds and amplify energy efficiency works.

Summary

- The system approach (both technical and financial) has also been designed.
- Technical assistance needs to cover technical-financial expert advice and also, to a lesser extent, capacitation.
- The TA application is EUR 0.25 million (10% of which is financed by the PEA) with a leverage factor of 20.
- The forecast risk is low while energy benefits are significant.
- A revolving fund based project which ensures a stable financial approach.
- A project focused on improving a key social sector (Health).

4 THE PROPOSED ELENA-MED FACILITY DESIGN

4.1 THE RATIONALE FOR ELENA-MED

4.1.1 OVERVIEW

ELENA-MED aims to be a facility designated to the MPCs region to support the development of quality projects in the fields of energy efficiency and small-scale renewable energy in urban areas.

It will be designed as a large content facility, open to all countries eligible for financing under the EIB FEMIP, and will be adapted to the reality of each country.

ELENA-MED should cover:

- The **Technical Assistance** necessary to prepare, implement and finance the investment programme. Up to 90% of TA costs (a 10% participation will be requested from the project promoter).
- **Investment.** ELENA-MED could finance a part of the investment needed to implement the project. EIB's involvement will trigger participation of other IFIs facilitating thus the financing of the projects. Besides, the EIB will thereby reinforce its presence in the MPCs (national institutions and banks).

The following table shows the facility's main characteristics:

Table 4 Main characteristics of the proposed ELENA-MED facility

SECTOR	EE & RE investment in buildings (public and private buildings and new city developments), local energy infrastructures (including lighting, district heating/cooling, waste and sanitation infrastructures) and urban transport.
APPLICANTS	ELENA MED is an instrument for public bodies but the facility also should be open to international bodies and private companies, always strongly supported by a public body..
SELECTION CRITERIA	<ul style="list-style-type: none">- Be relevant to national and regional objectives and targets.- Project size should preferably be higher than EUR 20 million with a minimum of EUR 2 million.- Concerning urban areas.- Be economically and financially viable.- Leverage factor of >20 (proportion between investment and TA).

4.1.2 COMPLEMENTARITY WITH OTHER RELEVANT FACILITIES AND SUPPORT INITIATIVES IN THE FIELD OF EE & RE

Existing financial instruments that are applicable to EE&RE investments in the MPCs are limited or dealing with different issues than EE&RE in urban areas. The Sustainable Energy Finance Facility (SEFF) and Energy Efficiency Fund (SEMEF) are not yet operational. MSP PPI focuses on grid-connected RE and mature EE&RE projects.

There are a number of bilateral facilities, which are complementary with ELENA-MED, the latter providing TA and/or additional funding.

Table 5 Joint Facilities and instruments promoted by IFIs in the MPCs

Name	Participating institutions	Budget and financial products	Difference to ELENA-MED	Operational or project
Sustainable Energy Finance Facility (SEFF)	EBRD, EIB, KfW, AFD	EUR 141.7 M – sub-loans	MA and JO only; private sector exclusively, rather small projects	Project
Energy Efficiency Fund (SEMEF)	EBRD, Global Environment Facility (GEF), EIB, Société d'Investissements Energétiques (SIE)	EUR 120 M : senior loans, subordinated loans, mezzanine debt, guarantees, equity/quasi equity, TA	Only 4 countries (EG, JO, MA, TN) TA facility ; quite close to ELENA-MED but it is a fund (limited reserve of money)	Project
RE and EE Project Preparation Initiative (MSP-PPI)	EIB, AFD, KfW, AECID, EBRD	EUR 5 M : TA	Focusing on grid-connected RE and mature EE/RE projects	Operational

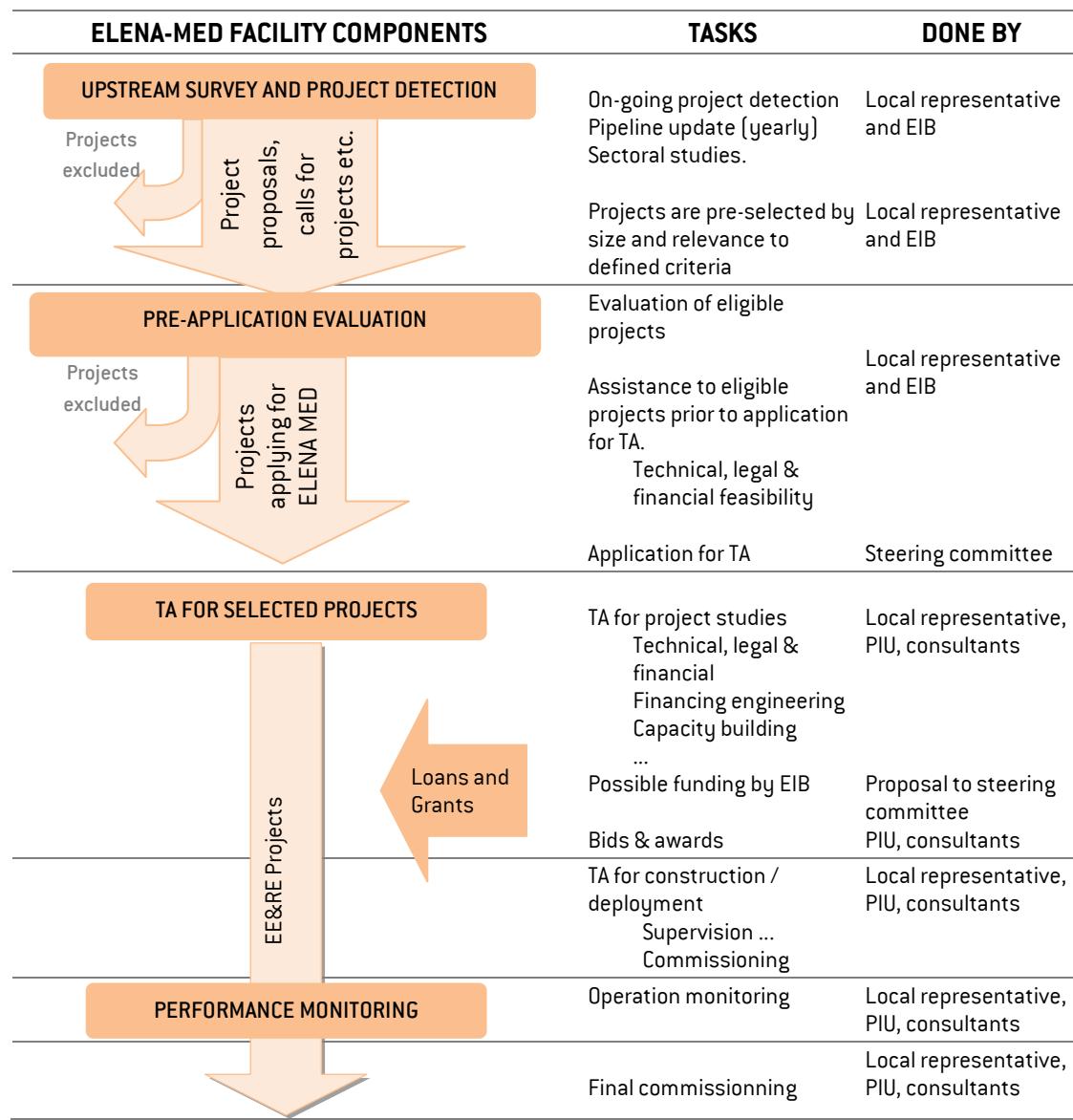
Table 5 shows that not all MPCs are evenly covered by the presence of the different IFIs. Existing instruments have some degree of overlap, but also reveal some gaps. In particular no instrument exist which would support regionally the implementation of public local EE &RE investments in an urban context, via the provision of targeted technical assistance. The MSP-PPI, which also provides TA for projects under the Mediterranean Solar Plan umbrella, does not address the same issues as ELENA-MED, focuses on advanced project preparation for larger projects, and provides smaller TA than what is needed by the analysed pipeline of projects in this study. Apart from the MSP-PPI, the presented facilities are not yet implemented, and are more at a conceptual stage.

4.2 ELENA-MED FACILITY DESIGN

4.2.1 OVERVIEW OF ELENA-MED COMPONENTS

The following flowchart shows the functioning scheme of the ELENA-MED facility, its components and phases. Individual projects will have different timetables and so do not run simultaneously but they go through the same phases, from project selection to commissioned installation.

Figure 3 Operational diagram of the ELENA-MED Facility



Legend:

- ELENA-MED components
- Project flowchart

4.2.2 MANAGEMENT

The ELENA-MED Facility could be operated from the EIB headquarters with local country representatives being energy ministries or their delegates. The local representative could be the national contact point, responsible for searching for projects and providing initial technical support in the pre-application and application stage. Projects may be evaluated and the financing may be decided by a steering committee.

4.2.3 TECHNICAL ASSISTANCE FOR PROJECT DEVELOPMENT

Different needs have been identified throughout all project phases, especially in early stages, regarding technical aspects and project financing. Moreover, in order to ensure the proper project implementation, the facility would also need to cover TA throughout the construction phase. The identified needs are:

- **TA for project management and development:** including creation of a project implementation unit or procedures to follow up work and commissioning.
- **PPP implementation strategies and methodologies:** including the procurement process, contracts or payment mechanisms.
- **Energy technical support:** including feasibility studies of specific solutions, energy audits, technical guides or technical advice to promoters.
- **Financial support:** including project pricing, fund raising or business plans.
- **Legal support:** including existing legal frameworks or contractual aspects.
- **Capacity building, specially for municipal technicians**

There should also be a component designed to monitor and evaluate the development of the project assuring good quality work and the achievement of the expected results through an ex-post evaluation.

4.2.4 INVESTMENT

The ELENA-MED Facility is proposed to have a funding component. The projects that have a balanced financing plan based on different sources of financing (public and/or private) and which can demonstrate or justify their financial viability may apply for funding.

Projects will be selected according to the eligibility criteria based on the technical assistance requirements. The eligibility criteria are as follows:

- EE&RE projects in urban areas in MPCs promoted by public authorities and/or private entities (e.g. ESCOs).
- Consistent and mature project in terms of technical definition: the project should include a technical and financial feasibility study demonstrating its viability and use mature technologies.
- Coherent and clearly defined capital investment necessary for the realisation of the project and sufficiently high FIRR.

The main financial instruments proposed are:

- Loans and guarantees for the investment.
- Investment grants for the technical assistance.

The loans could be managed directly by the EIB for large projects or intermediated by other financial institutions (public or private national banks for example) for smaller projects. Capacity building for the intermediary could be a useful value added component of such ELENA-MED in this context. Another approach for smaller projects would be project bundling. This could be coordinated by the local representative of the facility, with ELENA-MED TA providing assistance with the structuring of the bundle. Other financial instruments (e.g. guarantees, mezzanine loans, etc.) may also be considered in due course. Alongside loans from the EIB, it should be expected that EIB participation will have a catalytic effect and thus encourage co-financing from other IFIs, as well as local and international private sector financiers, and also the EU NIF, etc.

4.3 ELENA-MED BUDGET AND OPERATION PROPOSAL

The budget estimation is based on the previously estimated "top down" investment potential considering the 2020 horizon. (Section 2.1.1)

Based on the results of the estimate of investment potential in EE&RE projects in the MPCs, the following assumptions were made:

- The total investment potential estimated in the MPCs is EUR 16.7 billion over a period of 17 years.
- A first phase up to 2020, a seven-year period is considered reasonable for the implementation of the facility.
- Actual investment starts after the first two years allowing projects to mature via TA .
- 25% of the capture ratio of the total investment potential has been considered for the calculation of the budget (EUR 4.2 billion).
- EIB loan opportunities have been considered as 30% of the total amount of the projects seeking financing (EUR 1.25 billion) due to the possible participation of other IFIs. This proportion may increase up to 50% in the case that the EIB is the only IFI financing the project.
- According to the estimate of TA potential for viable projects, a leverage factor of 20 has been considered for the calculation of the budget for TA.

The new proposed ELENA-MED facility has two components: Technical assistance supported by grants and investment supported by loans. During the implementation of the facility, a yearly budget has been calculated for the facility management. A budget for loans has been considered from the third year on.

The facility should be deployed gradually. Tentatively, the budget can be calculated for a 7-year period (until 2020) as indicated in Table 6 below:

Table 6 ELENA-MED estimated budget for a 7-year period

	2014 1	2015 2	2016 3	2017 4	2018 5	2019 6	2020 7	2014-2020 Total over the period (MEUR)
Investment	-	-	100.0	150.0	150.0	200.0	200.0	200.0
Technical assistance	2.0	3.0	5.0	7.5	7.5	10.0	10.0	45.0
Operation costs	0.5	0.5	0.5	0.5	0.5	0.7	0.7	3.8
Total TA and operation	2.5	3.5	5.5	8.0	8.0	10.7	10.7	48.8
Loans 30%			30.0	45.0	45.0	60.0	60.0	240.0

The general overview of the facility and the yearly investment potential for the EIB up to 2030 is shown in Appendix IV.

4.4 ELENA-MED CALENDAR

A 6 phase calendar has been set up to implement the facility. According to this calendar, the full implementation of the facility is expected to take 18 months.

Phase 0: EIB and EC commitment and development of three pilot projects in order to enrich and fine-tune the facility.

Phase 1: ELENA-MED set up. The main tasks in this phase are raising participations from partner IFIs as EBRD, AFD, KFW, etc. because they are partners already implicated in this region and establishing a detailed definition of the facility. The main sources of financing for the technical assistance and capacity could be grants from EU NIF, EU Member States' climate action funds, or other donors; for the investment financing component, source of funds could include loans from IFIs, the GEF (Global Environment Facility), private financing, etc.

Phase 2: Resource allocation and agreements with national institutions. EIB internal human resources should be allocated to the facility in order to develop the next tasks. The local representatives (i.e. national institutions) should be selected in parallel and formal agreements should be established for collaborations.

Phase 3: Development of tools and templates. Application forms and templates should be elaborated to facilitate a standard application and simplify the evaluation process.

Phase 4: Selection of support staff. Part of the design of the TA is to establish the need to support national institutions for the selection, evaluation and monitoring of projects. EIB staff could manage the facility. Alternatively, the EIB might subcontract to external consultants.

Phase 5: Communication and dissemination. Support and communication material should be prepared to promote a new facility in every MPC.

Table 7 ELENA-MED phases and calendar

Phase/ month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Phase 0: Pilot projects																		
Phase 1: Set up																		
Phase 2: Resources allocation																		
Phase 3: Tools and templates																		
Phase 4: Support staff																		
Phase 5: Communication and dissemination																		

5 CONCLUSION

Pipeline

The investment potential in EE and RE in the MPCs has been determined by two methods:

- A top down approach, analysing country market potential studies carried out for EIB and other IFIs and extrapolating the potential to all MPCs.
- The investment potential appears to be significant, around EUR 17 billion up to 2030. Considering that 25% of the projects could be eligible for ELENA-MED, the facility could concern EUR 4.2 billion over this period, EUR 0.8 billion in the short term (until 2020), EUR 1.3 billion between 2021 and 2025 and EUR 2.1 billion in the long term (2026 to 2030)
- A bottom up approach, by evaluating the potential of identified and eligible existing projects. The investment corresponding to these projects is EUR 0.9 billion until 2020.

Through the pipeline analysis, the following sectors were found to offer the largest potential for investments in urban EE and small-RE:

- EE in new and existing buildings (insulation, energy efficient design, EE appliances, etc.);
- RE integration in buildings (solar water heaters, photovoltaic installations, etc.);
- EE and RE in local infrastructure (including street and traffic lighting, water systems, and possibly district heating & cooling systems);
- Improving EE and integrating RE in urban mobility and transport.

Key challenges

Despite this large potential for investments in urban EE and small-RE projects, only a limited number of projects are reaching the implementation stage. In phase II, the study analysed three pilot projects to understand better the reasons for this low uptake of projects. The most common barriers identified are:

- Limited information / lack of technical capacity: technical barriers include limited awareness of possibilities in the sector and insufficiently qualified capacity; the absence of local expertise in manufacturing and installing EE and small-RE equipment; limited expertise in project planning and implementation of complex projects;
- Limited borrowing capacity or budgetary autonomy for local authorities: capital-intense projects face difficulties where public sector promoters have limited access to capital; when international finance is considered, promoters can be wary of foreign exchange risks;
- Low perceived financial profitability of projects: resulting from split or competing incentives, for instance where construction firms do not themselves benefit from the savings in efficient projects; low energy prices in the various countries also limit the incentive to take action.

Design of ELENA-MED Facility

It has been found that the pilot EE and small-RE investments experience significant needs for targeted technical assistance and financing support. Without means to address these barriers, the

projects struggle to be implemented in a reasonable timeframe. The ELENA MED facility was therefore designed in response to these needs and barriers.

The facility would encompass the entire process, from sectorial studies, project detection, applications for TA, complete technical assistance during the design and bidding phase, possibly funding, project TA for construction or deployment, commissioning until failure free operation.

The catalytic impact of the technical assistance will be enhanced even further by systematically associating the technical assistance to a funding component. Therefore, the facility also comprises loans and possibly grants to bankable and technically sound projects triggering the participation of other IFIs and banks. By linking technical assistance support to project implementation, the leverage effect (i.e. the ratio between the total investment costs and the cost of technical assistance) could be high: for example, the leverage factors calculated for the three pilot projects are around 1:20.

Conclusions

The investment potential and the identified needs suggest that the creation of ELENA-MED would unlock significant EE and small-RE investments in Mediterranean urban areas. The facility has been described with its operational mode and its components (project detection, application for TA, studies and construction supervision done within the TA and funding). The potential budget and management scheme has been designed. Based on this proposal, ELENA-MED could be completely set up and operational within 18 months.

6 APPENDICES

APPENDIX I: INVESTMENT POTENTIAL BY SECTOR AND TECHNOLOGY

The table below shows the investment potential by sector and technology. The investment potential defined in market studies has been extrapolated to all the countries using an urban population ratio.

INVESTMENT POTENTIAL per type of technology and per sector based on Urban Population

	TOTAL INVESTMENT POTENTIAL (M EUR)								
	Algeria	Egypt	Israel	Jordan	Lebanon	Morocco	Palestine	Tunisia	TOTAL
COMMERCIAL SECTOR									
Solar water heaters	211	237	45	35	23	120	21	46	528
Efficient lighting	159	178	34	26	18	90	16	35	397
PV rooftop	145	163	31	24	16	83	15	32	363
Roof insulation	12	13	2	2	1	7	1	3	29
EE measures	373	418	80	62	41	212	38	82	932
Combined heat and power	74	83	16	12	8	42	7	16	185
EE	540	610	120	90	60	310	50	120	1 900
RE	430	480	90	70	50	240	40	90	1 490
SUBTOTAL	970	1 090	210	160	110	550	90	210	3 390
MUNICIPAL/PUBLIC INFRASTRUCTURE SECTOR									
EE measures in public buildings	361	404	77	60	40	205	36	79	901
CHP in hospitals	106	118	23	17	12	60	11	23	264
PV	1 186	1 329	254	196	131	674	120	259	2 964
Solar water heaters	282	316	60	47	31	160	28	62	704
EE in public lighting	801	897	171	132	89	455	81	175	2 001
EE buses PPP	27	30	15	15	15	15	15	15	120
Vehicle testing stations PPP	7	7	7	7	7	7	7	7	49
Solid waste sorting PPP	27	30	6	4	3	15	3	6	67
Landfill gas PPP	89	100	19	15	10	51	9	20	223
EE	1 200	1 340	270	210	150	680	140	280	4 270
RE	1 690	1 890	360	280	190	960	170	370	5 910
SUBTOTAL	2 890	3 230	630	490	340	1 640	310	650	10 180
RESIDENTIAL SECTOR									
Solar water heaters	194	217	41	32	21	110	20	42	484
Efficient lighting	21	24	5	3	2	12	2	5	53
Efficient refrigerators	70	79	15	12	8	40	7	15	176
EE in social housing	89	100	19	15	10	51	9	20	223
EE in buildings	439	492	94	73	49	249	44	96	1 096
Photovoltaic systems	73	82	16	12	8	42	7	16	183
EE	620	690	130	100	70	350	60	140	2 160
RE	270	300	60	40	30	150	30	60	940
SUBTOTAL	890	990	190	140	100	500	90	200	3 100
TOTAL	4 750	5 310	1 030	790	550	2 690	490	1 060	16 670
With ELENA MED (25%)	1 190	1 330	260	200	140	670	120	270	4 180

APPENDIX II: PROJECT PIPELINE

As it is stated in section 2.2, according to criteria established in the first phase of the project, a preliminary list of 24 projects was drawn up. The following table presents these 24 projects that were analysed in order to constitute the project pipeline and from which the three pilot projects were selected.

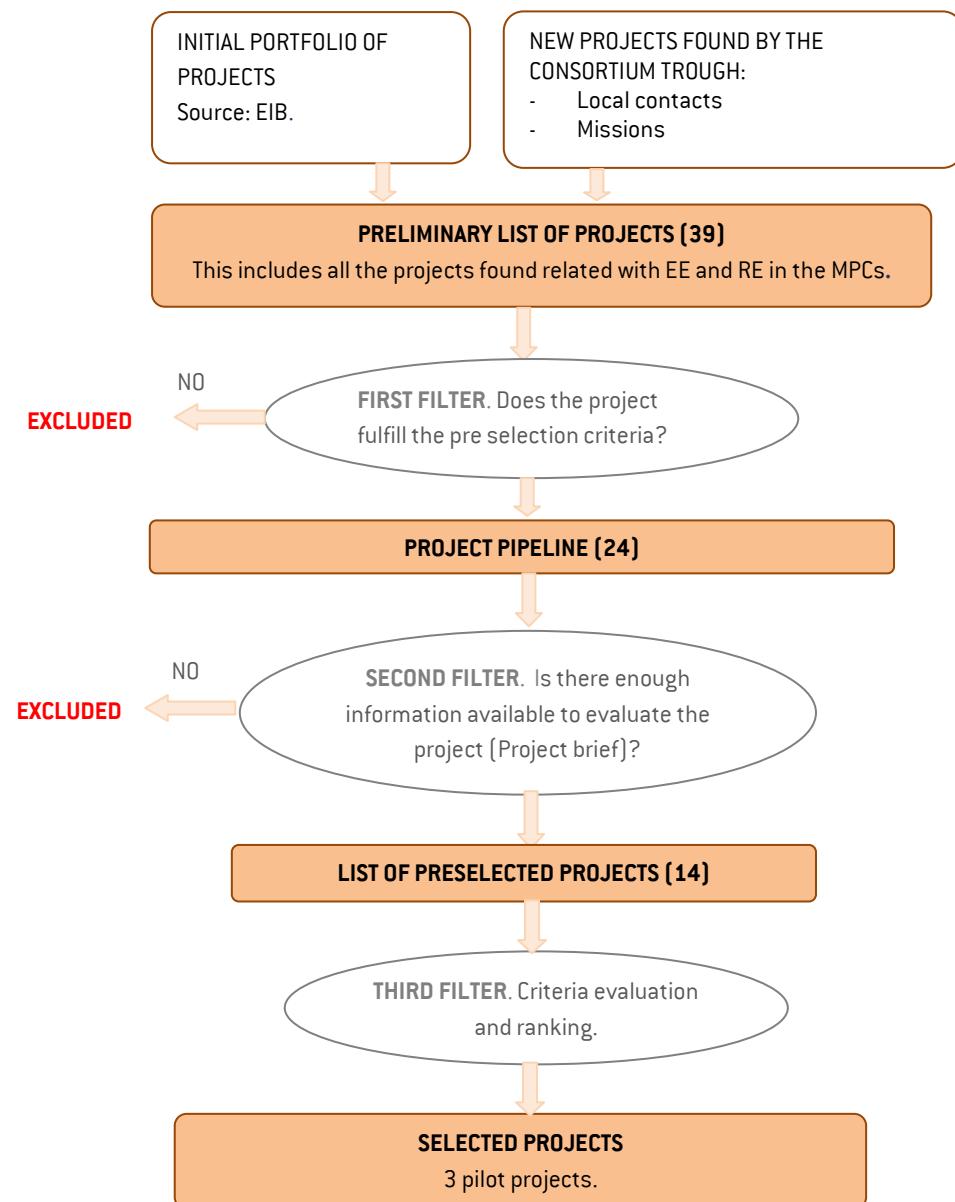
COUNTRY	ID	PROJECT NAME	SECTOR	SOURCE/CONTACT	CONTACT DETAILS	STATUS	COMMENTS
ALGERIA	DZ-02	Collective solar Water Heaters	Integration of RES in existing buildings	Nadia CHIOUKH. In charge of international cooperation - APRUE	nchioukh@aprue.org.dz	Eligible	National program to provide grants to the tertiary and the public sector. Actions in public sector could be eligible as investment project
EGYPT	EG-01	Improving Energy Efficiency of Lighting and Other Building Appliances	Energy efficient lighting (residential and tertiary)	Dr. Mohammed Bayoumi. Energy an environment team leader. UNDP	Mohamed.Bayoumi@undp.org	Eligible	It is mainly an awareness campaign. It has investment in EE in public buildings but no data to analyse
EGYPT	EG-03	Taxi Scrapping and Recycling Programme (Best practices in city energy efficiency)	Increased energy efficiency and integration of renewable energy sources in urban transport	ESMAP (Energy Sector Management Assistance Program)	Nabil Rashdan nyehia@mof.gov.eg +20-22686-1200	Eligible	
EGYPT	EG-04	Improving Energy Efficiency of Urban Residential Projects in sustainable urban communities.	High energy efficient new buildings (residential and tertiary)	Mervat Khalil. Head of the Housing and Building National Research Center	marvat56@yahoo.com	Eligible	Not enough information to be evaluated
EGYPT	EG-05	Solar water heating in hospital	Integration of RES in existing buildings	Mrs Laila Georgy Yousef. Executive Chairman NREA (New and renewable Energy Authority)	lailag_fathy@yahoo.com	Eligible	Not enough information to be evaluated
EGYPT	EG-06	PV fuel saver for tourism	Improving energy efficiency in existing buildings	Tourism Development Authority	Tec-Office@TDA.gov.eg tel: +202 357 03 495	Eligible	Not enough information to be evaluated

COUNTRY	ID	PROJECT NAME	SECTOR	SOURCE/CONTACT	CONTACT DETAILS	STATUS	COMMENTS
ISRAEL	IL-01	LED pilot installation of street lighting in Haifa, Jerusalem, Herzliya, Kiryat Bialik, Tzfat and Ma'aleh Adumim	Street and traffic efficient lighting and improved management	Sagi Karni Head of International Affairs Dept. and Diplomatic Adviser to the Minister Ministry of Energy & Water	karni@energy.gov.il	Eligible	
JORDAN	JO-03	Energy Recovery and Energy Efficiency in Urban Wastewater Treatment Plants in Jordan (Improvement of Wastewater Treatment – IWT)	Energy efficiency in urban facilities. Urban Wastewater Treatment Plants	Ronald Hagger Principal Technical Advisor German-Jordanian Programme "Improvement of Energy Efficiency of the Water Authority of Jordan (WAJ)" GIZ : German-Jordanian Cooperation	Mobile: 00962-79- 926 2785 P.O.Box 92 62 38 Amman 11190 Jordan	Eligible	
JORDAN	JO-04	Solar Cooling for Commerce	Improving energy efficiency in existing&new buildings	Ronald Hagger GIZ : German-Jordanian Cooperation	ronald.hagger@giz.de	Eligible	
JORDAN	JO-05	Sustainable tourism - TWEEF (Tourism Water Energy Efficiency Funds)	Improving energy efficiency in existing buildings (multiple technologies)	Ronald Hagger GIZ : German-Jordanian Cooperation	ronald.hagger@giz.de	Eligible	
JORDAN	JO-06	Increasing pumping efficiency for drinking water pumping stations	Energy efficiency in urban facilities.	Ronald Hagger Principal Technical Advisor German-Jordanian Programme "Improvement of Energy Efficiency of the Water Authority of Jordan (WAJ)" GIZ : German-Jordanian Cooperation	ronald.hagger@giz.de	Eligible	Not enough information to be evaluated

COUNTRY	ID	PROJECT NAME	SECTOR	SOURCE/CONTACT	CONTACT DETAILS	STATUS	COMMENTS
LEBANON	LB-01	Installation of 250 photovoltaic systems in Bourj Hammoud Area	PV Implementation integrated in buildings	Rani Al Achkar Lebanese Center for Energy Conservation. Ministry of energy and water	Rani Al Achkar Technical Engineer rani.alachkar@lcecp.org.lb	Eligible	
LEBANON	LB-02	Support for Collective Solar Water Heating Systems in Urban Areas	Integration of RES in existing buildings	Rani Al Achkar Lebanese Center for Energy Conservation. Ministry of energy and water	Rani Al Achkar Technical Engineer rani.alachkar@lcecp.org.lb	Eligible	
MOROCCO	MA-01	Projet d'Efficacité Energétique dans l'habitat et les bâtiments collectifs. Région de Rabat – Salé – Zemmour – Zaer	Improving energy efficiency in existing buildings (multiple technologies)	Hajjaji Mourad ADEREE Dr Abdelali DAKKINA Directeur du Pôle de la Stratégie et du Développement ADEREE	Hajjaji Mourad m_hajjaji@yahoo.fr Dr Abdelali DAKKINA a.dakkina@aderee.ma	Eligible	
MOROCCO	MA-02	Toits solaires photovoltaïques connectés au réseau au niveau des établissements publics et centres commerciaux	PV Implementation integrated in buildings	Hajjaji Mourad ADEREE Dr Abdelali DAKKINA Directeur du Pôle de la Stratégie et du Développement ADEREE	Hajjaji Mourad m_hajjaji@yahoo.fr Dr Abdelali DAKKINA a.dakkina@aderee.ma	Eligible	
MOROCCO	MA-06	Ville Nouvelle Chrafate	EE&RE EE measures in new urban areas (new cities)	Ministry of Housing: Ahmed NOUREDDINE Direction Technique de l'Habitat Société d'aménagement Al Omrane CHRAFATE: Jallal Mohammed, CEO	noureddinecom@yahoo.fr / a.noureddine@mhupv.gov.ma jmjallal@yahoo.fr	Eligible	
MOROCCO	MA-07	New high quality bus service	Improvement of public transport by redesign and/or extension of the existing public transport network	Said Jabri. Chef de service de transport et Aménagement. Agence urbaine et de sauvegarde de Fes	jabriausf@hotmail.com	Eligible	

COUNTRY	ID	PROJECT NAME	SECTOR	SOURCE/CONTACT	CONTACT DETAILS	STATUS	COMMENTS
MOROCCO	MA-08	Tramway of Rabat Salé	Improvement of public transport by redesign and/or extension of the existing public transport network		NOVEC (private company)	Eligible	Not enough information to be evaluated
MOROCCO	MA-09	RE and EE in public buildings. Salé	Improving energy efficiency in existing buildings (multiple technologies)	Ville de Salé Département de Planification Urbaine	Mohamed Chahri chahri.med@gmail.com +212 6 61 46 60 11	Eligible	it has already a TA
MOROCCO	MA-10	Sustainable public urban transport in Marrakech	Improvement of public transport by redesign and/or extension of the existing public transport network	Ministère de l'Intérieur - DGCL	Mohamed N'Gadi mngadi@interieur.gouv.ma	Eligible	Not enough information to be evaluated
MOROCCO	MA-11	Implementation of the Energy Efficiency Plan for Public Lighting - Agadir	Street and traffic efficient lighting and improved management	Mohamed EL HALAISI Vice Président de la Commune Urbaine d'Agadir.	elhalaissi@hotmail.com (+212) 5 28 84 14 19	Eligible	
GAZA / WEST BANK	PS-02	Implementing solar water heater for hot water and boiler preheating in hospitals	Integration of RES in existing buildings	Jamal AbuGhosh PMU Director	Jamal AbuGhosh PMU Director jya@menr.org	Eligible	
TUNISIA	TN-04	Renovation of energy equipment in public buildings and public lighting in Sfax	Improving energy efficiency in existing buildings (multiple technologies) and energy management in public lighting	Fathi EL HANCHI ANME	Fathi Hanchi: hanchi.fethi@anme.nat.tn	Eligible	Not enough information to be evaluated
TUNISIA	TN-05	energy efficiency in hospitals	Improving energy efficiency in existing buildings (multiple technologies)	Ramon Ynaraja	r.ynaraja@eib.org	Eligible	Not enough information to be evaluated

APPENDIX III: PILOT PROJECT SELECTION FLOWCHART



APPENDIX IV: OVERVIEW OF ELENA MED AND YEARLY INVESTMENT POTENTIAL FOR THE EIB UP TO 2030

	2014 1	2015 2	2016 3	2017 4	2018 5	2019 6	2020 7	2014-2020 Total over the period (M EUR)
Investment		100,0	150,0	150,0	200,0	200,0		800,0
Technical assistance	2,0	3,0	5,0	7,5	7,5	10,0	10,0	45,0
Operation costs	0,5	0,5	0,5	0,5	0,7	0,7	0,7	3,8
Total TA and operation	2,5	3,5	5,5	8,0	8,0	10,7	10,7	48,8
Loans (30%)		30,00	45,00	45,00	60,00	60,00		240,00

	2021 8	2022 9	2023 10	2024 11	2025 12	2021-2025 Total over the period (M EUR)	
Investment		200,0	250,0	250,0	300,0	300,0	1 300,0
Technical assistance		10,0	12,5	12,5	15,0	15,0	65,0
Operation costs		0,7	0,8	0,8	1,0	1,0	4,3
Total TA and operation		10,7	13,3	13,3	16,0	16,0	69,3
Loans (30%)		60,00	75,00	75,00	90,00	90,00	390,00

	2026 13	2027 14	2028 15	2029 16	2030 17	2026-2030 Total over the period (M EUR)	2014-2030 Total in M EUR	
Investment		400,0	400,0	400,0	450,0	450,0	2 100,0	4 200,0
Technical assistance		20,0	20,0	20,0	22,5	22,5	105,0	215,0
Operation costs		1,3	1,3	1,3	1,5	1,5	7,0	15,2
Total TA and operation		21,3	21,3	21,3	24,0	24,0	112,0	230,2
Loans (30%)		120,00	120,00	120,00	135,00	135,00	630,00	1 260,0

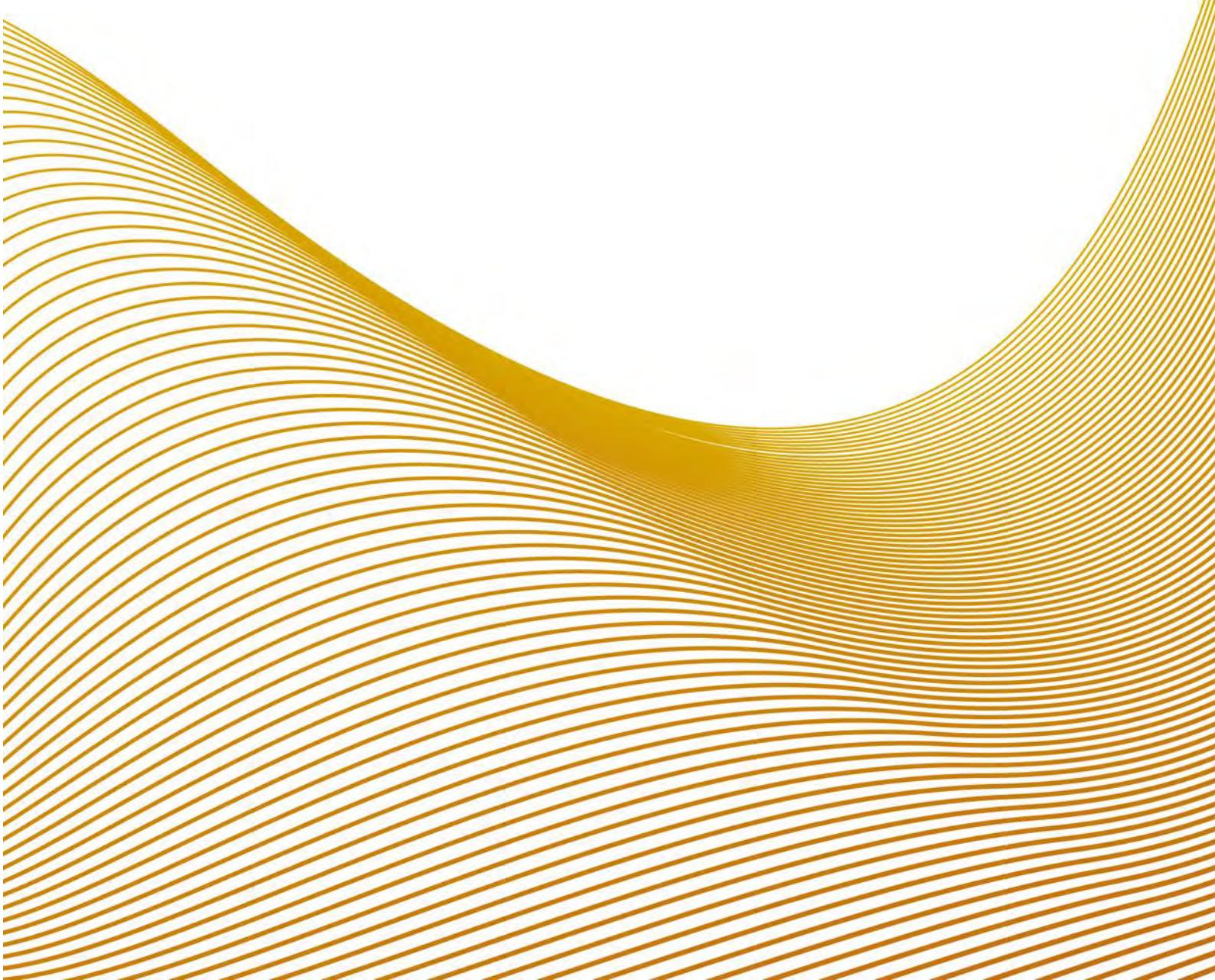
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Drawing from the conclusions of an earlier EIB study (Financing of Urban Energy Efficiency and Small-scale Renewable Energy Investments in the Southern and Eastern Mediterranean Region), this "Med-ELENA" study, funded by the FEMIP Trust Fund, was commissioned in order to assess in more detail how the Bank could support the needs of nascent energy efficiency and small scale renewable energy investments in the region. The study involved an initial pre-screening of a pipeline of projects and the selection and detailed analysis of three pilots, in order to gain a more in depth understanding of what is needed for energy efficiency and small-scale renewable energy projects to overcome the barriers they currently face in the region. The investigation found that these projects require not only adapted financing but also advisory services to support all stages of project identification, preparation and implementation. The report therefore concludes with an outline proposal for a new financing facility, which the EIB could develop in order to combine its long-term financial support with value-added advisory services, in part based on the Bank's previous successful experience with the European Local Energy Assistance (ELENA) programme.

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