

BMZ/KfW

DANIDA

**MENA Centre for Renewable Energy and Energy Efficiency
(MCREEE)**

Organisation and Work Programs

Final Proposal

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TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	4
Abbreviations	6
1 INTRODUCTION	7
2 OBJECTIVES AND CORE ACTIVITIES FOR MCREEE.....	8
2.1 Objectives for MCREEE.....	8
2.2 Focus Areas.....	8
2.2.1 RE&EE Policies and Strategies	9
2.2.2 RE&EE Technology Policy	10
2.2.3 RE&EE Public Private Partnerships for Implementation	13
2.3 Core Activities	14
2.3.1 Bi-Annual Progress Report on Status of RE&EE in MENA Region	14
2.3.2 Reports on policy issues of interest to MENA countries in general	14
2.3.3 Consultant assistance to policies and programs of individual countries.....	15
2.3.4 Assistance to design and implementation of PPP schemes.....	15
2.3.5 Awareness raising, capacity building and training	15
2.3.6 Data bank with information about RE&EE in MENA countries.....	16
2.4 Indicative Work Program for the first two Years	17
2.4.1 Institution Building	17
2.4.2 Work program: indicative research topics	17
2.4.3 Building up a database about RE and EE in MENA countries.....	18
2.5 Benchmarks, Indicators of Success.....	19
3 ORGANIZATION AND GOVERNANCE STRUCTURE.....	20
3.1 MCREEE as a Network of Researchers in MENA-Region.....	20
3.2 Legal Status for MCREEE.....	21
3.2.1 Legal status within a long-term perspective	21
3.2.2 Limited Liability Company under Egyptian Law	22
3.3 Governance of MCREEE.....	23
3.3.1 An interim solution	23
3.3.2 Responsibilities of the Steering Committee.....	23
3.3.3 Responsibilities of Annual Meeting of Shareholders	24
3.4 Board.....	25
3.5 Staff of MCREEE	26
3.5.1 Staff working at the Centre in Cairo	26
3.5.2 Part-time staff working locally in each collaborating country.....	26
3.5.3 Short-term contracts with specialists	26
3.5.4 Outsourced work	26
3.5.5 Core Research Staff	27
3.5.6 Associated Research Staff in each MENA country on retainer contracts.....	29
3.5.7 Non-Research Staff at the Centre.....	30
3.5.8 Specialist-researchers on ad-hoc short-term contracts.....	30
3.5.9 Research assistants: students.....	30
3.5.10 Long-term consultant from EU country.....	30
4 FINANCE	32
4.1 Distinction between Core Finance and Commercial Finance.....	32
4.2 Sources of Funds in Kind and in Cash.....	32

4.2.1	Funds for first 5-years allocated by Donors and Egyptian Government.....	32
4.2.2	Funds from participating MENA countries	33
4.2.3	Self-generated revenue.....	33
4.3	Use of Funds	35
4.3.1	Annual costs of Staff and of Board meetings	35
4.3.2	Annual non-staff operating costs	35
4.3.3	Annual costs for contracted outputs: studies and seminars.....	36
4.3.4	Funding of implementation of pilot PPPs	36
4.3.5	Total budget break-down for five years.....	36
5	RECOMMENDED FOLLOW-UP FOR IMPLEMENTATION.....	37
5.1	Seminar in Cairo	37
5.2	Organisation of Follow-Up Work for Implementation.....	37
	ANNEXES	38
	Annex 1: Inputs to the Statutes of MCREEE.....	38
	Annex II: Draft TOR Follow-Up Feasibility Study/ Process Consultants.....	39
	Annex III: Persons met during July 2007 Mission	41
	Table 1: Presently available total funding for MCREEE.....	32
	Table 2: MCREEE Annual Staff Costs and Costs of Annual Board Meeting.....	35
	Table 3: MCREEE non-staff operating costs.....	35
	Table 4: Annual costs for contracted outputs.....	36
	Table 5: Total Budget for first 5-Year Period.....	36

EXECUTIVE SUMMARY

The **objective of this report** is to define the framework for a financially and legally independent **MENA Centre for Renewable Energy and Energy Efficiency (MCREEE)** acting as a research network with headquarters in Cairo/Egypt and with permanently associated researchers in each collaborating MENA country.

Objectives and core activities of MCREEE

The **objectives of MCREEE** are to accelerate penetration of RE&EE technologies in MENA countries and to increase global market shares for MENA RE&EE service industries and manufactured products.

In order to further these objectives, the Centre is to act as a think tank in the three interrelated **core areas** of: RE&EE policies, Public-Private-Partnerships (PPP) for RE&EE and RE&EE research and technology policies and programs. In addition, the Centre will facilitate RE&EE training and education.

These core areas have to be reflected in the **core activities** of the Centre:

- Bi-annual Progress Report on Status of RE&EE in the MENA Region;
- Reports on policy issues of interest to MENA countries in general and consultant assistance to policies and programs of individual countries;
- Assistance to design and implementation of PPP schemes;
- Awareness raising, capacity building and training;
- Data bank with information about RE&EE in MENA countries.

Work programs will be prepared by the Centre's staff; the consultants propose an **indicative work program** as basis for discussion including institution building in the initial phase and major studies on topics of RE&EE policy, technology transfer, R&D and PPP to be prepared by researchers under contract with MCREEE and presented at workshops at the Centre or in other MENA countries. Building up the data base about RE&EE in MENA countries and developing benchmarks and indicators of success (networking, awareness raising, quality and impact indicators) are two other important element of the proposed indicative work program.

Legal status

As the consultants recommend to organize MCREEE as a regionally anchored network, with a regional view of RE&EE, beyond national interests but serving national interests by mobilizing the benefits of exchange of know how and regional cooperation, they propose a **legal status** reflecting this vision: Establish MCREEE for its first five years period 2008 – 2012 as an international project by trilateral agreement between the co-financing governments of Egypt, Germany and Denmark. The Implementing Agency for this pilot phase is the Egyptian Ministry of Electricity. MCREEE will be the Executing Agency and could be created in the form of a LLC which provides legal autonomy, flexibility and institutional permanency and invites other energy agencies of MENA governments to join the Egyptian Government/NREA and the donors as shareholders.

During the first five years period the MCREEE will be governed by a **Steering Committee** composed of representatives from Egyptian shareholders and co-financing donors. After the initial phase the functions of the Steering Committee will be trusted to the annual meeting of shareholders. Detailed governance will be executed by the **Board of MCREEE**, composed of seven members representing the regional energy agencies of the Arabic MEDENER countries, academia, private sector, donors and host government/NREA.

Finance

The centre must be provided by the shareholders with **core finance** on a multi-annual basis to cover the cost of the permanent staff at the centre in Cairo and at country level, the basic operating costs of MCREEE logistics, the cost of the bi-annual status report on RE&EE policy in MENA countries and the costs of at least one major study per year in each of the three major topics covered by MCREEE. In 2007, the Egyptian Government has committed € 2 million in cash and € 2 million in kind, the German Government € 6 million in cash and the Danish Government is planning to add another € 2 million in cash. The total in kind and cash amounts to € 12 million, equal to € 2.4 million per year.

In addition, MCREEE being a legal person is in a position to attract **commercial contracts** for studies with governments and international institutions. The net revenue from commercial contracts is expected as a minimum to cover MCREEE's total costs in performing and administering these contracts including a reasonable share of overhead cost.

Initial budget for five years' pilot phase

The budget commitments of € 12 million are sufficient to cover the **total budget needs** of MCREEE in the initial five years phase; even if commercial contracts are not considered, this is a sound basis to go ahead with the implementation of the MCREEE project.

Follow-up, Next steps

The next important step to **implementation** is the Egyptian Minister of Electricity's invitation of representatives from MENA governments to a seminar in Cairo to discuss the findings and recommendations of this report. The outcome of this seminar can be a good basis to ensure the implementation of MCREEE. The consultants propose to entrust NREA with the preparatory work including the feasibility study. NREA might be guided by a small steering committee consisting of one representative of the Ministry of Electricity, two from MEDENER (one from Maghreb, one from Mashrek) and one from the donors and be assisted by the consultant doing the feasibility study.

Abbreviations

BMZ	German Federal Ministry for Economic Cooperation and Development
CSP	Concentrated Solar Power
DANIDA	Danish International Development Agency
EE	Energy Efficiency
EE&RE	Energy Efficiency & Renewable Energy
ERC	Energy Research Centre Cairo University
ESCO	Energy Saving Company
EU	European Union
GAFI	General Authority for Investment and Free Zones
GDP	Gross Domestic Product
GHG	Green House Gas
GoE	Government of Egypt
IMC	Industrial Modernization Centre
IEA	International Energy Agency
KfW	KfW – German International Development Bank
LLC	Limited Liability Company
MBA	Master of Business Administration
MCREEE	MENA Centre for Renewable Energy and Energy Efficiency
MEDENER	Mediterranean Association of the National Agencies for Energy Conservation
MENA	Middle East & North Africa
NGO	Non-Governmental Organization
NREA	New and Renewable Energy Authority
OECD	Organization for Economic Cooperation and Development
PPP	Public Private Partnership
PV	Photo Voltaic
R&D	Research and Development
R&D&D	Research and Development and Demonstration
RE	Renewable Energy
TA	Technical Assistance
TOR	Terms of Reference
UAB	Union of Arab Banks
UNDP	United Nations Development Bank
UNEP	United Nations Environment Program
URC	Centre for Energy, Climate and Sustainable Development at Risoe

Definitions

PPP “Collaboration agreements between public and private organisations for reaching mutually agreed to goals that originate from public policy”

1 INTRODUCTION

The idea for “MENA Centre for Energy Efficiency and Renewable Energy” (MCREEE) arose out of bilateral discussions between the German and the Egyptian Governments about whether it would make sense to establish a MENA regional centre for EE and RE. The discussions were joined later by the Danish Government with the EU Commission recently expressing an interest also in its co-funding participation. The commissioned demand study, the report “MENA Centre for Renewable Energy and Energy Efficiency, Demand Study, May 2007”, confirmed that the centre within three identified subject areas can provide value added to the work performed by already existing institutions and regional collaboration agreements.

On the 20th of May 2007, the Egyptian Minister of Energy and Electricity, the Chairman of NREA, and representatives of the Danish and German Embassies, BMZ and KfW discussed the results of the report. It was concluded, that the scope of activities, the institutional, legal and organizational setup of the Centre needed more investigation and discussion. Therefore the two consultants of the fact finding mission, Wolfgang Mostert and Dr. Burghard Claus, were contracted for a follow-up mission in Cairo. The mission visited Cairo from July 2 to 10, 2007, where from the Egyptian side, Mrs Bothayna Rashed and Mr Ramadan A. Rahman Mohammed Basha, both from NREA, completed the consultant team.

The task of the mission was to define the framework for a financially and legally independent MCREEE acting as a research network with headquarters located in Cairo/Egypt and with permanently associated researchers in each collaborating MENA country. The terms of reference ask for proposals for the following items:

1. Statute of the Centre: Objective, core activities, legal status, organizational and governance structure
2. Budget
3. Host institution
4. Relationship of the Centre with other research institutions in the region
5. Detailed description of the Centre’s activities and draft proposal of a work program for the first two years
6. Qualification profiles and job descriptions of the core staff
7. Draft TOR for a feasibility study and business plan for the Centre

During its stay, the mission held meetings with representatives from the Ministry of Energy, the Ministry of Higher Education and State Ministry for Scientific Research, the Ministry of Industry, Cairo University and NREA, as well as with experts from individual institutions. The list of persons met is attached in Annex III.

On July 9, H.E. the Minister of Electricity and Energy, Mr. Hassan Ahmad Youness was briefed about the outcome of the mission. H.E. Minister Youness expresses the intention to forward the report to his MENA minister-colleagues asking them to send experts to a workshop in Cairo to discuss the report and take decisions on the recommendations; a potential date is end October. On July 10, at the German Embassy, the development counselors Ms. Stephanie Rösch from the German Embassy and Ms. Bente Schiller from the Danish Embassy were briefed as well.

2 OBJECTIVES AND CORE ACTIVITIES FOR MCREEE

2.1 Objectives for MCREEE

Overall Objectives

The objectives of MCREEE are: (i) to accelerate the implementation of cost-effective RE&EE policies, strategies and technologies in countries of the MENA region and (ii) to increase the share of RE&EE products and services from MENA countries on the global market.

Specific Objectives

The specific objectives for MCREEE are:

- to expand cooperation networks in RE&EE between MENA countries and between EU-countries and MENA countries;
- to raise the quality of RE&EE policy research in MENA countries;
- to spread best-practice RE&EE policy and implementation concepts in MENA countries;
- to expand the scope and scale of private-public-partnerships for RE&EE in MENA countries;
- to increase the benefits to MENA countries from EU-MENA technology cooperation in RE&EE and from technology transfer;
- to raise the level of R&D&D investments in RE&EE in MENA countries.

2.2 Focus Areas

In order to further the twin objectives of accelerated penetration of RE&EE technologies in MENA countries and of increased global market shares for MENA RE&EE service industries and manufactured products, the Centre is to act as a think tank in the three interrelated core areas of: (i) RE&EE policies, (ii) Public-Private-Partnerships (PPP) for RE&EE and (iii) RE&EE research & technology policies and programs.

The focus areas of the centre reflect the two main drivers of RE&EE policies in MENA countries which are (i) the *national energy objectives* of cost-effective coverage of energy needs and security of supply and (ii) the *national industry objectives* of creating national value added (GDP-growth) and employment. *Environmental benefits*, although not unimportant, are secondary to these.

The key lesson of international RE&EE policies is that single measures generate few or partial results; significant results require the implementation of an integrated package of supplementary and mutually reinforcing measures. The MCREEE is to provide advice integrated packages. The energy policy & strategy unit is to support national policies by recommending cost-effective policy instruments and programs. The PPP and R&D-units are to deliver the details for policies, programs and instruments in their respective areas and to give practical advice and information assistance to private and public actors.

2.2.1 RE&EE Policies and Strategies

There are various supplementary approaches to categorizing RE&EE policy instruments.

One is to focus on **how instruments work**. One distinguishes between:

- (i) *command and control instruments* (regulations, codes, norms) and
- (ii) the two major categories of *market based instruments*: (a) support to *know-how building* (information, TA, public financed R&D) and (b) *incentives for action* (investment grants, soft loans, loan guarantees, tax credits, fossil fuel taxation).

The other is to focus on the **immediate target for the policy measure**:

- (i) *Avoiding “bad” practices* (from energy objective point of view); for this, regulation, norms and standards are used.
- (ii) *Promoting good practices*; for this, incentives, labelling and other information services are used.
- (iii) *Getting things done better and cheaper*; for which R&D support, public procurement of promoted technologies, capacity building and market transformation through innovative deployment policies are used.

Command and market instruments are complementary: command instruments are good at eliminating “bad practices”, market instruments are better at promoting good practices. RE&EE strategies are effective only if a balanced use is made of instruments. Codes should be kept as demanding as possible and economically rational, use of grants should be reserved for areas where only incentives work.

One general lesson that countries worldwide have accepted is the *need for comprehensiveness in energy policy*. The design and implementation of successful deployment programmes demands activities and public funding for promoting energy R&D, actions to reduce market barriers for new technologies and specific institutional initiatives for promoting market transformation by aligning the activities of public and private stakeholders. The complexity of energy policy is reflected in the recourse to the publication of so-called *road maps*; five years ago that word was unknown to energy economists, they knew *action plans* only. Road maps are open to redirect measures on the basis of intermediate results and experience to the target by adaption processes (learning system).

A comprehensive framework for investments in RE&EE comprises:

- (i) ambitious, yet realistic, quantitative targets for the scale of RE&EE achievements;
- (ii) clear power market rules that facilitate investments in RE and in EE;
- (iii) energy prices that fully reflect the economic opportunity cost of fuels and power (ideally also accounting for external environmental costs);
- (iv) mandatory regulations, economic incentives and finance for RE&EE investments;
- (v) an institutional structure for effectively providing information and TA;
- (vi) R&D policies for EE & RE.

Since, until recently, EE and RE policies had low status within the energy policies of MENA countries, the legislative, regulatory and financial framework for EE and RE investments is first now under serious development. Few MENA countries have implemented clear *market & pricing*

rules for purchases of RE-generated power, rules for grid connection and “power wheeling”. The framework for the promotion of EE is evolving. No country has a well-articulated long-term strategy for lifting national know-how in RE&EE energy technology. As in all countries worldwide, problems are encountered in the implementation of regulations for EE&RE.

The key responsibilities of the Centre in this focus area are:

1. through high-quality analysis of frontier issues to become a thought leader in the development of cost-effective new policy concepts and instruments;
2. to raise the awareness of policy makers about the importance of replacing single policy measures by packages of policy instruments if comprehensive results are to be achieved;
3. to review RE&EE policies and programs, draw attention to elements that are missing if stated policy targets are to be achieved and make recommendations for measures to include;
4. to provide sound micro- and macro-economic analysis demonstrating the rationale of proposed RE&EE policies and programs;
5. to draw attention to policies and instruments in countries around the world that had shown to be effective, as well as to “errors to be avoided”;
6. to provide independent and high quality information of interest to potential foreign investors about the present and evolving size of the market for RE&EE technologies in the region.

2.2.2 RE&EE Technology Policy

In MENA countries, RE&EE technology policy concerns Government measures or programs to promote innovation and adoption of new RE&EE technologies by national industries and engineering firms with the purpose to improve their international competitive position.¹

Throughout the 1990s, exports from the MENA region (over 70 per cent of which are accounted for by oil and oil-related products) grew at 1.5 per cent per year, far below the global rate of six per cent; manufacturing exports remained stagnant and private-capital flows lagged behind those of other regions; MENA GDP growth averaged a mere 3.6 percent a year.² The reasons for under-performance are manifold, but one factor is the low rate of national investment in R&D: in general, in MENA countries, investment in research and development does not exceed 0.5 per cent of gross national product, less than one sixth of the level in OECD countries.

Policy makers in MENA countries are aware that low R&D investment is a major factor for the marginalization of MENA countries from the globalisation process; and as a consequence, technology policies to lift public and private investment in R&D are being formulated.³ Technology policy comprises *general measures* and *sector specific technology policies*. The latter

¹ In OECD countries, the energy objectives of “clean energy” (reduced GHG-emissions) and security of supply (increased reliance on domestically available sources of energy) lead Government to support R&D&D in RE&EE technologies whose commercial viability is uncertain. MENA countries with their huge hydrocarbon and solar energy resources have no need to engage in R&D with uncertain markets and commercial outcomes; job creation and economic growth are the exclusive drivers for their RE&EE technology policy.

² Source: Arab Development Report, UNDP, 2002

³ Egypt has the ambition to lift the national rate of investment in R&D from the present 0.8% of GDP to 1.5% of GDP within a few years and to 3.5% by 2017.

are implemented in niches where Government policies create a market for new promising technologies of a size that is sufficient to make upstart production by national firms commercially feasible.⁴ Market development⁵ and technology development go hand in hand in technology policy.⁶

RE&EE is a priority sector for technology policy in MENA countries for two reasons. First, the MENA region has phenomenally attractive prospects for developing world class EE&RE-firms: the solar energy resources are unrivalled, wind energy resources are first class in several locations, and with the population of the Middle East and North Africa forecast to hit 600 million by 2025, the IEA predicts that MENA nations need to install at least 100,000 megawatts of new generation before 2030. Second, RE&EE is one of the sub-sectors with the fastest long-term growth rates on the global market and MENA is located next to the largest single market for RE&EE technology: the EU-countries. Getting just a 0.5% share of the EU market for RE&EE technology in 2012 as supplier of components and of final products would represent €0.5 billion in exports.

At present, RE&EE technology policy is at a nascent stage. The selection of research topics is logical and similar in MENA countries: CSP for power and water desalinization, third generation PV, nano-technology for RE&EE, biomass and biogas energy, energy efficient lighting (mainly done by entrepreneurs). One key problem is that national funding is too small. Research institutes and private companies depend too much for funding on their participation in EU's R&D framework program⁷, where normally, they are junior partners in project consortia developed by institutions and companies located in EU-countries. The potential for pro-active development of project concepts and applications is largely un-exploited. A conceptual problem is the limited level of ambition of RE&EE technology policy in MENA countries: typically, the aim is to increase the national production share of RE-technologies that are to be installed in the country with the hope of spin-offs in terms of the exports of RE&EE technology to countries in the MENA-region.⁸

The Centre will, therefore, provide economically founded justifications for increased Government support to the building of national RE&EE know-how and capacity and recommend policies that can turn MENA firms into global exporters of RE&EE technology.

The key responsibilities of the Centre in the area of RE&EE technology policy are:

1. At the macro-level, technology policy involves judgment about the impact-effective balance between *technology transfer* through direct foreign investment, joint ventures, licenses and

⁴ See Michael Porter: "The Competitive Advantage of Nations" on the constructive role Government can play and have played in a number of success-countries. He assigns important roles to demand conditions and to vertical relationships among industries in creating comparative advantage. Competitive supplier industries in a nation help encourage world class downstream industries. Once a "cluster" forms the whole group of industries becomes mutually supporting. The importance has been confirmed in supply chain analysis of the RE-industry in leading countries.

⁵ The government of Egypt, for example, has fixed the goal of lifting the RE-share of electricity generation other than large hydro to 3% of electricity by 2010 and 14% by 2020.

⁶ An example from Egypt: the report "Renewable Energy Sector in Egypt" commissioned by Industrial Modernization Center (IMC) and prepared by Energy Research Center (ERC) of the Faculty of Engineering - Cairo University

⁷ All countries benefit from the transfer of RE&EE policy and program experiences from EU countries. For the development of the technologies of the future: CSP and 3rd generation PV-systems they depend on the willingness of EU countries to finance most R&D and subsidize the initial large-scale investment in CSP-plants that are heavily loss-making but needed to bring down the future cost of the technology.

⁸ The shining exception is Abu Dhabi's multi-billion dollar Masdar Initiative launched in April of 2006, to use the financial resources and energy expertise to promote innovations in clean energy and resource conservation.

development & design contracts and *national technology development* by universities, manufacturing firms and engineering consultants. With reference to documented international experience, the Centre is to

- a. advice on the balance between using state financial resources to achieve results in the short term (technology transfer policies) versus giving financial support to activities that generate impacts in the longer term (technology development policies);
 - b. provide information about the results of international studies and reviews looking into the cost-benefit ratios of Government R&D programs for EE&RE;
 - c. to benchmark the scale and scope of MENA country efforts to promote national RE&EE know-how against the level of public support in countries that have shares in the world market;
 - d. advice on pitfalls in joint-venture and production license contracts.⁹
2. At the micro-level, technology policy involves choice of policy instruments, stimulation of effective research consortia and getting more benefits out of EU-MENA cooperation programs and projects in R&D&D. The Centre will, with reference to international experiences with technology policy instruments and their cost-effectiveness, identify and recommend cost-effective instruments that:
- a. Increase R&D-investments by private industry;
 - b. Create economies of scale and of scope by stimulating the creation of public-private research consortia and technology clusters;
 - c. Point out areas where donor collaboration programs duplicate each other too strongly and areas that are under-funded;
 - d. Give practical advice to Government institutions, research institutes and private firms about making pro-active use of EU R&D programs and projects that allow participation by legal persons from MENA countries in tenders. This involves, inter alia assisting public institutions and private firms in: (i) identifying national and international potential sources of grant and soft finance for R&D activities, (ii) assisting these in how to find collaboration partners in other MENA countries and in EU countries to form consortia for project applications; and (iii) helping firms and institutions in how to write winning proposals.

⁹ E.g. avoiding production license contracts that limit the right to export

2.2.3 RE&EE Public Private Partnerships for Implementation

Details of RE&EE policy are developed in secondary legislation and implemented through PPPs.¹⁰

One general lesson from international experience with RE&EE promotion is the need for comprehensiveness: results are achieved by integrated packages composed on the *policy instrument side* of pricing policies, information / awareness campaigns, TA, grants, loan finance and on the *institutional side* of multi-stakeholder involvement in implementation.

International experiences with poor implementation of norms and standards in practice show the importance of using PPPs to promote good practices and introduce new technologies.

MENA countries have successfully implemented integrated PPP-concepts to promote RE&EE in niches such as promotion of solar water heaters or diffusion of energy efficient light bulbs in households. Yet, the increased policy ambitions and long-term targets for RE&EE call for a more widespread application of PPPs.

Taking into account the importance of PPP-concepts for achieving results in RE&EE , one may state that very little - if any - cross-national work is done in MENA-region on how to design effective PPPs.

The key responsibilities of the Centre in the area of “PPP Initiatives” are:

- to identify international “best practice” for integrated RE&EE promotion packages;
- to develop cost-effective new PPP-concepts in support of RE&EE ;
- to assist Government agencies and private companies in designing and implementing PPP-programs for RE&EE ;
- to systematically review existing PPP-initiatives in MENA countries and to benchmark these against best practice.

In addition to the above core activities, the PPP-unit will facilitate RE&EE training and education. This includes the commissioning of demand studies for RE&EE training and education, evaluation of best training practices, identification of best quality training approaches and institutes in MEA region and promotion of networking between leading RE&EE education and training institutes from EU countries and MENA countries.

¹⁰ The term “PPP” has various definitions. Some define PPP narrowly as “a variation of privatization in which elements of a service previously run solely by the public sector are provided through a partnership between the government and one or more private sector companies.” The definition embraced by The Canadian Council for Public-Private Partnerships is: “A cooperative venture between the public and private sectors, built on the expertise of each partner, that best meets clearly defined public needs through the appropriate allocation of resources, risks and rewards.” In this consultant report, the term PPP is used broadly to classify “collaboration agreements between public and private organisations for reaching mutually agreed to goals that originate from public policy”.

2.3 Core Activities

2.3.1 Bi-Annual Progress Report on Status of RE&EE in MENA Region

The flagship publication by the Centre will be the bi-annual Report on the Status of RE&EE in MENA (the eight to nine target countries). The report will provide quantitative data on achievements in RE&EE during the year, report on particular successes in national and regional programs, give in-depth evaluative reviews of key new policy proposals and legislation and report on progress in value added and employment in RE&EE industries and services and in exports of RE&EE technology. The review will identify best practices of interest to other countries in MENA region as well as key obstacles to progress in RE&EE deployment and in developing national RE&EE manufacturing capacity and employment.

The report will be prepared by all three staff at Centre headquarters with the associate staff at national level (working under retainer contracts) being responsible for providing inputs on the development within their countries. Outside consultant assistance will be employed on short term contracts to assist with specific studies and evaluations.

The bi-annual report will, in addition to its standard status-quo survey, take an in-depth look at a specific issue – eg technology cooperation with EU; the issue will change from report to report.

The local Centre staff in each country will present the findings of the report at an open forum / seminar for politicians, energy experts, managers from industry and engineering sector and journalists. The presentation will comprise the MENA-wide findings of the report in general and the specific observations for the national country in particular.

2.3.2 Reports on policy issues of interest to MENA countries in general

The Centre will:

- monitor international policy developments for identification of best practices,
- follow developments within the EU of relevance for MENA RE&EE policies,
- analyze how opportunities originating from the EU neighborhood program can be exploited,
- benchmark closely related member state policies and programs against each other to identify key success factors.

The Centre will publish its findings in working papers and reports that will be discussed at small expert seminars with participants from all associated MENA countries.

The themes for investigation by the Centre depend on the work program as defined by the Board.

Examples of what kind of subjects could be taken up are provided in the draft work program for the Centre (section 2.4).

2.3.3 Consultant assistance to policies and programs of individual countries

The Centre will upon request by governments prepare reports on specific Government RE&EE programs and instruments and R&D policies. If the report is for internal Government use only, such reports will be co-financed by the requesting Government on a 75% basis.

2.3.4 Assistance to design and implementation of PPP schemes

The Centre will offer ad-hoc advice and peer reviewing of consultant inputs to the preparation of PPP concepts by Government agencies. Since concrete assistance to real life issues in this area provides valuable capacity building (learning-by-doing) of Centre staff, the know-how of which can be of use to other countries in their program preparation, such assistance is provided free-of-charge.

2.3.5 Awareness raising, capacity building and training

Awareness raising on RE&EE policies and programs is done through reports and discussion/working papers that are placed on the Centre's website as well as by workshops organised by the Centre that present the findings of Centre reports.

Reports commissioned and published by the Centre provide not only descriptions but also evaluations of and comments to the status of existing policies. The quality of contracted consultants will be judged in particular by the quality of their recommendations.

Capacity building takes place at workshops organised by the Centre. In addition to workshops for disseminating results from reports commissioned by the Centre, the Centre can organise small workshops with presentations by world-renowned experts on issues and experiences deemed to be of interest to MENA policy makers. Workshops will be for small specialist audiences. To ensure that there is a genuine demand for proposed seminars/workshops, the Centre will not pay for the costs of travel and accommodation for attendants. Normally no more than three experts from each country would be allowed to participate. Participation at the bi-annual seminars held in each country for the presentation of the bi-annual report on the status of RE&EE in MENA countries will, however, be open to a broad range of stakeholders in the energy sector.

The Center may in its budget for capacity building and training include a budget line for *financing free training courses in a specific field for the best papers submitted to the Center out of contest for students* at regional universities.

Students, working directly at the Centre or for "in-country associated staff" on Centre issues, benefit from learning-by-doing capacity building through their exposure to Centre work and the peer reviewing of their written contributions by Centre staff.

Training will not be undertaken by the Centre directly. Indirectly, the Centre will contribute to the initiation of training programs by specialised institutes through its identification of priority training courses that are not yet offered by any institution in concerned countries. Developing and giving such training courses would be entrusted to existing training institutions, possibly under contract by the Centre.

2.3.6 Data bank with information about RE&EE in MENA countries

The Centre will keep an up-to-date list of:

- Primary and secondary legislation in MENA countries for EE&RE,
- RE&EE programs and projects in MENA countries,
- Quality reports and papers published in the MENA region on RE&EE issues,
- Papers and powerpoint presentations presented at RE&EE workshops and seminars in MENA countries
- RE&EE consultants working at regional level
- Manufacturers of RE&EE technology in MENA countries

2.4 Indicative Work Program for the first two Years

Draft annual work programs will be prepared by the Centre staff within a pluri-annual perspective and submitted to the Board for approval.

The indicative draft work program presented below was prepared by the consultants for this report in consultation with Egyptian experts. It is intended to show what a work program for the first two years *could* look like, as a means to stimulate discussions on suitable topics.

2.4.1 Institution Building

The work program for the first two years will during the initial months involve heavy concentration on administrative-organisational work:

- getting the Centre established as an organisation in Egypt;
- finding and contracting the ideal part-time staff (contracted on 25% retainer basis) at research institutions in participating/collaborating MENA countries;
- defining the detailed procedures for MCREEE governance, getting broad political agreement on these, and putting in place the modalities for governance in practice;
- getting the first work program developed and agreed to by the board;
- networking with potential collaboration partners in MENA and EU countries.

2.4.2 Work program: indicative research topics

Major studies prepared by researchers/consultants under contract with MCREEE will be presented and discussed at workshops organised at the Centre or in other MENA countries. The list of potential research topics type of activities shown below, does not represent a draft work program, nor a full list of potential activities. It is to facilitate discussions about what kind of activities could be implemented during the first two years.

RE&EE policy - topics

1. Status Quo for RE&EE in MENA Countries. Review of Market Penetration, Policies, Regulatory & Financing Frameworks, Manufacturing, Consulting and Research Capacities, Macro-Economic Impacts.
2. Comparison of RE and EE-Laws (adopted or in Draft Form) in MENA Countries.
3. Enforcement Issues with EE Regulations - what factors are blocking implementation and what can be done: training of inspectors? simplification of building regulations? awareness raising material?
4. Comparative Review of Incentive Policies for RE&EE in MENA and in EU Countries. Cost-and Impact Effectiveness of reviewed Schemes

5. Regulations and Planning for Public Lighting and Commercial Street Lights.
6. Benchmarking of EE in major energy consuming industries in MENA Countries, comparison with International Benchmarking
7. Labelling of Buildings as an Instrument for EE
8. Review of unexploited Co-generation and Stand-by Generation Potential in MENA countries and Use of interruptible Power Purchase Contracts.

Technology Transfer, Research & Development - topics

1. Comparative Analysis of International Policies and Strategies to create local Manufacturing of Wind-turbines and Wind Turbine Components: China, Spain, India. Brasil
2. Review of RE&EE Technology Cooperation of MENA Country Manufacturers with Foreign Country Manufacturers
3. Review of Strategy that turned China from being a marginal producer of Solar PV-Technology to becoming the World's leading Exporter within less than 10 Years

PPP - topics

1. Comparative Analysis of PPPs for EE applied in MENA-countries: Lessons learned
2. Comparative analysis of solar water heater promotion programs in MENA countries and benchmarking against programs in Spain, Greece and Israel.
3. Analysis of Prospects for expanding the ESCO-concept in MENA Countries in Scope as well as in Scale
4. Use of Energy Supply Companies to promote Energy Efficiency at Consumer Premises
5. Involvement of Financial sector in financing EE
6. Review of World-Wide Experiences with PPPs for EE: desk-study supplemented by PEER-interviews

2.4.3 Building up a database about RE and EE in MENA countries

An immediate priority task is to build up an electronic data base at MCREEE with a complete set of relevant legislation, policy instruments, energy consumption and supply, and progress and review reports about ongoing programmes and projects promoting RE and EE in MENA countries.

2.5 Benchmarks, Indicators of Success

Networking

- Effective integration of local part-time staff in MCREEE work programs and activities.
- Number of researchers, policy makers and energy specialists visiting the Centre per year.
- Geographic spread of MCREEE seminars/workshops that are hosted by institutions in countries other than Egypt.
- Ph.D. students in the region writing on Centre-identified issues
- Joint papers published by MENA experts who got into contact through work performed for the Centre or through attendance at Centre workshops
- Requests by Government agencies to peer review high-profile reports
- Geographic spread of use of experts from MENA-region in MCREEE consulting contracts
- Number of experts from EU-countries involved in MCREEE consulting contracts
- number of organized seminars, training programs, and no. of attendees

Quality indicators

- Number of articles/papers accepted by scientific journals
- Number of quotes/citations from Centre work in scientific and professional articles and reports
- Paid invitations to Centre staff to submit presentations at international seminars
- Number of Government-paid experts attending Centre workshops
- Number of contracts for studies won through participation in EU-tenders
- Number of contracts for studies with bilateral and multilateral development agencies
- The share of self-generated revenue as a percentage of MCREEE's operating costs (not including the cost of out-contracted studies)
- Outcome of evaluation reports on MCREEE commissioned by relevant stakeholders

Awareness raising

- Monthly downloads of reports and working papers from the Centre website
- Number of newspaper articles and radio/TV references about results from reports published by Centre
- National attendance at bi-annual "status quo for RE&EE in MENA region" seminars

Impact indicators

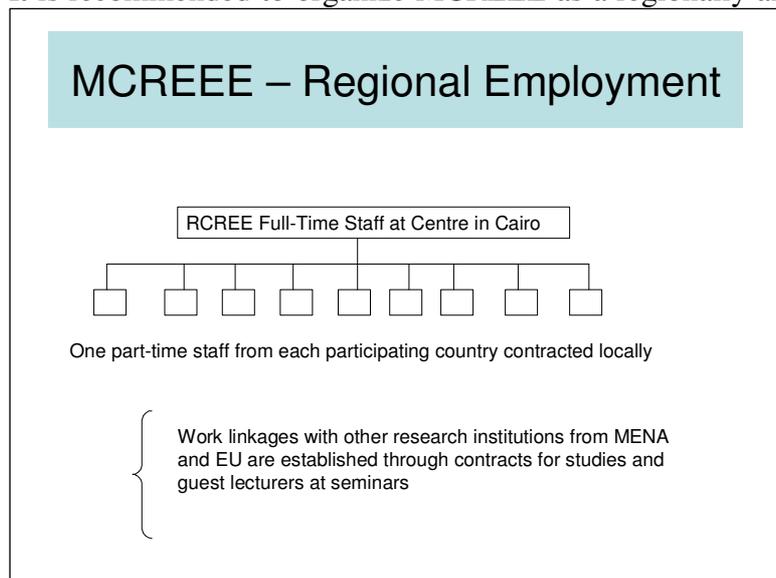
- Number of recommendations made in reports commissioned by Centre that make their way into Government policy
- Assistance by Centre to the design and implementation of PPPs
- Increase in the share of funding from EU energy R&D framework programs going to organisations and firms from MENA countries
- Increase in Government R&D spending and shift towards R&D policies with offensive global market outlook

3 ORGANIZATION AND GOVERNANCE STRUCTURE

3.1 MCREEE as a Network of Researchers in MENA-Region

MCREEE is concerned with the analysis and development of RE&EE policies and instruments in MENA context.

It is recommended to organize MCREEE as a regionally anchored network of researchers from the



very beginning. RCREE would have a small team of permanent research staff working full time the centre located in Cairo and one local researcher from each participating country who continues work at his/her local research institution, but is permanently attached to the centre as staff member on a part-time basis.¹¹

The regional anchorage of RCREE is further strengthened by other aspects: (i) Staff positions at MCREEE’s management Centre in Egypt are open to nationals from MENA

countries. (ii) Most Board members are appointed by MENA-members of MEDENER. (iii) Consultant contracts are signed MENA-wide.

¹¹ This structure has been chosen after careful review of the experience of existing regional centers. Medener for example, is an association of first-class research institutions that have no permanent center with strong independent decision taking capabilities. Medenec is a central center with no local staff, attempts to get staff from other research institutions attached to the center by deployment of staff from national energy research centers failed.

3.2 Legal Status for MCREEE

3.2.1 Legal status within a long-term perspective

The proposed legal solution combines the conventional program management structure of bilateral cooperation projects (a formal need because the product is started as a trilateral project between the German, Danish and Egyptian governments) with governance by regional bodies¹². The aim, on the one hand, is to be flexible and avoid, a priori, to limit the range of options after the first five years, yet, on the other hand, give MCREEE a legal status, which indicates permanency:

- MCREEE will for its first five years period from early 2008 to early 2013 be established as an *international project by trilateral agreement between the three co-funding Governments: the Egyptian, German and Danish Governments*.¹³
- The *Implementing Agency* for the first five years' pilot phase is the Egyptian Ministry of Electricity¹⁴; which will have final legal responsibility for MCREEE activities and for outstanding financial obligations/commitments at the end of the first five-year pilot period.¹⁵ MCREEE itself will be *Executing Agency*.

¹² Ideally, MCREEE would from the start be created by joint decision of participating MENA countries. That is not realistic. There is a certain "yet another regional centre fatigue" in MENA. MCREEE has to prove its worth first in practice before one can expect a genuine regional interest. Therefore, it is recommended to create MCREEE in the form of a LLC established by joint trilateral decision as a five year pilot project. The LLC-form is chosen as it provides well-defined legal autonomy, is simple and signals institutional permanency.

¹³ The alternative, a convention between the co-financing donors and a regional organisation – e.g. the Arab League - was judged not to be feasible because the project idea is included in the minutes of bilateral Egyptian-German cooperation and no regional organisation seems to be a clearly superior candidate to other regional organisations as collaboration partner.

¹⁴ The issue of Host Institution for MCREEE was discussed intensively with all partners. In Cairo two institutions presented themselves as candidates: Cairo University and NREA. Relevant criteria for choice of host institutions were: (i) long-term prospects for continued natural liaison or integration, (ii) international environment, where contracting international staff is a normal procedure, (iii) multidisciplinary research environment of highest academic standards, (iv) ability to accommodate a salary structure (or bonus system) that allows to attract the best talents in the region, (v) willingness to make adequate office space available to the Centre free of charge. The chancellor of Cairo University offered required office space and infrastructure within the premises of the University, a part time financial controller and a full time secretary to the Executive Director free of charge. The Centre would have full access to all university facilities and be fully integrated into the university, getting status of an independent unit. The unit status gives the Centre program and financial independence, the right to receive donor contributions, the right to earn money and spend it for the Centre - like e.g. the "Energy Research Center" founded by the Faculty of Engineering which has won several high-profile contracts to analyze RE&EE policy issues. But, setting up MCREEE as a centre under one of the Egyptian universities would have moved the project from the tutelage of the Ministry of Electricity (the initiative taker) and under the Ministry of Higher Education. This could have led to a loss of identification with MCREEE. NREA offered similar conditions as Cairo University. It was considered that formal integration with NREA it would make it difficult for MCREEE to be recognised by other MENA agencies as a truly regional centre. NREA generously offered providing office space – suited for the purposes of the Centre - free of charge without requirement for MCREEE to become formally affiliated with NREA. That offer is ideal.

¹⁵ Donors require the identification of a host for the Centre, an institution which is responsible for paying unpaid bills of the project at the end of the five years; this situation could arise in case of underperforming financial/accounting management. This was essential for UNEP's acceptance of the *Centre on Energy, Climate and Sustainable*

- It is recommended to establish MCREEE as a *Limited Liability Company* under Egyptian Law. Each shareholder is to purchase a €1,000 share.¹⁶ The shareholders will be co-financing donors and the Egyptian Government, preferably, NREA. The ambition is that energy agencies of MENA Governments having an interest in the activities of MCREEE become shareholders either from the beginning or a later stage.

The organisation form makes it easy to adjust MCREEE's legal form and institutional association to the reality existing at the end of the five years period. The key assets for performing the task – the network of researchers in MENA-region and EU countries and tested modalities for their cooperation - will be firmly established by then and not disappear with the change of legal form.

- For example, MCREEE can be turned into an exclusively regional institution by the donors selling their shares to the other MENA shareholders; MCREEE could then be a research centre jointly owned by the energy agencies in the region. Non-MENA donors could continue to co-finance the centre activities; and this time the issue of host institution would be irrelevant, as the convention for collaboration could be signed with MCREEE itself.
- Or, MCREEE can be closed down as a LLC by shareholder decision, yet continue its activities as a research centre at an Egyptian or a non-Egyptian university interested in the subject of RE&EE policy in MENA countries.

At the end of the first three years of operation, it is expected that the board will commission a study to define the legal status for the centre after the end of the five years.

3.2.2 Limited Liability Company under Egyptian Law

The choice of the limited liability company (LLC) form was based on a comparison between the LLC and three alternatives: the Non-Governmental Organisation (NGO), the Foundation and the Shareholding Company.¹⁷ The legal framework for the first two alternatives was found to be too weak.¹⁸ NGOs are recognised in the Egypt in the form of Associations governed by Law No. 153/1999 according to which they required authorization by the Egyptian Ministry of Social Affairs and are to have a social objective. The Foundation is too undefined by Egyptian Law. The Shareholding Company is less simple than the LLC and provides no advantages for the purpose.

Development (URC) at Risoe. URC is financed jointly by UNEP, Danida and Risoe National Laboratory and staffed by an international group of scientists, engineers and economists. The budget paid by donors (mainly the Danish Government) is managed by UNEP-Paris and operated as an international program (which, inter alia, gives tax freedom for employees). Yet, although URC operates independently from Risoe providing technical support to UNEP in energy-environment matters, URC is part of Risoe (and Risoe gives financial support in the form of free office space and utility services).

¹⁶ The shares are set low because LLCs with a capital of more than 250,000 EGP are required to distribute 10% of annual profits to their staff.

¹⁷ The consultants also looked at other international organizations with similar aims. *OECD* in Paris is created by International Convention between the signing Governments; this legal form is too ambitious for a small center. The IEA is created as a separate *programme* under OECD.

¹⁸ The information is based on the paper „Allgemeine rechtliche Hintergrundinformationen betreffend einer GmbH-Gründung in Ägypten“, prepared for the consultant team by the legal officer of the Deutsch-Arabische Industrie- und Handelskammer Kairo, August 2007, Ms. Daniela Kaphahn

A LLC must have a minimum of 2 and a maximum of 50 shareholders. The minimum founding capital is EG£ 1,000. A LLC can have several managing directors, one of which has to be Egyptian. The regulations of the company can establish that specific activities can be undertaken only with approval by the General Assembly; the document defining the restrictions must be registered with the Egyptian Trade Registry. The General Authority for Investment and Free Zones (GAFI) is a well-functioning one-shop-stop for foreign investors interested in founding a SC or LLC, including getting work permits for foreign staff. Resident Permits (“Aliens Permits”) can be granted for up to five years. The profits of LLCs are subject to 20% company tax.¹⁹

3.3 Governance of MCREEE

3.3.1 An interim solution

To comply with conventional practice for donor-financed projects, the project will be formally governed and monitored by a *Steering Committee* composed of representatives from Egyptian stakeholders and the two or three co-financing donors.²⁰

If MCREEE continues after its first five years, all functions normally performed by a *Steering Committee* would be entrusted to the annual meeting of shareholders. To prepare for the future, the annual meeting of shareholders modality will be tested already during the initial five years.

Detailed governance concerning Centre management, activities and monitoring of results will be executed by the *Board* of MCREEE.

3.3.2 Responsibilities of the Steering Committee

The *Steering Committee* for the five year pilot phase for MCREEE is composed of one representative from each of the co-funding authorities: the German Government, the Danish Government, EU-Commission (if it participates), Ministry of Electricity (€2 million cash contribution) and NREA (financing of free office rental with associated building operating costs).

The Steering Committee’s responsibilities will concern mainly the annual approval of transfer of donor funds to the bank account of MCREEE. The Steering Committee meets once per year in Cairo:

- to verify the status of program progress and use of funds;
- to verify that the program of activities and budget for the upcoming year approved by the Board of MCREEE are in accordance with MCREEE program objectives and procedures;
- to approve the transfer of annual donor funds to MCREEE’s bank account.

¹⁹ Since RCEERE will not generate profits, the tax obligation is irrelevant. In addition, RCEERE performs research activities, for which according to Egyptian law tax exemption can be granted.

²⁰ Three in case the EU should decide to join.

3.3.3 Responsibilities of Annual Meeting of Shareholders

The *Annual Meeting of Shareholders* is composed of *representatives of shareholders* in MCREEE LLC; one representative for each shareholder. It is expected that in addition to the three founding shareholders – KfW/BMZ, Danida, NREA/Ministry of Electricity – institutions from other MENA countries – most likely their national energy agencies – will become shareholders also.

In anticipation of this development and in order to make rational use of existing institutions, it is proposed that the annual meeting be held in connection with a *MEDENER meeting*: the MENA country agencies of MEDENER hold an *Annual Meeting of MCREEE Shareholders* session in which representatives of donor-shareholders participate too.²¹ During the first five years pilot period *representatives from MENA countries that are not shareholders in MCREEE LLC* will be invited also to participate in the Annual Meeting of Shareholders with equal voting rights.

The responsibilities of the Annual Meeting are:

- based on a received list of nominated candidates to appoint five of the seven members of the Board: (i) the representative for the Energy Agencies of the Arabic MEDENER countries, (ii) the representative from Academia, (iii) the Private Sector representative for industry, (iv) the Private Sector representative for financial institutions involved in EE&RE; (v) the Private Sector representative for engineering/consulting services;
- to discuss MCREEE activities, progress and experiences during the previous year based on a draft Annual Report by MCREEE and an oral presentation by the Executive Director of MCREEE and the Chairman of the Board;
- to provide ideas, recommendations and proposals to MCREEE's program of activities and budget for the upcoming year.

It is recommended that a working group reviews the list of Board member nominations prior to the Annual Meeting and presents a recommended list of two candidates for each of the four positions for final decision taking by the Annual Meeting.

At least two of the five appointed Board members must come from the Maghreb-countries.

The consultants recommend that the list of nominees for Board positions for review by the working group be prepared through one of the two procedures outlined below:

1. Each MENA-country MEDENER representative proposes two nominees from the home country for each of the four positions.
2. Regional interest organisations are asked to present three candidates for each of the three non-MEDENER positions – the UAB Union of Arab Banks for the financial sector representative, the Union of Arab Engineers for the engineering/consulting services representative, the Arab Investors Union for the manufacturing representative, a regional organisation for the national Science and Technology Academies/Councils/universities for the Academia representative.

²¹ The concerns leading to the proposal were (i) to make use of existing structures to the extent possible, (ii) to have stakeholder representatives and sector expertise directly represented on the Board, (iii) to lower the costs of transaction (of administration/management). The MENA agencies in MEDENER are (a) an important target group for outputs from the Centre, (b) represent an established regional energy organisation and (c) have some of the best energy expertise in the region in their staff.

It is expected that MEDENER would set up three work-groups – one for each Centre topic – to give a technical-political evaluation of proposed research topics for MCREEE’s work program.

3.4 Board

MCREEE’s Board of Directors is composed of seven members representing²²:

1. Regional Energy Agencies of the Arabic MEDENER countries
2. Academia
3. Private Sector industry
4. Private Sector financial institutions
5. Private Sector engineering/consulting services
6. Donors
7. Host Government (NREA)

The Arabic MEDENER countries appoint five board members, the Egyptian Minister of Energy appoints the host Government representative, donors appoint jointly the donor representative.

Normally, Board members are appointed for three years. However, in order to ensure later smooth changes in the Board’s composition, the first time three of the members appointed by the Arabic MEDENER countries will be appointed for a two years period only.

The *Chairman of the Board* is elected by the Board Members for a period of two years.

The *responsibilities* of the Board are:

- to hire and fire the Executive Director of MCREEE;
- to hire the other two professional MCREEE staff members the first time staff for the start-up of MCREEE is recruited, in the following years staff will be hired by the Executive Director only;
- to approve the annual work program and budget of MCREEE prepared by the Executive Director and his staff;
- to contract the annual audit of MCREEE accounts;
- to provide ideas to MCREEE about new activities and new cooperation networks;
- to approve the Annual Report of MCREEE;
- to monitor the productivity and quality of MCREEE and the relevance of MCREEE work;
- to contract performance reviews of MCREEE

²² An alternative option, apparently favoured by the Ministry of Electricity in Egypt is to have a “political board” composed of representatives (public officials) from participating MENA countries, which is assisted by a “technical Advisory Council”. The consultants preparing this study believe in the value of a mixed private/public/academic Board. The “political control” function is well taken care of by the Annual “Shareholders/Medener Meeting. Provided that the “advisory board” is the de facto decision taker with the Board only acting to give the official rubber stamp to its recommendations, the alternative would work as well, but be more expensive – have higher costs of transaction for meetings and travel.

3.5 Staff of MCREEE

The two key considerations that led to the proposed staff size and composition outlined below are (i) cost consciousness and (ii) flexibility to handle peaks in work load and for specialist inputs.

3.5.1 Staff working at the Centre in Cairo

Initially, MCREEE will have a *core staff of three full time professionals*, each in charge of one of MCREEE's three core activities:

- Expert in RE & EE policies and instruments (who is also Executive Director)
- Expert in R&D in RE&EE and in related education & training needs
- Expert in PPP-Concepts for EE+RE

The three staff will be recruited from MENA-countries; preferably from three different countries.

The professional staff will be assisted by secretaries and administrative staff and by *students* working as research assistants.

The Executive Director will be assisted by an *international consultant* working 12 months for MCREEE during its first year, 6 months during the second year, two months during the third and one month per year during the fourth and fifth years.

Once MCREEE starts getting commercial contracts, there will arise a need for recruiting more full-time professional staff.

3.5.2 Part-time staff working locally in each collaborating country

MCREEE will sign a retainer contract with one first class *researcher* in each participating MENA country *to work part-time (25% on an annual basis) as local MCREEE staff member*. When performing work that goes beyond the retainer contract's terms of reference, the researcher will be paid by an add-on contract.

3.5.3 Short-term contracts with specialists

The staff at the centre in Cairo will be reinforced on an ad hoc basis by *specialists working on short term contracts*.

3.5.4 Outsourced work

The bulk of MCREEE research will be *outsourced*, being performed through tendered contracts by researchers/experts/consulting firms from MENA and from EU countries.

3.5.5 Core Research Staff

All three core research staff must have (i) a Ph.D., (ii) be fluent in Arabic and English and have as a minimum a working knowledge of French; (iii) have communication & networking skills, (iv) have management and team building skills.

Maximum age by the signing of the contract is 45 years for the Executive Director and 40 years for the two other staff.

Expert in RE & EE policies and policy instruments / Executive Director

The **Expert in RE & EE policies and policy instruments** who also serves as **Executive Director** must have a strong background in energy economics with a university background in either economics or in engineering with an additional MBA or equivalent in Finance. The expert must have a strong track record in providing high level advice in energy policy and policy instruments to national governments, and national and international agencies.

The technical responsibilities as expert in RE&EE policies and instruments comprise:

- to have an in-depth knowledge of and keep abreast with developments in energy laws and regulations in MENA countries collaborating with MCREEE;
- to have an in-depth knowledge of and keep abreast with developments in energy laws and regulations issued by the EU;
- to monitor world-wide developments in novel financing and incentive instruments and their effectiveness;
- to implement the studies which the Board of MCREEE assigns to the energy policy unit within the overall annual work program for MCREEE, draft the detailed TOR for the studies, organise the tenders for the studies, sign the contracts with the winning bidders, and monitor the quality of their performance from start to finish, and authorise disbursements to these according to the milestones defined in the contract;
- to organise the work leading to the bi-annual Status Report on RE&EE in MENA and be responsible for final editing;
- to develop proposals for topics to be included in the following year's work programme;
- to build a network of contacts with leading MENA and EU experts working on RE&EE policy issues;
- to formulate recommendations for energy laws, regulations and policy instruments to MENA governments based on the results of the studies that have been finalized during the year.

As Executive Director, the responsibilities of the staff member include:

- to hire and fire MCREEE staff, including staff on retainer contracts;
- the preparation of the annual report on MCREEE achievements during the year;
- the preparation of annual budgets and audits;
- to brief the Board about MCREEE issues.

Expert in R&D in EE & RE and in related education & training needs

The **expert in R&D policies for RE&EE** must have a technical background in science (e.g. physics) or in engineering, preferably with strong exposure to system analysis. The expert must have a strong track record in analyzing and advising about R&E policies for EE&RE.

The responsibilities of the expert comprise:

- to have an in-depth knowledge of and keep abreast with developments in MENA countries in R&D policies for RE&EE and public & private R&D in EE&RE;
- to have an in-depth knowledge of and keep abreast with developments in R&D programs of the EU and relevant EU tenders legal persons from MENA countries can participate in;
- to monitor world-wide developments in R&D in EE&RE;
- to monitor world-wide developments in R&D policies for EE&RE;
- to implement the studies which the Board of MCREEE assigns to the R&D unit within the overall annual work program for MCREEE, draft the detailed TOR for the studies, organise the tenders for these, sign the contracts with the winning bidders, monitor the quality of their performance from start to finish, and authorise disbursements to them according to the milestones defined in the contract;
- the final editing of the sections dealing with energy R&D in the bi-annual Status Report on RE&EE in MENA;
- to develop proposals for topics to be included in the following year's work programme;
- to build a network of contacts with leading MENA and EU experts working on energy R&D policy issues;
- to formulate energy R&D policy recommendations to MENA governments based on the results of the studies that have been finalized during the year;
- identify institutions with best practices in capacity building for RE and EE in the MENA region (inter alia the National Agencies for RE & EE);
- facilitate surveys in companies and government agencies to identify manpower needs in RE & EE in quantitative and qualitative terms;
- initiate working groups with representatives from education and training institutions, governments, science (R+D in educational sciences , labor market and job analysis) and industry for the development/amendment, implementation and accreditation of professional profiles and curricula, modules and teaching aids in RE & EE;
- organize North-South-North transfer of technology in RE & EE capacity building;
- develop a website with information about the results of these activities.

Expert in PPP-Concepts for EE & RE

The **expert in PPP-Concepts for RE&EE** can have a university background in business, finance, engineering, political science or economics. The expert must have a strong track record in analyzing PPPs for RE&EE and in advising about the development and implementation of PPPs.

The responsibilities of the expert in PPPs for RE&EE comprise:

- to have an in-depth knowledge of and keep abreast with developments in PPPs for RE&EE that are implemented or under development in MENA countries collaborating with MCREEE;

- to monitor world-wide developments in PPP-concepts for EE&RE, their results and costs;
- to implemented the studies which the Board of MCREEE assigns to the PPP unit within the overall annual work program for MCREEE, draft the detailed TOR for the studies, organise the tenders for these, sign the contracts with the winning bidders, monitor the quality of their performance from start to finish, and authorise disbursements to them according to the milestones defined in the contracts;
- the final editing of the sections dealing with energy PPPs in the bi-annual Status Report on RE&EE in MENA;
- to develop proposals for topics to be included in the following year's work programme;
- to build a network of contacts with leading MENA and EU experts working on PPPs for EE&RE;
- to provide practical advice about the design of successful PPPs for RE&EE to MENA governments based on the results of studies that have been finalized during the year.

3.5.6 Associated Research Staff in each MENA country on retainer contracts

The Centre will make a retainer contract (25% of annual working hours) with one prominent energy expert in each collaborating MENA country to work part-time as national MCREEE staff.²³ The expert must have in-depth knowledge of energy policies in his/her country. MCREEE will in its retainer contracts seek to sign contracts with experts having different expertise: e.g. wind energy, solar PV, concentrated solar power, EE, incentive policies, R&D policies, PPPs, etc. in order to have an all-round breadth of expertise attached to the centre.

The responsibilities of the national MCREEE staff members are:

- to feed updated information to MCREEE's data base about new laws, regulations, policy papers and valuable research papers about RE&EE conditions in their country;
- to be local liaison officer for MCREEE contracted consultants arriving on short-term missions in the country, helping them with establishing relevant local contacts;
- to peer review sections related to his/her specific expertise in draft reports submitted to MCREEE;
- to organize the national seminar, where the results of the bi-annual RE&EE status report are presented;
- to feed ideas to MCREEE's core staff about new research topics to take up in work programs;
- to scout for talented national students for writing Master and Ph.D. thesis on MCREEE topics.

²³ The two donors expect that Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine, Syria, Tunisia, Yemen will be partners.

3.5.7 Non-Research Staff at the Centre

The non-research staff at MCREEE will consist of the following:

- One **Administrative Officer/ Financial Controller** responsible for supervising all expenditures, daily administrative issues and daily accounting. MCREEE will use double signature for signing of all contracts and all payments (checks): one of the three research staff plus the Administrative Officer.
- Two **administrative assistants/secretaries** to assist the three research staff and the Administrative Officer. The secretaries must together be fluent in Arabic, English and French.

It is expected that **receptionist staff, guards, cleaning staff**, etc. are provided by NREA, the owner of the building where office space is let to the Centre free-of-charge.

3.5.8 Specialist-researchers on ad-hoc short-term contracts

MCREEE will sign short term ad-hoc contracts (maximum two-man-months) with researchers to assist MCREEE core staff during peak periods and/or provide specialist inputs to the preparation of ideas for new research topics (briefs for Board of MCREEE), TOR and contracts for major policy studies, to peer review draft reports, formulate policy conclusions to MENA Governments, etc.

3.5.9 Research assistants: students

The professional staff will for assistance in data collection, data entry, basic analytical work, charts, and design and maintenance of the MCREEE website make intensive use of part-time research assistants recruited among top-students who study energy issues at university. Each of the three researchers will have at least one student attached to him/her working part-time on a weekly basis at the Centre.

In addition, MCREEE is expected to make intensive use of students writing their Master Degrees & Ph.D.s about topics of interest to the Centre.

3.5.10 Long-term consultant from EU country

The MCREEE core staff in general and the Executive Director in particular will be assisted by a *consultant from an EU country*, preferably from one of the two donor countries.²⁴

²⁴ Partly because Denmark and Germany have some of the most advanced RE&EE policies, partly for donor interest.

The EU consultant must have a Ph.D. in energy economics and/or RE&EE technology issues and have in-depth all-round knowledge of RE&EE policy issues and experience in providing policy advice to Governments and international organisations.

It is expected that the contract with the consultant would ask him/her to work full-time in Cairo at MCREEE during its first year of operation and then part-time in Cairo, part time in his/hers home country 6 months during the second year, two months during the third and one month per year during the fourth and fifth years.

The responsibilities of the EU-consultant include:

- to assist the core staff in building up collaboration networks and information exchange with top-quality energy experts and institutions from EU countries;
- to assist the Executive Director in the initial administrative work involved in setting up the routines and administrative systems;
- to assist the core staff in preparing TOR and contracts for studies;
- to assist the core staff in the quality control of draft papers presented by contracted consultants, performing peer-reviews of the work;
- to assist in the organisation of workshops and the identification of world-class lecturers;
- to provide inputs to policy recommendations and to the structure of the bi-annual RE Status in MENA countries reports;
- to assist the Executive Director in developing revenue-generating activities for the centre.

4 FINANCE

4.1 Distinction between Core Finance and Commercial Finance

If MCREEE is to perform its think tank function, stakeholders must provide the center with *core finance* on a multi-annual basis. The core finance must as a minimum cover: (i) the costs of the permanent staff at the centre in Cairo and at country level; (ii) the basic operating costs of MCREEE logistics; (iii) the costs of the biannual status report on RE&EE policy in MENA countries, (iv) the costs of at least one major study in each of the three major topics covered by MCREEE.

In addition, MCREEE is expected to prove its value as a think tank by attracting *commercial contracts* for studies with governments and international institutions. The net revenue from the commercial contracts is expected as a minimum to cover MCREEE's total costs in performing and administering these contracts including a reasonable share of overhead costs.

Full commercial liability cannot be reconciled with the continued operation of MCREEE as a think tank. In that case, MCREEE would become indistinguishable from a normal consulting firm. The long-term financial viability of MCREEE depends on the ability of the management team through high quality outputs to convince MENA governments, the EU and EU-country donors of its indispensability. If it turns into a high quality research institution, there is little doubt that MCREEE will be able to secure the required core finance also after the end of the first five years.

4.2 Sources of Funds in Kind and in Cash

4.2.1 Funds for first 5-years allocated by Donors and Egyptian Government

The presently relatively firm funding for MCREEE is shown in table 1 below.

Table 1: Presently available total funding for MCREEE

	€	€ per year
KfW	6	1.2
Danida ¹⁾	2	0.5
Egyptian Government in kind	2	0.4
Egyptian Government in cash	2	0.4
TOTAL	12	2.4

1) Estimated contribution, not yet committed

The total in kind and in cash amounts to €12 million, equal to €2.4 million per year.

BMZ is ready to make available another 2m € for a Master Program for RE&EE management. This program might serve the objectives of MCREEE, but is not part of the Centre's program.

4.2.2 Funds from participating MENA countries

The MENA countries that the donors expect as participating/collaborating partners for MCREEE are: Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine, Syria, Tunisia, Yemen.

MCREEE workshops are held to discuss the results of major studies that are included in the annual work programs of MCREEE. Once a study exists in final or draft report form, MCREEE will invite each collaborating MENA country to send two to three experts to the workshop. The cost of travel, accommodation and per diems for these experts will in the long term not be covered by MCREEE. In order to ensure that the work of MCREEE meets genuine political and expert interest; these costs will at the end of the five years period have to be paid for by the Governments that send experts and officials to attend these workshops. In the short term, when MCREEE still needs to acquire client recognition, MCREEE will co-finance the cost of participation. It is recommended that the co-financing share during the first two years is 100%, in the third year 75% and the last two years 50%.

MCREEE will pay for the costs of fees, travel, per diems and accommodation for experts that are contracted by MCREEE to make the key presentations at a workshop.

As part of the “regional Centre” modality, MCREEE will hold its workshops not only in Cairo, but in any MENA country that is interested in and willing to organise the regional workshop in their own country. In Cairo, NREA is expected to organise the workshops at its premises or at rented premises, bearing the costs of that (the physical premises and light snacks) under the Egyptian host country contribution. Similarly, countries/organisations that host a MCREEE workshop in their country will pay for the cost of the physical premises, light snacks and logistics that arise from the event.

This financing modality ensures that MCREEE’s work is demand driven. The willingness of MENA countries to send experts to MENA workshops and the number of workshops that are organised by MENA countries other than Egypt are both included as performance indicators.

4.2.3 Self-generated revenue

Being a legal person, MCREEE can participate in the bidding for studies under international tenders. MCREEE can, therefore, bid a research topics included in its work program into e.g. one of the open tenders under EU’s 7th Research Program.

Or, MCREEE can be contracted directly by an international or a bilateral organisation to execute a study. Since the staff of MCREEE is very small, the work would be undertaken by contracted consultants under supervision and the final responsibility of a MCREEE staff member.

The net revenue (total revenue minus total expenses) from these activities would be part of MCREEE’s annual budget. If MCREEE becomes successful, it can contract more staff and expand its participation in the bidding for studies. When MCREEE is the lead agent in a bidding consortia, it could charge 10-15% of the fee-revenue from contracts as administration and success fee.

The share of self-generated revenue as a percentage of MCREEE's operating costs (not including the cost of out-contracted studies) is a success indicators for MCREEE.

Ideally, the aim should be that MCREEE as far as its operating budget is concerned could be self-financing after the initial phase of five years, donor grants from that period onward should go exclusively for the co-financing of regional and MENA-EU collaboration programs.

4.3 Use of Funds

4.3.1 Annual costs of Staff and of Board meetings

The annual staff costs, not including adjustment for annual inflation estimated at 2.5% per year from years 2-5 are in table 2 estimated at around €360,000 per year.

Table 2: MCREEE Annual Staff Costs and Costs of Annual Board Meeting

	unit cost mm	Number	Cost/year
1. MCREEE Staff			
Executive Director	4500	1	54,000
Core Research Staff	4000	2	96,000
Administrative Officer	1000	1	12,000
Secretaries	500	2	12,000
Associated staff (retainers) ¹⁾	3000	8	72,000
Research assistants	400	3	7,200
Sub-TOTAL		17	253,200
EU-Consultant (average for 5 years)	10,000	1	46,000
Short-term research staff (2 mm each)	5,000	4	40,000
TOTAL Staff		19	341,600
2. Board Meetings			
- travel	500	5	2,500
- accommodation + per diem	120	10	1,200
- fee including preparation + travel	700	15	10,500
Sub-total			14,200
TOTAL			355,800

1) Please note that the monthly salary for local-national staff is lower than for staff in Cairo

4.3.2 Annual non-staff operating costs

The non-staff cost of operation for MCREEE are estimated at roughly €110,000 per year, again before adjusting for annual inflation estimated at 2.5% per year from years 2-5.

Table 3: MCREEE non-staff operating costs

1. Travel	Unit price €	number	€ per year
Travel to EU-countries			
- economy class tickets	1,200	6	7,200
- accomodation + per diems	150	24	3,600
Travel to MENA-countries			
- economy class tickets	500	21	10,500
- accomodation + per diems	120	63	7,560
sub-total Travel			28,860
2. Office costs			15,000
- Office rental per month	5,000	12	60,000
- Office operating (utilities, etc) month	1,000	12	12,000
- Car (depreciation + operation + insurance)	600	12	7,200
Sub-total office			79,200
TOTAL			108,060

4.3.3 Annual costs for contracted outputs: studies and seminars

MCREEE's annual costs for studies and for workshops are in table 4 estimated at €1 million per year, again before adjusting for annual inflation estimated at 2.5% per year from years 2-5.

Table 4: Annual costs for contracted outputs

	Unit price €	number	€ per year
1. Studies	70,000	12	840,000
2. Seminars/workshops			
- seminar place + logistics	1,500	12	18,000
- travel of experts	1,200	36	43,200
- per diems & accomodation experts	120	108	12,960
- fees, experts	700	108	75,600
sub-total workshops			149,760
TOTAL			989,760

4.3.4 Funding of implementation of pilot PPPs

The consultants recommend that the in-cash contribution of the Egyptian Government be paid into a PPP-fund administered by NREA. The fund will be used to finance the support costs of PPP-concepts that are developed by NREA in collaboration with MCREEE and to be tested in practice in Egypt.

4.3.5 Total budget break-down for five years

The total budget shown in table 5 does not include self-generated income by MCREEE. It shows a reserve margin of almost €2.4 million or of 24%.

Table 5: Total Budget for first 5-Year Period

	€	in %
Staff and Board costs	1,779,000	21%
Non staff operating costs	540,300	6%
Cost of contracted outputs (studies and seminars)	3,748,800	45%
Inflation adjustment, years 2-5	303,405	4%
Sub-total	6,371,505	76%
Cost of PPPs	2,000,000	24%
TOTAL	8,371,505	100%
Budget Reserve	2,368,495	25%

One should note though, that €2 million of MCREEE's budget are Egyptian Government contribution in kind. The "free cash" reserve margin, therefore, is much smaller.

Yet, overall the comparison of total budget needs and present budget commitments shows that the intention of going ahead with the MCREEE-project based on present funding is sound.

5 RECOMMENDED FOLLOW-UP FOR IMPLEMENTATION

5.1 Seminar in Cairo

If Minister of Electricity, H.E. Hassan Younes, invites representatives from MENA governments to a seminar in Cairo for a discussion of the findings and recommendations of this report, then it would be convenient to invite the team of consultants for the final feasibility study for MCREEE to attend the seminar as observers. This would enable the consultants immediately after the seminar to adjust the structure for MCREEE, job descriptions, budget, etc, in accordance with the findings and recommendations of the seminar.

5.2 Organisation of Follow-Up Work for Implementation

The most important outstanding issue is: “who will ensure the implementation of MCREEE after the seminar?”

This will obviously depend on the outcome of the seminar. But what might be envisaged and discussed at the seminar is that NREA is entrusted with the practical preparatory work under the guidance of a small four-persons Steering Committee consisting of:

- one representative from the Ministry of Electricity;
- two representatives from MEDENER, one from Maghreb, one from Mashrek;
- one donor representative.

The Executive Director of NREA would appoint staff for the work. The contract with the consultant doing the feasibility study should include work as “process-consultants” to assist NREA it is work responding to requests made by NREA, as well as by donors.

ANNEXES

Annex 1: Inputs to the Statutes of MCREEE

The Egyptian National Authority for Shareholding Companies sells model statutes for LLCs that must be used for the founding of the company in order to be registered. Details are filled in according to the specifics of the LLC. Below some very incomplete inputs to the detailing.

Objective

The objective of the Centre is to accelerate the implementation of cost-effective RE&EE policies, strategies and technologies in countries of the MENA region and to intensify RE&EE regional cooperation.

Core activities

In order to reach this objective, the Centre is acting as a think tank in three closely interrelated core areas:

◦ RE&EE policies

Analysis of RE&EE policies and strategies in order to identify best practices and key obstacles both in the regional and the international context; development of new policies and strategies on this basis.

◦ Research and Development in RE&EE

Initiation and facilitation of research on new and the adaption of existing technologies in the socio-economic context.

◦ PPP initiatives

Based on the results of R&D and policy analysis, initiation and facilitation of the identification of "best practices" and the development of new cost-effective RE&EE PPP concepts; assistance to private companies and government agencies in designing and implementing PPP-programs for RE&EE .

In addition to the core activities the Centre facilitates RE&EE training and education. This includes the commissioning of demand studies, evaluation of best practices and the networking of best practice RE&EE education and training institutes of the MENA region and the North.

The main focus of the Centre is a regional view of RE&EE , beyond national interests but serving national interests by mobilising the benefits of exchange of know how and regional cooperation. Both this concept of "regional" and the degree at which the "objective" of the centre are reached are the criteria for the Centre's success.

Annex II: Draft TOR Follow-Up Feasibility Study/ Process Consultants

1 Objective of the feasibility study / work of process consultants

The demand study report “MENA Centre for Renewable Energy and Energy Efficiency, Demand Study, May 2007”, this follow-up report “MENA Centre for Energy Efficiency and Renewable Energy (MCREEE), Organisation and Work Programs, August 2007” and the results of the seminar of MENA experts by the Egyptian Minister of Electricity and Energy on these reports are the basis for the feasibility study and/or work of the process consultants.

The objective of the assignment is to control the quality of the reports and the results of the seminar and to deal in more depth and detail with the items listed below. In addition, the consultants are to assist NREA (which is expected, depending on the outcome and recommendations of the seminar to be entrusted with the task of getting MCREEE established in practice) with follow-up work leading to the establishment of MCREEE.

2 Agenda for negotiations between donors and the GoE on the agreement on the MCREEE

An agenda has to be prepared for the negotiations and an agreement drafted which ensure the independence of the Centre, sets rules for the participation of donors, GoE and other MENA countries in the project, defines the role of the board, the core staff and the executive director and gives the frame for the financing of the centre including the exemption from taxes. The consultants are to prepare a draft charter for MCREEE.

3 Organization of Centre

An organization chart has to be drafted to reflect the core activities as described in chapter 2.3 with necessary adjustments and revisions depending on the outcome of recommendations of the seminar.

4 Infrastructure of Centre

Evaluate and examine the availability of offices, office infrastructure, housing facilities, transport and communication; visa, import regulations, driver licences, taxes, insurance for expatriates and local staff should be negotiated as under the frame agreement for Egyptian German Technical Cooperation.

5. Draft Tender documents for contracting core staff for MCREEE

Review job description and qualification profiles in accordance with recommendations made at the seminar. Prepare draft documents for publication of call for job applications.

6 Associated research staff (part time)

Prepare draft contracts / cooperation agreements for MCREEE's associated part-time staff in MENA countries. Suggest, with reference to recommendations made at the seminar the approach to use for the identification of relevant candidates and selection procedure.

7 Detailed budget for the first two years

With reference to observations and recommendations made at the seminar, review the draft budget for the first two years, in particular the realism of proposed salaries for staff members – core and associated - and attendance allowances for Board members. Suggest changes to the budget estimates that are deemed appropriate.

8 Draft work program for first two years of activities

With reference to observations and recommendations made at the seminar, review the review the draft program and make required changes.

9 Act as process consultant during follow-up work as requested by NREA

Within the amount of mandays allocated in the contract for the activity, assist NREA with specific issues and advice reacting to requests by NREA.

Annex III: Persons met during July 2007 Mission

Ministry of Electricity

Minister of Electricity, H.E. Hassan Younes
Abdel Rahman Salah Eldin, First Undersecretary
Eng. Mohammed Mousa Omran, Undersecretary of State
Dr. Aktham Abul Ella, Undersecretary of the Minister's office
Emad El Sharkawi, Ph.D. Chairman PDESCo

Ministry of Higher Education and State Ministry for Scientific Research

Prof. Maged M. Al-Sherbiny, Deputy Minister for Scientific Research

Ministry of Industry

Dr. Hani Mohammed Barakat, First Undersecretary

NREA

Executive Chairman, Eng. Samir Mahmood Hassan,
Eng. Ramadan A. Rahman Mohammed Basha, Vice Chairman for Projects and Operation
Eng. Bothayna Amin Rashed

Cairo University

Prof. Dr. Samir I. Shaheen, Dean
Prof. Dr. Mohammed M. Megahed, Vice Dean
Mohammed Abou-iiiana PhD, Executive Director Textile Technology Centre Sheikh Zayed City
Prof. Aldel Khalil, Vice Dean Post Graduate Studies

Egypt Energy and Control

Eng. Wael S. Kaddour, Vice President

Legal Advisor

Ambassador Rafik Salah El Din

Working sessions

Prof. Dr. Eng. M. Sherif El-Eskandarany, Vice-President of the Academy of Scientific Research & Technology (ASRT), Ministry of Higher Education and Scientific Research
Dr. Ibrahim Yassin Mahmoud, Project Technical Director, Energy Efficiency Improvement & Greenhouse Gas Reduction, GEF/UNDP
Dr. Ahmed Badr, Utilities and Economic Development Specialist, EU-Delegation Cairo

German Embassy

Ms. Stephanie Rösch, Development Cooperation

Danish Embassy

Ms. Bente Schiller, Development Counsellor