Egyptian German Joint Committee on Renewable Energy, Energy Efficiency and Environmental Protection

Egyptian German High Level Joint Committee on Renewable Energy, Energy Efficiency and Environmental Protection

5th Focal Points Meeting

August 04, 2010

in Cairo

Draft Version

(to be completed after the HLJC Meeting)

Report on Fourth Period (I/2010),

Program for Fifth Period (II/2010)

1. Objectives and tasks of the Egyptian German Joint Committee

The overall objectives of the Egyptian German High Level Joint Committee are, according to the Memorandum of Understanding, to "…*help to promote an environmentally sustainable economic development, based on the contribution of securing energy supplies, improving living conditions and conserving the natural environment*…"

The objective of the underlying Technical Assistance is to improve the capacity of the Egyptian Partner Ministries to develop and implement long term energy policy strategies.

The tasks include providing guidance in national energy policy, research and development, education and training. The procedures should support realizing national RE targets, transfer of RE & EE technology, training opportunities, joint events to attract private investment, diffusion to best practice and lessons learnt, and support Egypt to play a leading role in RE and EE in the MENA region.

2. Decisions of previous Focal Points Meetings

During the **1st Focal Points meeting on 22 May 2009**, a list of 15 proposals for JCEE activity, selected by the Working Groups and the WG Chairs was presented and adopted, with the recommendations:

- Decrease the number of projects by merging some projects together or eliminating some, and
- Distinguish between short term projects and long term projects.

During the 2nd **Focal Points Meeting on 17 December 2008**, the following priorities and changes were set:

- Energy Efficiency Agency and corresponding Energy Efficiency Legislation
- CDM capacity development, relating the technology activities to it and try to create CDM projects (PIN, PDD)

- Green building capacity development and awareness raising, including exemplary pilot design for office building,
- Wind technology manufacturing and wind park operation and maintenance capacity development, including training for technicians
- Preparation of a guideline for investors, once the new framework conditions for RE in Egypt are in place,
- CFL and street lighting efficiency improvement
- Energy efficient equipment testing, including motors
- Energy use of agricultural residues (instead of Jatropha project)
- Egypt's participation in the Mediterranean Solar Plan and in the International Renewable Energy Agency (IRENA)
- Egyptian German technology and business cooperation (plan an information visit to Germany in connection with a major RE fair)

During the **3rd Focal Points Meeting on 17 June 2009**, the following orientations were given:

1. Focus on developing **policy concepts, instruments and mechanisms** including institutions, capacity and awareness building and design exemplary projects. **Priority is** given to

   - Develop further the existing draft concept of energy efficiency policy and discuss with energy efficiency unit of Supreme Council, improving baseline information. Start re-designing Energy Efficiency Law
   - Propose establishing or strengthening of NGO for energy consumers
   - Propose Feed-In-Tariff (FiT) Scheme and PPA for small and medium size wind parks
   - Elaborate guidelines for RE investors in Egypt, in particular small and medium size projects
   - Develop examples for CDM Program of Activities (PoA), for CFL, charcoal kilns and consider solid waste, agricultural waste and composting
   - Develop concepts and feasible instruments for phasing out inefficient equipment and fuel switch (Lighting, appliances, motors…)
   - Support process of design and planning of green demonstration building
   - Develop concept of exemplary market penetration of solar water heaters in a region or a segment of Egyptian housing
   - Energy efficiency management and advisory in industry (follow up on activities by IMC, German Chamber, and projects)
   - Support private public awareness campaigns for energy saving
   - Develop energy efficiency and renewable energy curriculum for pre-university students
   - Support upgrade and accreditation of testing and certification laboratory

Depending on further discussion**, approval in working groups and/or potential financing from additional funds**, JCEE will engage in

- Explore opportunities and implementation strategy of small and medium scale solar power
- Stakeholder organization for strategic alliance for climate change mitigation (with view on Copenhagen COP)
- Organize enforcement process and capacity development for compliance to energy efficiency codes and labels in building sector
- Develop implementation strategy for emission reduction and energy efficiency in transport
- Develop rules for Third Party Access to the grid

2. With focus on **capacity development,** JCEE will organize or support

- in CDM (advanced training on baseline and additionality, in combination with feasibility studies, elaborate PIN and PDD, promotion and marketing)
- Green building and in particular energy efficiency in buildings, for architects, civil engineers, consultants and planners, local officials; Built network of green building experts and promoters;
- Windpark Operation & Maintenance: Technicians, Engineers

3. JCEE will further **support policy and RE&EE initiatives' coordination:**

- Within Egypt (Coordination of RE & EE policy initiatives including industry)
- Between Egypt and Germany (Coordination and Follow up all Egyptian German activities in RE & EE , support Technology and business cooperation; follow up industry selection of candidates for cooperation with German technology providers; Visit to Germany)

During the **4th Focal Points meeting on January 17, 2010,** the following activities were prioritized:

- Propose Feed In Tariff and PPA for solar power development in addition to wind parks;
- Start advisory on Third Party Access (TPA) and non-continuous power supply contracts in the electricity sector
- Promote and support National Solar Initiative

- Organize capacity building for grid integration of RE
- Launch the establishment of energy consumers' representation
- Launch comprehensive energy efficiency campaign in Private Public Partnership
- Inception of upgrading of NREA solar thermal laboratory and certification
- Finalize overview and discuss CDM status, potentials and opportunities
- Develop CDM-Program of Activities (Street lighting, charcoal))
- Advise the advanced planning of green demonstration building
- Initiate capacity development for compliance and enforcement to building energy efficiency codes and green building
- Develop the activity of residual based fuel (power and heat from agricultural waste and municipal waste)

Additional recommendations were given by the Focal Points as follows:

- Milestones should be defined for every activity,
- Priorities should be set and activities which do not advance should be eliminated
- Every activity/work stream needs a responsible person from the Egyptian side, which is supported by JCEE secretariat and consultants.

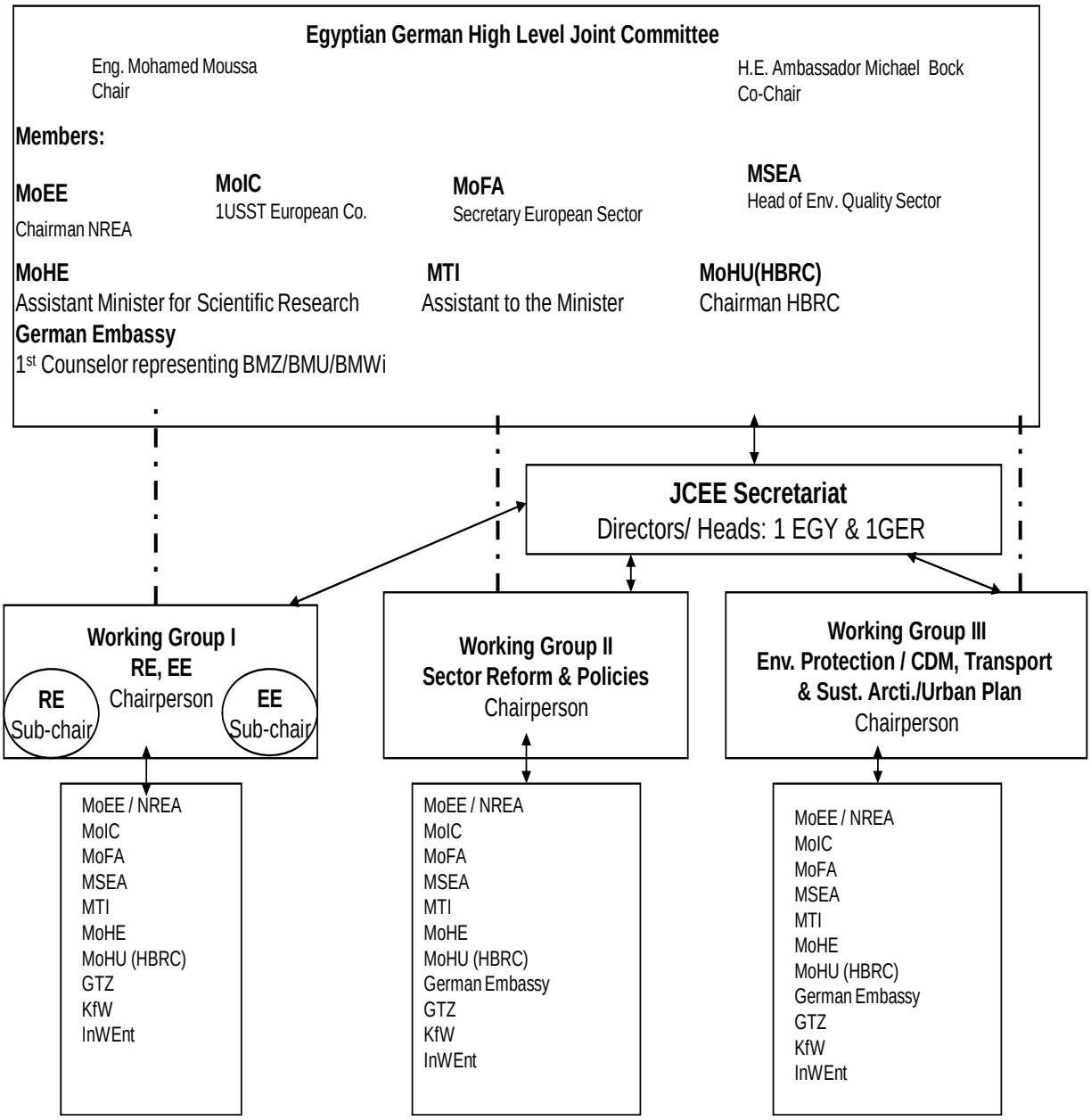

Fig1: Organizational and Steering Structure of JCEE

3. Report on I/2010

2.1 Organizational development

Membership

During the first half of 2010 composition of the HLJC in terms of participating Partner Ministries remained unchanged.

In June 2010 the Ministry of Electricity and Energy nominated Eng. Mohamed Mousa Omran, 1st Undersecretary of State for Research, Planning and Authorities Follow-up to act as the new Egyptian Chair of the HLJC.

Partners in the Egyptian German Joint Committee are currently from the Egyptian side

- Ministry of Electricity and Energy (MoEE)
- Ministry for International Cooperation (MoIC)
- Ministry of Foreign Affairs (MoFA)
- Ministry of State for Environmental Affairs (MSEA/EEAA)
- Ministry of Higher Education and Ministry of State for Scientific Research (MHE/MSSR)
- Ministry of Trade and Industry (MTI)
- Ministry of Housing, Infrastructure and Utilities (MHIU)

and from the German Side:

- Federal Foreign Office (AA)
- Federal Ministry for Economic Cooperation and Development (BMZ)
- Federal Ministry for Nature Conservation and Nuclear Safety (BMU)
- Federal Ministry for Economics and Technology (BMWI)

Numerous Egyptian and German organizations are taking part in the work, including programs of multilateral cooperation, among others:

- New and Renewable Energy Authority (NREA)
- Egyptian Electricity Holding Company (EEHC)
- Egyptian Environmental Affairs Agency (EEAA)
- Egyptian Electric Utility and Consumer Protection Regulatory Agency (Egyptera)
- Information and Decision Support Center (IDSC)
- Industrial Modernization Center (IMC)
- Housing and Building Research Center (HBRC)

- Regional Center for Renewable Energy and Energy Efficiency (RCREEE)
- Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH
- KfW Bankengruppe
- InWent - Capacity Building International
- German-Arab Chamber of Industry and Commerce (AHK)
- UNDP/GEF Energy Efficiency Improvement and Greenhouse Gas Reduction (EEIGGR)
- Climate Change Risk Management Program (CCRMP)
- Mediterranean Energy Market Integration Program (MEDEMIP)
- Mediterranean Energy Efficiency (MEDENEC)
- enerMENA – Program on capacity development in the field of CSP being implemented by DLR (funded by the German Federal Foreign Office - AA)

Organization of decision making and operation

The process of decision making and operation has become more customary to all participants in JCEE. The following graph gives an overview of current participation in the High Level decision making body (HLJC) and the steering structure of JCEE including the secretariat itself and the working groups.

The three Working Groups continue to develop, propose and follow-up initiatives, led by their chairpersons. Working Group I continue to operate in 2 subgroups, WGI/A focusing on Renewable Energy and WGI/B dealing with Energy Efficiency. Group II continues dealing with Policies, Sector Reforms and Institutional Development whereas thematic areas of Group III include Sustainable Architecture, Urban Planning and Clean Development Mechanisms (CDM). Due to the direct link between EE measures and CDM there are several joint activities between WG 1A and WB III.

In order to further improve the information exchange between the working groups it was suggested to arrange at least one additional meeting of the respective Chairpersons in between the semi-annual HLJC.

Secretariat and Technical Cooperation Project

A bilateral technical cooperation project to support the Joint Committee was agreed between the Governments of Egypt and Germany. The German contribution is financed by the Federal Ministry for Economic Cooperation and Development (BMZ). The Project Implementation Contract between Ministry of Electricity and Energy and GTZ is prepared and ready for signature, once the respective Intergovernmental agreement of 2008 is ratified. During the bi-

annual negotiations between the Egyptian and German Government in June 2010 both sides agreed on entering into a second Phase of JCEE (April 2011 until 2014).

The support mechanisms and structures of JCEE were established in 2008. The JCEE Secretariat has become increasingly operational with a staff of 5 and offices set up at the NREA compound. As the number of activities being supported and coordinated through the JCEE Secretariat has continuously increased over time it is expected to recruit more staff at the secretariat in 2010. Since January 2010 the Secretariat is additionally supported by a German Junior Associated Expert who will be leaving again in October 2010.

An Egyptian Director was assigned towards the end of 2008 and took office in January 2009. In March 2010 the former German Director of the JCEE Secretariat handed over operations to his successor who was appointed early 2010.

Procedures and communication are functioning well. A comprehensive website has been developed and is continuously updated: www.jcee-eg.net.

2.2 Report on listed JCEE activities in I/2010

On the basis of the first meeting of the HLJC in 2008, a list and planning matrix of 15 specific activities was established which was the basis of reporting in the following meetings.

In view of the changing priorities, intensification, postponements and also abandoning of activities since 2008, which made it difficult to report by means of updating a long list of activities, the JCEE secretariat proposed a new reporting structure classifying the joint activities into the following thematic areas as well as 3 different types of intervention, which was approved by the HLJC in its 4th meeting in January 2010.

I. RE power development, operation & grid integration

II. Energy efficiency (overall)

III. Energy in buildings (green/sustainable construction)

IV. Energy in industry and transport

V. Energy from residues and waste

VI. Energy and climate change mitigation– CDM

VII. Egypt's international role and mutual investments (EGY-GER)

Within each area, three types of activities are carried out:

A: Policy advisory, regulatory and organizational development

B: Awareness, information and capacity development,

C: Exemplary projects (design and feasibilities)

Topics the JCEE was working on during the period I/2010 mainly represent a continuation of earlier initiated activities complemented by those activities which were recommended during the 4th semi-annual focal points meeting. Applying the new reporting format activities currently being performed by the JCEE Secretariat are listed below:

Egyptian German Joint Committee on Renewable Energy, Energy Efficiency and Environmental Protection

Activities of JCEE by area and type of intervention			
Nr.	***Area/objective***	A: Policy advisory, regulatory and organizational development	B: Awareness, information and capacity development, C: Exemplary projects
I.	**RE power development, operation & grid integration/** **Implement Renewable Energy Policy**	**Feed In Tariff (FIT) calculation tool for smaller wind park development (done),** **FIT calculation tool for small and medium solar power – PV and CSP (done)** **Model contract for Power Purchase Agreement (PPA) with private investors (done)** **Model Contract for Land Use Agreement (ongoing, and in coordination with RCREEE)** **Model contract for Third Party Access (TPA) and Non – continuous customers (ongoing and in coordination with RCREEE)** **National Solar Initiative (ongoing)** Contractual framework for Guarantee of Origin (GoO) of "green electricity" (in preparation) **Study on scenarios of impact of RE (and EE) on EGY hydrocarbon reserves (done)**	Investment promotion material for wind energy projects in Egypt (in preparation) **Support small and medium size investors & projects (ongoing)** **Expand capacity development activities (ongoing, incorporated in contracts of consultants + cooperation with InWent)** **Capacity development for RE power integration in transmission and distribution grids (ongoing - in *cooperation with InWent*)** **Establish a training lab for WAsP (wind farm planning tool) comprising hard- and software (done)** and Capacity Development (in preparation)
II	**Energy efficiency** **Improve conditions for energy efficiency in general**	Energy efficiency policy (in preparation and coordination with RCREEE) Energy Efficiency Law (not started) **EE institutional development: Support the Energy Efficiency Unit**	**Awareness campaign for saving electricity in the residential sector in a Public Private Partnership approach (PPP) (ongoing)** Curricula for energy efficiency for different pre university education levels (pending)

Activities of JCEE by area and type of intervention, continued			
Nr.	***Area/objective***	A: Policy advisory, regulatory and organizational development	B: Awareness, information and capacity building, C: Exemplary projects
II	**Energy efficiency** **Improve conditions for energy efficiency in general**	**Establish consumer representation (ongoing)** Develop concepts and instruments for phasing out inefficient equipment (pending)	
III	**Energy in buildings (green buildings)** **Implement energy efficiency in buildings**	Enforcement of energy efficiency building codes (pending) **Support Green building council and network of green building experts and promoters (ongoing - in co-operation with AHK PPP)** **Upgrading NREA's solar water heater (SWH) test facility (ongoing)**	**Support in Design and planning of a certified green administration building, (ongoing)** **Catalogue of available materials, products and services for GB in Egypt (ongoing)** **Post-Master course for sustainable urban planning and green buildings for architects, civil engineers, and planners including revision of curricula at 3 Universities (ongoing – in cooperation with InWent)** **Capacity Development for EE in the Construction Industry and advisory for Green Building Council (ongoing – under a Public Private Partnership with AHK)** ***Preparation of Egyptian German Master Course for Sustainable Urban Planning (through DAAD with funds from BMZ)*** **Capacity Development in the field of testing and Certification of SWH (ongoing)** Market penetration of solar water heaters in a region or a segment of Egyptian housing (in preparation together with EEU, KfW, Private Sector)

Activities of JCEE by area and type of intervention, continued			
Nr.	***Areas/objective***	A: Policy advisory, regulatory and organizational development	B: Awareness, information and capacity building, C: Exemplary projects
IV	**Energy in Industry (and Transportation)** **Implement energy efficiency in industry and develop approaches in transport**	Develop an implementation strategy for emission reduction and energy efficiency in transport (pending)	Energy efficiency management and auditing in industry (follow up on activities by IMC, German Chamber, and bilateral projects) (pending)
V	**Energy from agricultural & municipal residues or waste** **Identify approaches for energetic use and emission reduction**	**Feed in Mechanism** **Third party Access for co-generation (ongoing activity in section I)**	**Pre-Feasibility Study for Rehabilitation of the charcoal kilns (done)**
VI	**Energy and climate change mitigation** **Implementation of CDM**	**Support CDM APU in identification & promotion of CDM Projects incl. regional networking (ongoing)** **Status and potentials for CDM in EGY(done)** Stakeholder cooperation for strategic alliance (in preparation)	**Advisory for developing a street lighting CDM-PoA (ongoing)** **International Marketing and Networking during the Carbon Expo (done)** **Feasibility of charcoal CDM (done)**

VII	**Egypt's international role and mutual investments**	**Coordination and Follow up all Egyptian - German activities in RE & EE** **German Energy Round Table (ongoing)** **Support Egypt's role in DESERTEC- /MSP as well as RCREEE, IRENA (ongoing)**	**Support technology and business cooperation** **Support German governmental and business delegations and facilitate B2B contacts** Visit to Germany - (planned)

3. Outcomes, Results and Impacts so far

3.1 Outcomes (products) since beginning of activities in April 2008

JCEE created, delivered and contributed to the following *institutions, networks, products and services*:

- A cross-sectoral platform to cooperate, exchange information and discuss policies between Egyptian Authorities and together with German cooperation partners
- Building up and support operations of the Regional Center for RE & EE (RCREEE)
- Proposal of Energy Efficiency Agency submitted to Supreme Council of Energy
- Draft Strategy for Energy Efficiency Policy
- Draft Material for kick-starting an awareness campaign on energy saving targeting the residential sector applying a Public Private Partnership (PPP) approach
- White Paper for initiating an Energy User Movement in Egypt's Civil Society
- Input to Egypt's Solar Power Strategy
- Green Building Design for MSEA/EEAA building
- Several (more than 5) improved Project Idea Notes (PIN) and Project Design Documents (PDD) for CDM
- Pre- and Feasibility studies for CDM-Program of Activities (Charcoal Kilns)
- Stock Taking Report on Status and Potentials of CDM in Egypt
- Computer aided tool for calculation of generation cost and design of Feed-In-Tariffs for wind and solar power projects (CSP and PV)
- Draft Power Purchase Agreement (PPA)
- WAsP (wind farm planning tool) Training Lab (hard- and software) at NREA
- Assessment of the impact of increasing energy demand on Egypt's Oil and Natural Gas Reserves

- Study on the prospects of the Renewable Energy Sector in Egypt (in cooperation with the Private Sector Development Program PSDP at the MTI)

Since the beginning JCEE was also engaged in the provision of ***capacity development measures*** in the following fields (approximate numbers of individuals who benefitted from it are given in brackets):

- Basic understanding of CDM (50 persons from across all concerned sectors)
- Advanced understanding of CDM and PoA (10 specialized persons from concerned institutions)
- Basic understanding of Green Building / Construction (12 from the private sector)
- Advanced understanding of Green Building (approximately 10 specialized persons from the governmental sector)
- General understanding of the status of energy efficiency in buildings and policy requirements (80 persons across all concerned sectors)
- Advanced understanding of Mediterranean Solar Initiatives – MSP – DII (30 persons)
- Advanced understanding of critical aspects of wind power technology transfer and grid integration (4 specialized persons from MoEE and NREA)
- Advanced Understanding of Standards and Testing Procedures of Solar Water Heaters (4 engineers from NREA)
- Advanced Understanding of Design Principles for Feed-In-Tariffs (4 specialized persons from Egyptera)

Personal, technical and management development of JCEE staff (2)In terms provision of **information** and national and regional **networking** activities JCEE provided the following:

- Information on situation and prospects of RE, EE and CDM in Egypt in numerous meetings and events

- Flyer and Fact Sheet flyer on JCEE and a widely used website on the t RE & EE sectors in Egypt as well as on the activities of JCEE
- Networking and Marketing of CO2 Emission Reduction Certificates through participation at annual regional and international CDM conferences in cooperation with a regional CDM-JI Program

3.2 Results from 2008 until I/2010

JCEE contributed to the improvement of situations in the following areas:

- General: Since its creation the network of JCEE has continuously expanded. Many new comers are collaborating and participating in the different activities, increasing the added value on the JCEE and improving the flow and exchange of information. JCEE Working Groups are providing multi-stakeholder platforms to exchange information and discuss policy issues with the aim of improving the quality of RE & EE policy decision making; generating ideas and recommendations which are taken into account in current reforms and initiatives in Egypt. Even representatives from the private sector are getting increasingly involved in working group meetings.
- Policy Level: Availability of tools, model contracts and instruments for further design and implementation of regulations and incentives on the policy level.
- CDM: increase information level and quality; strengthen substantially capacity in EEAA and NREA, as well as other organizations; Increased pipeline of CDM projects and promotion of CDM potentials, continuously expanding and improved network of stakeholders on the national, regional and international level
- Green and energy efficient buildings: increased awareness, established an expert network, strengthen capacity, in particular in EEAA, facilitating design process and LEED certification of new MSEA/EEAA building. Establishing a wide range of cooperation under the PPP for Green/Efficient construction Training conducted by GTZ/AHK/ Rueckert GmbH.

- Egypt's International standing: awareness of RE & EE development and business opportunities in Egypt; Role in international/regional institution building and programs for RE (RCREEE, IRENA. MSP);

- Liaison with German Government and Business community;

3.3. Overall strategic impact

JCEE effectively helps to promote an environmentally sustainable economic development of Egypt, based on the contribution of securing energy supplies, improving living conditions and conserving the natural environment.

4. Proposed Program for 2010

(to be prioritized and finalized after the HLJC Meeting)

During the WG Meetings in 2010 the following activities were proposed to get engaged in during the second semester of 2010.

During the HLJC Meeting a prioritization of activities has to be agreed upon by jointly evaluating their strategic importance and impact in terms of increasing the capacity of our partner institutions to elaborate and implement startegies.

WG 1a – Renewable Energy

- Study for the Optimization of Wind farm layout (including capacity building at NREA) using WAsP and WindPro (including procurement of and training in WindPro Software?)
- Preparation of Investment Promotion Print Material on wind energy including participation at the GTZ Wind Energy Week in Berlin in November (4 Participants from the Grid Integration Capacity Development Program)
- *Capacity Development on operation CSP Plants (mainly optimization of Solar Cycle) + installation of 2 ground measurement stations in coastal areas – to be implemented by enerMENA and Cairo University (REMENA) - 4 participants from NREA*
- *Updating the Solar Atlas for Egypt (partially to be implemented by enerMENA + to be considered that a separate project proposal of DLR currently in the pipeline at BMU)*

WG 1b – Energy Efficiency in the residential and public sector

- Elaboration of a National Action Plan for the Promotion of Solar Water Heaters (in cooperation with the Energy Efficiency Unit) including - *Proposal of WG 1B + 3*
- WS together with EEAA on Re-collection of CFL lamps on the household level
- Provision of Technical Specifications for testing labs for home appliances
- Capacity Development for Energy Auditors / Managers for public buildings including procurement of measurement equipment
- *Preparation of a CDM PoA for Street Lighting (in cooperation with KfW and regional CDM/JI and therefore JCEE budget-neutral)*

WG 2 – Policies, Reforms and Institutional Development in the electricity sector

- Capacity Development on FiT Calculation model (Capacity Building for FiT design, Tariff calculation and sensitivity analysis including principles of financial and economic feasibility of RE Projects – Wind and CSP) - expansion of ongoing activity
- Elaboration of a Grid Code for the Integration of Wind Energy
- Contractual framework for Certificate of Origin
- Feasibility Study on Electro-mobility (partial transformation of Public transport system in Cairo)
- Reconnaissance of the Qattara Project (limited to Technical Backstopping)

WG 3 – Environmental Protection and Clean Development (CDM and Green Construction)

- Pre-Feasibility study on replacing 2-stroke motor-cycles in Greater Cairo (Preparation of a CDM Project)
- Provision of a European speaker for a CDM Conference in October in Cairo
- Technical assistance in optimizing public street lighting (technical and institutional concepts)
- Technical Assistance in the field of Standards and Labeling (certification) for energy efficient products
- Further Simulation of design options for reducing energy consumption of the MSEA Building (including a cost benefit analysis of options)
- Continuous technical assistance in the LEED Planning and Certification process of the new MSEA Building (magnitude unknown)

In Addition to that:

(using additional funds being made available by the German Side):

- Study on the Water-, Energy-, and Food Security Nexus in Egypt
- Placement of *2 long-term Integrated Experts* (GTZ/CIM) at EEAA (CDM) and Egyptera
- Capacity Development on *implementation* of PoAs (acting as coordinating entity) for the CDM-APU at EEAA (in cooperation with regional CDM/JI), regional Workshops and B2B Platforms for Egyptian and German Companies

ANNEX I: Report on I/2010 according original list of activities

In addition to the new format of reporting, in this annex a more detailed account is given for each activity of the original list. Text in italics refers to related activities financed and controlled by other stakeholders (see also planning matrix)

I) RE Power Development, operation and grid integration

I - A) Policy advisory, regulatory and organizational development

- **Calculation tool for Feed-in-Tariff (FiT) and model PPA for smaller wind parks, and solar power stations**

Following the approval from the 2nd HLJC meeting, a computerized tool to calculate the required feed in tariff for small wind farms depending on site conditions as well as model power purchase agreements has been designed and introduced to staff of EGYPTERA in July 2009. Since then the scope of the model was expanded to also include solar power projects and was continuously adjusted to meet Egyptera's requirement in terms of FiT Design. The final calculation tool was submitted in July 2010. Several rounds of discussions were held with the consultant significantly contributing to increase Egyptera's capacity in the field of FiT design.

In order to increase the impact of this activity it was proposed to implement a tailor made capacity building exercise by training several engineers from concerned institutions in running the software. During the course of this mission also Egyptera's Board of Directors will be briefed about the results of the assignment by the consultant.

The consulting for this activity was Lahmeyer International from Germany, contracted through GTZ, with funds from BMZ for JCEE.

- **Model Contract for Land Use Agreement**

Apart from that the main features of a Power Purchase Agreement (PPA) for such FiT agreements were presented and discussed during the course of the assignment. A draft PPA has been submitted already in 2009. In coordination with RCREEE and MEDEMIP a model contractual framework for Independent Power Producers in RE (including a Land Use Agreement and Power Purchase Agreement) will be elaborated in II/2010 building upon international best practices.

- **Third Party Access (TPA) rules and interruptible deliveries model contracts**

Following a decision from the 3rd HLJC meeting, Terms of Reference were developed by WG II for a Technical Assistance to develop a proposal for TP rules and interruptible deliveries contracts, both very important for the optimal use of power grids with variable power production. The April 2010 the tender regarding this consultancy was awarded to "e-bridge" a German Consulting Company who was contracted by GTZ, financed by BMZ for JCEE. The consultant is currently reviewing international best practices and the characteristics of the Egyptian Electricity Sector. The first mission to present and discuss the TPA model contract is schedule in II/2010

- **National Solar Initiative (NSI)**

In order to support the implementation of a national solar initiative JCEE Secretariat elaborated a fully fledged project proposal which was and submitted in April 2010 to the International Climate Protection Initiative of the German BMU. Unfortunately the proposed project was not selected for funding in this round of call for proposals. JCEE will continue to try to mobilize funding for the NSI

- **Certificate of Origin**

Representing an important contractual and integral part of the National Solar Initiative WG II has prepared a desk study on the concept and procedures CoO and is currently preparing the ToR for an international consultant to prepare the contractual and framework and recommendations for the institutional framework required to get engaged into the issuance and transaction of CoO.

- **Study on impact of energy demand and RE and EE on oil and gas reserves in Egypt**

In order to provide a better understanding of the interrelation between the development of renewable energy technologies in Egypt, increased efficiency and economic growth and the oil & gas reserves, a short scenario study was commissioned through GTZ. The results of the study were presented back in March in WG II revealing that on the long run it won't be possible to satisfy Egypt's increasing energy demand with natural resources. The study confirms the necessity that Egypt's energy mix has to be diversified and that serious energy efficiency measures have to be implemented to minimize the "waste" and inefficient use of precious national resources.

Meanwhile the report has been carefully edited and reviewed and is now ready to be published and distributed among the stakeholders of the energy sector.

- ***Feasibility Study for CSP and Master Plan for RE Power in Egypt KfW/AFD/EIB***

Currently NREA is finalizing the ToR for a comprehensive Technical assistance assignment financed by KfW, AFD and EIB for the preparation of Feasibility Study for a 100 MW CSP Plant and the elaboration of a Renewable Energy Master Plan for Egypt.

- ***Site Selection Study for solar power generation KfW/GEF/UNDP-EMPower***

This site selection study has been carried out by Lahmeyer International together with staff of NREA. Several promising sites have been investigated. The final report will be published in II/2010 and will include several "Project Information Memorandums" having the character of pre-feasibility studies.

I - B/C) Awareness, information and capacity development

- **Investment Promotion Material for wind energy projects in Egypt / support for small and medium size investors**

NREA is preparing information for investors and developers in RE projects in Egypt in form of guidelines, including information on RE development status, RE potentials and framework conditions. New rules and regulations are included after official approval. This activity gained new momentum in 2010 as H.E. the Minister of Electricity and Energy requested NREA to elaborate promotion material to attract private investment in Egypt's wind energy sector. It was proposed to implement this activity in stages starting with what has been requested by MoEE.

- **Improve capacities for operation and maintenance of wind parks**

Several activities are under way, financed with other (non-JCEE) resources, originated from BMZ.

  - *KfW has further advanced preparatory work on the concept of a **private sector participation of Operation and Maintenance** (O&M) for wind parks.*
  - *A CB mission to increase **training capacities for wind power operation (train the trainer) in Hurghada for NREA** has taken place in October 2009, with German experts organized by Inwent has held a mission and prepared a proposal for NREA.*

- **Capacity building grid integration of windpower**

Following the participation at a seminar on *Windpower connection to the grid and integration of wind power into grid management* organized by the supra-regional GTZ-TERNA program in Berlin in November 2009, JCEE initiated a Capacity Development Program together with InWent providing 2 separate tailor-made training modules covering in detail various aspects of grid integration of large amounts of wind power. In March 2010, RENAC the consultant contracted by InWent carried out the first mission to Cairo initiating discussions on the topic with officials from EEHC, EETC, Egyptera and NREA.

The 2 week training courses which will be held in Cairo in II/2010 are targeting staff from the engineering level (Module A) as well as the managerial level (Modul B). The number of participants will be limited to 12 trainees enabling the involved institutions to nominate up to 3 participants for the training.

During above mentioned discussions on grid integration of RE and wind energy yield forecast EETC requested JCEE to provide technical assistance in terms of the elaboration of a wind energy specific chapter for Egypt's grid code.

This matter including setting up a reliable wind energy yield forecast system reliable is becoming extremely important, as experience in other countries with fast rising wind power capacity shows and should receive continuous support though JCEE in close coordination with the WB.

- **WAsP Training Lab at NREA**

JCEE procured the required hard- and software (4 computers and 7 WAsP Licesnses) and submitted it to NREA. The lab will be used to train Egyptian staff in the application of WAsP. Due to Egypt's leading regional role in the use of wind energy it is also foreseen that NREA will carry out a training course for RCREEE member states in autumn 2010.

II) Energy Efficiency

II A) Policy advisory, regulatory and organizational development

- **Energy Efficiency Policy**

The JCEE secretariat has developed a draft policy paper on energy efficiency back in April 2008. This paper has been distributed to the WG chairpersons and Focal Points as well as other experts for discussion.

JCEE is closely coordinating with RCREEE and MEDEMIP with regard to the elaboration of an Energy Efficiency Guideline for the MENA region which is to be adopted by the League of Arab States (LAS). Under this EE guideline each member state of LAS will be asked to elaborate national Energy Efficiency Action Plans. In July a workshop was held in Tunis to present and discuss the current status in that respect.

- **Establishment of energy efficiency institutions**

The energy efficiency unit (EEU) in support of the Supreme Council of Energy (SCE) has become the key organizational unit for energy efficiency policy supported by representatives from the concerned ministries, in particular with the energy efficiency unit in EEAA and the energy efficiency committee of the MTI. WG I and II chairpersons and members are involved in the energy efficiency network of the SCE. WG III chair is responsible for the Spanish and UN MDG program which supports the SCE unit. Through bilateral meetings of JCEE secretariat and Chairpersons of WGs with the technical coordinator r of the EEU of the SCE the following areas of potential support have been identified (compare list of proposed activities).

- Elaboration of an action plan for the promotion of SWH in Egypt building upon the results of a currently undertaken desk study on the status of the SWH sector in Egypt
- Support in elaborating national street lighting standards following international standards and institutional recommendations for effective implementation
- Support for a National Standard and Labeling Initiative for electric appliances

Apart from that the EEU is currently developing sector specific energy efficiency indicators which is already in line with the ongoing efforts exerted by RCREE and MEDEMIP in terms of the preparation of a National Energy Efficiency Action Plan.

The JCEE Secretariat repeatedly expressed in bilateral meetings with the EEU its readiness to provide its full support for the EEU of the SCE and welcomes a very close cooperation.

- **Movement of Energy consumers**

Approved by HLJC and proposed by WG II, an international consultant (the founder and General Secretary of the German Energy Consumers association *Bund der Energieverbraucher*, Dr. Aribert Peters) was contracted, by GTZ with funds from BMZ-JCEE. In II/2009 during a mission and in following discussions a concept was developed to set up a respective movement aiming at the creation of an NGO at a later stage. Based on the input of Dr. Peters a national consultant was contracted by JCEE with fund from BMZ to elaborate a white paper for the founding process in I/2010. It was agreed upon that the most promising approach would be to gather 3 or 5 existing NGOs which would act as a core group and crystallization point of the movement. Several rounds of bilateral talks were held to identify these NGOs

A workshop is under preparation for sometime in II/2010 to develop and agree with key stakeholders on the main institutional aspects of the founding process.

II - B/C) Awareness information and capacity development / exemplary projetcs

- **Awareness campaign for electricity saving**

After cooperating without funding by JCEE, with the awareness campaign led by Procter & Gamble (P&G) in 2008, a new campaign is under development, following the approval by HLJC and the proposal of WG I (b).

With cooperation of EEHC, the new campaign is designed to be comprehensive, adding new contents and expanding the audience by using various media communication channels including TV, radio, newspapers and direct contact to consumers. JCEE has teamed up with an Egyptian Media Company and provides funding (seed money) for the conceptual design, production of a set of demonstration material and a corresponding media plan, to be presented to H.E. the Minister in II/2010, enabling the MoEE to decide whether the campaign can be rolled out under its auspices'. In the meantime 7 companies have already signed a Memorandum of Understanding expressing their readiness to enter a Public Private Partnership for the implementation of the campaign.

JCEE will be instrumental in the launch and steering of the campaign and, together with experts, in giving technical advice. JCEE will provide the manpower to coordinate this Public Private Partnership aiming at mobilizing over 95% of overall campaign cost from manufacturers of efficient appliances.

- **Energy efficiency in education**

WG II chair has made contact to the responsible person for pre-university education in the Ministry for Higher Education and Research. No new action taken in I 2010.

III Energy and Energy Efficiency in Buildings

The issues of green building and in particular energy efficient buildings have become another focal area in the work of JCEE, involving more than one WG, with capacity building and development activities as well as the concept and design of demonstration buildings. As a new topic the need for information on available green building products and services was identified in 2009. The Ministry of Housing as one of the latest Member in the JCEEE, being represented by HBRC will be an important partner in the planning and implementation process of this field of activities.

III - A) Policy advisory, regulatory and organizational development

- **Support Green Building Council and network of green building experts**

JCEE intends to offer providing support and technical assistance through its ongoing capacity development activities (compare III B/C below - InWent and PPP).

- **Efficiency testing and certification capacity / Upgrading NREA's SWH testing facilities**

NREA has numerous equipment efficiency testing facilities, which need to be upgraded to meet certain requirements, in particular for accreditation.

Following the approval by HLJC of the proposal by WG I a process of developing an appropriate strategy and activities for the urgently needed domestic certification of solar water heaters in NREA was started. Based on jointly elaborated ToR and following a standard tender process GTZ contracted the German consulting company SWT, being associated to the solar thermal testing lab of the University of Stuttgart, one of the leading labs in Europe in that matter.

In January 2010 SWT carried out the first mission to Cairo assessing the status of NREA's testing facilities and discussing several options for up-grading the test stands. JCEE arranged for NREA's testing engineers a study tour to the University of Stuttgart during which they were made familiar with the latest testing labs as well as testing and certification procedures according

to European standards. Currently SWT is preparing the technical specifications for the new test stand to be procured by NREA and will assist NREA in evaluating the bids in November 2010.

The whole exercise is being implemented in close coordination with RCREEE, currently developing regional SHW standards and certification procedures, which will be easily met by NREA's new facilities.

III - B/C Awareness, information and capacity development / Exemplary Projects

Various activities after the first capacity building in 2008 and the second intervention/study tour to Germany in March 2009, and the national consultation in May 2009. All these capacity building activities are coordinated in WG III. Additionally JCEE supports the design and planning process of a green demonstration building.

- **Support in Design and planning of certified Green Demonstration Building**

The development of a green multifunctional building adjacent to Azar Park is currently not advancing. On the basis of a first site and environment concept plan, Inwent had previously applied for financing from a BMU Climate Initiative (no news in I/2010).

New Building of MSEA/EEAA

The initial design for the new administration building of MSEA/EEAA, planned in New Cairo was discussed and changes were recommended by the international consultant and certified green building (LEED) expert Dr. Michael Laar under GTZ contract. The design was adjusted by the team from the EEAA in II/2009. In 2010 the design of building was further optimized in terms of natural ventilation and light by the consultant. Next steps are the registration with LEED and the finalization of the design.

- **Information / Catalogue on green building products in Egypt**

During the work on the design of the new MSEA/EEAA building the need for information on available green building materials, products and services in Egypt emerged. In order to elaborate a catalogue a first study for identification was awarded to the Magicx, a local company within the German Arab Chamber of Industry and Commerce. The data gathering process proves to be quite time consuming. A lot of data seem simply not to be available with the Egyptian companies.

Completion of the initial study is scheduled in II/2010. In a subsequent step, the compilation of a catalogue is intended.

- **Broad Capacity Development for EE implementation & enforcement - elaboration of Post-Master Course**

Following the conditional approval in the 3rd HLJC, WG III discussed and approved a proposal developed on the basis of the national consultations to support capacity development for compliance to energy efficiency codes and green building labels in the building sector.

InWent elaborated the proposal for a postmaster course which would be targeted at professionals working as officials, consultants and planners being involved in the building approval and planning process, to improve enforcement of the building codes. The agreement on a grant from the BMZ-JCEE resources between GTZ and InWent to implement this Capacity Development program was signed in 2009.

The identification mission was carried out in March 2010. The consultant already assessed the present situation of the green construction sector/market in Egypt and is currently analyzing the curricula of engineering and architecture faculties of several universities in the field of sustainable urban planning and green building. The post graduate course is currently scheduled sometime towards the end of 2010 and will build upon the revised curricula.

- ***Capacity Development for EE in construction industry***

Following the seminar on energy efficiency in February 2009 in German Chamber of Industry and Commerce (AHK) in Berlin, which was attended by a JCEE delegation, a group of German and Egyptian companies and partners from the building industry developed a PPP for capacity building in energy efficiency within the building industry. The application was accepted for co-funding by the specialized BMZ financed energy efficiency PPP program of GTZ. JCEE has advised on concept and recommended changes in order to respond to the most urgent needs of capacity building identified in the national consultations and the development of Green Building label in Egypt and will continue to supervise the implementation of this PPP.

During the initial fact finding mission in April 2010 JCEE closely coordinated with Rueckert GmbH the leading private sector partner of the PPP and discussed the foreseen road map for the implementation of the PPP . During the second mission in May 2010 the PPP partners submitted and presented a draft MoU to HBRC Management meant to be signed with the main Egyptian partners (HBRC, Federation of Contractors).MoU has been already signed with the Federation whereas signature of HBRC is still pending.

In May/June the first training module was implemented at the premises of AHK in Cairo. Lecturers from Germany and Egypt introduced 12 participants from the construction industry to the topic. The second round of this advanced training is scheduled for autumn 2010. In order to ensure the sustainability of the capacity development a Training of Trainers is scheduled in Germany for spring 2011. The last 2 training will be implemented by the Egyptian Trainers under supervision of their German Coaches.

- ***New Egyptian German Master course on sustainable urban planning***

In I/2010 the German DAAD has announced a tender for setting-up a new regional Master Course on "Sustainable Urban Planning" with funds from BMZ. The Master Course will follow the same concept as the REMENA Course which is jointly implemented by an Institution of Higher Education from Egypt (University of Cairo) and a Germany (University of Kassel). Deadline for submission of proposals was July 2010. The first courses could start as early as 2011.

- **Capacity Development in the field of testing and Certification of SWH**

This Capacity Development activity is an integral part of upgrading the SWH testing facilities of NREA (compare section under III A)

- **Market penetration of SWH**

Currently the KfW is developing a financing window to be offered through EEAA for buying down the cost of procurement and SWH installations especially in the social housing sector. Contractors being involved in the implementation of the GoE's social housing program already signaled their willingness to promote the use of SWH while selling the apartments.

The Egyptian German bilateral Cooperation Program at MTI which also implemented by GTZ (*Private Sector Development Program*) has established a Solar Water Heater Network which is meant to assist local manufacturers and dealers of SWH to prepare for penetrate the market. JCEE was invited to join that network in order to coordinate efforts and interventions on the macro and micro level.

IV Energy Efficiency in Industry and Transportation

IV - A) Policy Advice, regulatory and organizational development

No ongoing activities in 2010.

IV - B/C Awareness, information and capacity development / exemplary projects

- ***Fuel substitution in taxis and microbuses***

KfW had prepared a comprehensive idea proposal for a new program of fuel substitution to natural gas in taxis and minibuses. Discussion with international experts came to the conclusion, that a baseline study and capacity development are required in order to design an optimal financing program. Activity was postponed within JCEE (no news in I/2010)

- **Alexandria Public Transport Project**

No further JCEE activity required as the project was dropped.

- **Energy Efficiency Management and Auditing in Industry**

The EGY GER bilateral cooperation project on Private Sector Development - PSDP implemented through GTZ with MTI supporting small and medium industry (SME) is promoting resource efficiency (including RE and EE) in selected industry sectors (mainly food industry, ceramic industry and chemical industry). Currently PSDP is conducting an evaluation of the impact of energy audits carried out by IMC. Activities of the GTZ Partner Program are being closely coordinated with JCEE.

V Energy from agricultural & municipal residues or waste

V - A) Policy Advisory, regulatory and organizational development

- **Feed-in-Tariff and Third Party Access**

The activities currently carried out under I A) directly also prepare the ground to feed-in electricity generated from alternative fuels like agricultural waste/residues as well as municipal waste

V - B/C)

- **Agricultural waste to produce bio-energy**

After the Jatropha initiative was dropped within JCEE, EEAA has suggested to work in the field of agricultural waste to energy.

Apart from efforts exerted by EEAA / APU to convince representatives of the cement industry to consider burning alternative fuels JCEE was not involved in any further activities in I/2010.

VI) Energy and Climate Change Mitigation (CDM)

CDM as an instrument to promote RE&EE and to mitigate climate change has turned into an important area of JCEE activities, proposed by WG I and III and approved since inception by the HLJC. Starting from capacity building various activities serve to improve projects under development and to set up CDM Programs of Activities (PoA), i.e. CDM sector programs. As many energy efficiency project entail the opportunity to develop a CDM component, closer coordination of activities of WGIa and WG III might be considered to benefit from obvious synergy effects.

VI A) Policy Advisory regulatory and organizational development

- **Support to the CDM-APU at EEAA and regional integration**

After the first mission in 2008, the approach of the Capacity Building efforts in the field of CDM was adjusted in 2009 from basic CB to an advanced training revising existing PIN or PDD documents together with project developing institutions in order to increase the understanding of specific issues, i.e. like additionality. The consulting company for this task was “Perspectives”, contracted by GTZ from BMZ JCEE funding.

In a continuation of active participation at regional and international CDM conferences a small team of Egyptian CDM experts from EEAA and NREA participated at the CarbonExpo 2010 Conference in Cologne. The Egyptian delegation promoted CDM opportunities in Egypt, was marketing available VERs and significantly expanded its network in the CDM Community.

The visit was jointly organized together with the regional CDM/JI Program being implemented by GTZ with funds from BMU. In an effort to provide tailor made capacity development for Egyptian institutions it was agreed to foster the cooperation between JCEE and CDM/JI by jointly hiring a national CDM country coordinator at JCEE facilitating national and regional Capacity Building activities and organizing B2B Platforms for Egyptian and German Companies. In July the project management of CDM/JI visited Egypt in July discussing details of the cooperation and screening potential candidates for the position.

On top of this regional cooperation JCEE also very much supports the idea of placing a long-term Integrated German CDM Expert at the DNA or CDM-APU at EEAA providing ad-hoc

advice to EEAA on a daily basis and by that boosting JCEE's current capacity development efforts.

- ***Status and opportunities in CDM in Egypt***

With additional funds made available through the CDM/JI, a regional carbon project funded by BMU, JCEE commissioned a study on the status of CDM including project status, organizations and institutions and in particular the future prospects. The study was finalized in I/2010 and presented at the CarbonExpo 2010 in Cologne.

VI - B/C Awareness in formation and capacity building / Exemplary Projects

- **Advisory for developing a CDM-PoA for CFL/Street Lighting**

Close collaboration is continuing with UNDP EEIGGR and MoEE in order to complement activities, which lead to rapid market penetration of CFL in residential and street lighting in particular through CDM

Due to the advanced implementation status of EEHC's CFL Program it was decided not to further pursue the option of developing a CDM project. Instead EEHC suggested to study and create all the preconditions to apply CDM to the efficient street-lighting project. After numerous coordination meetings between all stakeholders involved in such a program (regional distribution company, municipality, EEHC, EEAA) held by WG 1b the project proposal was officially submitted to DNA and the letter of No-Objection issued in July 2010.

APU intends to offer assistance to EEHC to develop a CDM Program of Activity (PoA) providing the umbrella for rolling out the efficient street lighting program on a national scale. Technical assistance can be provided through CCRMP or KfW Carbon Unit which both signaled interest in developing the PoA.

- **Feasibility of CDM in Technology Switch in Charcoal Kiln**

Following the successful completion of a pre-feasibility study modernizing the charcoal production in Egypt JCEE commissioned a fully fledged CDM feasibility study which concluded that preparation of a Program of Activity (PoA) should be further pursued. Given the positive result CCRMP / APU decided to use available project funds to develop the corresponding PoA. All aforementioned studies were performed by the Egyptian consulting company *Integral*, contracted by GTZ with funds from BMZ-JCEE.

VII) Egypt's international role in RE&EE promotion and mutual investment

Within the working groups and on other occasions, policy dialogue about reforms and current initiatives in the energy and environmental sector in Egypt were lively pursued, including draft electricity law, energy pricing, tendering and local manufacturing of RE, energy efficiency institutions, market penetration and recycling of compact fluorescent lamps, CDM promotion, energy efficiency codes in buildings etc.

Similarly, JCEE secretariat has developed internal papers and analysis on subjects like solar power, residential energy consumption for various purposes, CDM potentials, which were exchanged with other experts for discussion. Similarly, JCEE secretariat was invited to presentations and discussions of policy position papers and suggestions by other stakeholders.

JCEE secretariat has been involved in the discussion on the Mediterranean Solar Plan and the DESERTEC Industrial Initiative (DII) and regional interconnection issues of over the last two years. It is suggested to open a line of activity within JCEE to actively promote the implementation of a large scale Solar Power Station in cooperation with the private sector.

- **Coordination with other Egyptian German RE and EE initiatives**

JCEE members and the Secretariat coordinated with and contributed to other Egyptian- German or MENA- German Initiatives on RE and EE (for example RECREEE, MED-EMIP, MEDENEC, enerMENA) in the areas of research and development, capacity building and business cooperation. The JCEE website has become more and more the *information market place* of everything related to Energy Efficiency and RE in Egypt, and in Germany insofar Egypt is concerned.

- **German Energy Round Table**

Several German participants of the WGs and the JCEE director are meeting regularly with representatives from German Embassy, Chambers, projects and private sector on energy matters, in order to identify potential areas of leverage. The Energy Round Table for example also provided some input regarding the preparation of the visit of the H.E. The Minister of Trade and Industry to Germany in June 2010.

- **Egypt's Role in DII and MSP - Round Table on MED solar initiatives**

Encouraged by HLJC 3rd meeting upon proposal from WG II, a Round Table on Mediterranean solar initiatives was organized jointly with RCREEE in October 2009. Presentation on key initiatives (DESERTEC Foundation, DESERTEC Industrial Initiative (DII) and UfM/MSP were given and comments and information on their related activities were received from Arab League, German Government (BMZ), European Commission, KfW, RCREEE, and World Bank, suggestions were made by numerous Egyptian experts from energy sector, private sector and academia etc. In I/2010 the corresponding report was finalized and published on the JCEE website.

In 2010 several international conferences were held on MSP discussing the way forward. JCEE members participated actively in these conferences and strongly advocated for the comparative advantages Egypt can offer in terms of the implementation of large-scale RE projects.

VII - B/C) Awareness, information and capacity development

- **Support German governmental and business delegations**

JCEE members and participants have participated frequently in business conferences and meetings on RE & EE in Egypt, organized by third parties, in particular for meeting business delegations from Germany sounding out potentials for technology transfer and business cooperation.

- **Visit to Germany – Investment Road Show**

There was no progress to be reported in I/2010 regarding the road show for wind investment to Germany which was actually planned in April 2009 and re-scheduled for some time in 2010.

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