



Government of Lebanon

United Nations Development Programme

“CEDRO”

**Community Energy efficiency and renewable energy
Demonstration project for the Recovery Of Lebanon
(South, Bekaa and Akkar)**

The project aims at supporting early recovery activities through the implementation of a public energy efficiency and renewable energy program (South, Bekaa and Akkar). To achieve this, the project will install energy efficiency and renewable energy equipment in selected public buildings and facilities (schools, hospitals, municipal street lighting, etc.) based on a targeted energy assessment, and will monitor the direct impacts and benefits of the installed equipment on the beneficiaries' energy bills to set the basis for future national energy sustainable development. The project is financed by the Government of Spain through the Lebanon Recovery Fund, and is inline with Lebanon's ongoing efforts to improve national patterns of energy consumption and costs.

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Country: **Lebanon**

Expected Outcome(s)/Indicator (s):
Lebanon SRF Outcome 2: National capacities and policy formulations supported and strengthened to reach sustainable energy
Lebanon SRF Goal 3: Energy and environment for sustainable development
Lebanon Service Line 3.1: Frameworks and strategies for sustainable development

Responsible Party: UNDP Lebanon Country Office

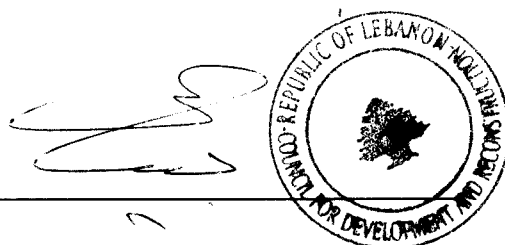
Other Partners: Ministry of Energy and Water

Programme Period: 2007-2009
Programme Component: Energy and Environment for Sustainable Development
Project Title: "CEDRO" Community Energy efficiency and renewable energy Demonstration Project for the Recovery Of Lebanon (South, Bekaa and Akkar)
Project ID: 00056604
Project Duration: 1.5 years
Management Arrangement: Direct Execution (DEX)

Budget: 2,553,500 USD
Management Support Fee: 178,740 USD
Total budget: 2,732,240 USD
Allocated resources:
• LRF 2,732,240 USD
(In kind contribution LCECP: 78,000 USD)

Agreed by:

Council for Development and Reconstruction



10 OCT 2007

United Nations Development Programme

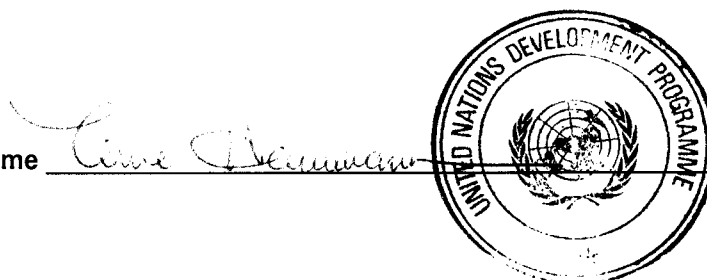


TABLE OF CONTENTS

Section I - Elaboration of the Narrative	04
Part I. Situation Analysis	04
Part II. Strategy	05
Part III. Management Arrangements	05
Part IV. Monitoring and Evaluation	07
Part V. Legal Context	07
Section II - Results and Resources Framework	08
Section III - Total work-plan and budget	12
Section IV – Project Risks	14
Section V – Annexes	15
Annex 1: Terms of Reference of the Project Management Unit	15
Annex 2: In-Kind contribution of LCECP	18
Annex 3: Terms of Reference of the Technical Backstopping Agency	19
Annex 4: Approved LRF Project Proposal	24

ACRONYMS

AECI	Spanish Agency for International Cooperation
CEDRO	Community Energy efficiency and renewable energy Demonstration Project for the Recovery Of Lebanon
CDR	Council for Development and Reconstruction
CO	Country Office
ECM	Energy Conservation Measures
EDL	Electricity du Liban
EE/RE	Energy Efficiency and Renewable Energy
GHG	Greenhouse Gases
GoL	Government of Lebanon
LCECP	Lebanese Center for Energy Conservation Project
LRF	Lebanon Recovery Fund
MEW	Ministry of Energy and Water
MoE	Ministry of Environment
MoET	Ministry of Economy and Trade
MPWT	Ministry of Public Works and Transport
MoM	Ministry of Municipalities
MoD	Ministry of Defence
MoF	Ministry of Finance
MYFF	Multi-Year Funding Framework
NGO	Non Governmental Organization
OEA	Order of Engineers and Architects
PMU	Project Management Unit
PV	Photovoltaics
STA	Solar Thermal Applications
SWH	Solar Water Heater
TPR	Tri-Partite Review
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme

SECTION I - ELABORATION OF THE NARRATIVE

Part I. Situation Analysis

1. Lebanon imports around 97% of its energy needs in the form of fossil fuel. In 2004, the national energy bill amounted to around 1.6 billion USD (around 20% of the annual public expenditure and around 7.8% of the national GDP), and in 2005 it reached 2.1 billion USD (around 26% of the annual public expenditure and around 10% of the national GDP). Despite major steps taken by the Government of Lebanon (GoL) since 1990 towards improving the electricity sector, the sector is still facing major challenges including inability to meet increasing national energy demand and large financial subsidies for EDL (around 1.0 billion USD in 2006).
2. As a result of the July 2006 conflict, the energy sector in Lebanon deteriorated significantly, resulting in a reduction of electricity supply on a national level and an increase in electricity rationing. This only added to the existing electricity supply challenges faced by Lebanon and further deteriorated the living conditions in the country.
3. The reconstruction of the war-damaged areas in Lebanon, particularly the South and the Bekaa, as well as other underdeveloped areas (Akkar) presents a major challenge for the next several years for the GoL and society at large. At the moment, the main focus is on rapid reconstruction of infrastructure and housing with the limited investment capital available which may neglect or may not fully take into account energy efficiency and renewable energy measures for several reasons: time constraints, lack of know-how or capacity of local building designers and contractors, lack of awareness about financial and other benefits of energy efficiency measures, and lack of financial resources. The threat posed by such large-scale reconstruction efforts is the further dependency on external fossil fuels and increase in CO₂ emissions.
4. To date, Lebanon does not have any sizeable dedicated demonstration schemes or any special incentives that promote energy efficiency and renewable energy initiatives. Furthermore, capacity among relevant governmental and private entities to plan energy efficiency and renewable energy options and interventions is considerably underdeveloped.
5. This project is an initiative by the Government of Spain to assist the GoL in its early recovery efforts with a clear focus on providing sustainable energy services to rural areas and concentrating on public buildings and applications such as schools, hospitals and public lighting. The project is financed by the Government of Spain through the Lebanon Recovery Fund (LRF). The approved LRF project proposal is in Annex 4. The LRF resulted from the request of the GoL to the United Nations Development Group (UNDG) to devise a pooled funding facility that would channel donor resources for the financing of priority recovery and reconstruction activities approved by the GoL. The UNDP has been designated by the Participating UN Organizations, with the agreement of the GoL, to serve as their Administrative Agent.
6. The proposed project is consistent with the European initiatives in general and with the Spanish Government in particular, which aim at promoting the adoption of energy efficiency and renewable energy technologies and practices in building construction and renovation within Mediterranean countries. Such initiatives will have direct impact on the world energy resources as well as on the world climate change / global warming issues that are becoming the world critical concerns. Countries, such as Spain, that are leaders in energy efficiency and renewable energy technologies would play an essential role in transferring their long gained experience to other countries in the Mediterranean Basin.
7. This project is in line with the Government of Lebanon's early recovery objectives of restoring livelihoods and rehabilitating damaged areas. It also falls within the Ministry of Energy and Water's main priority to meet the national demand for electricity.

Part II. Strategy

8. The proposed project shall be assistance to the Government of Lebanon in implementing Energy Efficiency and Renewable Energy (EE/RE) projects to support the early recovery programme and to reduce national energy consumption and costs. This will ultimately result in a decrease in greenhouse gas (GHG) emissions by introducing and demonstrating new energy and cost efficient approaches in the context of the reconstruction of the war-affected zones in Lebanon. The project is also envisaged to support the overall market transformation towards energy efficiency and the use of decentralized renewable energy technologies. The proposed project will also set the ground for future EE/RE programmes.
9. Although, the Ministry of Energy and Water (MEW) does not yet have an official national entity which overviews and develops the energy efficiency market in Lebanon, nevertheless, the Lebanese Center for Energy Conservation Project (LCECP), which is a joint project between MEW and UNDP, has an essential role to play in the development of the Lebanese EE/RE market and has already successfully implemented similar EE/RE projects in Lebanon including the installation of 450 solar water heater units in early 2006, and recently initiated the installation of individual and collective solar water heater systems in conflict damaged areas in Lebanon as part of the early recovery programme. Furthermore, It is worth noting that MEW and UNDP have recently signed an agreement to transform LCECP into a Lebanese Center for Energy Conservation, providing support to the GoL for the activation of EE/RE applications in Lebanon.
10. Moreover, UNDP is also working in various sectors within the early recovery programme through its wide network of offices and projects distributed throughout Lebanon. Several countries have participated in UNDP early recovery and reconstruction programme and committed 16.0 million USD to UNDP for early recovery interventions, and additional resources are currently under negotiation.
11. The CEDRO project is in line with a planned sustainable energy programme for Lebanon, which aims at assisting the GoL to develop, promote and adopt a Sustainable Energy Strategy (SES). To reach this objective, the SES programme will work on two levels: the first involves the implementation of sustainable energy applications in all public buildings to establish a demonstrative model that would encourage the private sector and the general public to take up similar initiatives; the second involves creating an enabling environment in terms of financial mechanisms and legislative reforms that would encourage a market transformation towards sustainable energy use.
12. In the framework of the CEDRO project, an international consultancy specialized in Energy Efficiency and Renewable Energy applications and technologies (situation analysis and assessment, implementation of projects, monitoring and evaluation, etc.) will provide the technical support required for the effective design, implementation and validation of the project.

Part III. Management Arrangements

13. The Project will be executed under the UNDP Direct Execution modality (DEX), whereby UNDP will act as both the implementing and the executing agency.
14. For the day-to-day management of the project, the UNDP CO will set-up a Project Management Unit (PMU). The PMU will work under the direct supervision of the Environment and Energy Programme of the UNDP CO, and in close collaboration with LCECP/Ministry of Energy and Water. Furthermore, the PMU will also work in close collaboration with the donor, the Lebanese Government, the local direct and indirect beneficiaries, as well as with the international team of experts from the technical backstopping agency recruited for this project. The PMU will be responsible for the overall execution of the project and will be led by a full time national Project Manager and supported by the required local professional and administrative staff. The Terms of Reference of the PMU personnel are listed in Annex 1.

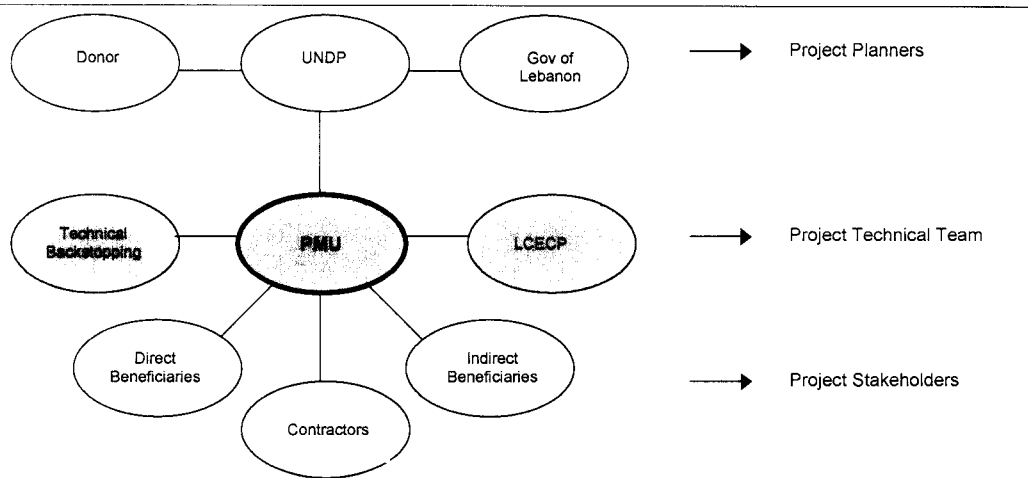


Figure 1: PMU Networking Model

15. LCECP will be in charge of undertaking a number of energy audits for public buildings and municipalities, and will also further accompany the project's activities. This will constitute an in-kind contribution from LCECP. Additionally, the PMU will build on the activities already initiated or are to be initiated by LCECP, including a parallel Swedish SWH project financed by the SIDA, and a Greek SWH project financed by the Hellenic Aid. Furthermore, the PMU will coordinate with MEW through LCECP. The in-kind contribution of LCECP is listed in Annex 2.
16. The International Technical Backstopping Agency will be in charge of the analysis and assessment and will provide the technical support needed for the effective design, implementation and validation of the project. This will ensure that best practices and lessons learnt about similar activities in other countries are adequately taken into account in project implementation. The Terms of Reference of the Technical backstopping are listed in Annex 3.
17. The UNDP CO will monitor the progress towards intended results, and will ensure high-quality managerial and financial implementation of the project, and will be responsible for monitoring and ensuring proper use of administrated funds to the assigned activities, timely reporting of implementation progress as well as undertaking of mandatory and non-mandatory evaluations. Furthermore, the procurement of goods and services and the recruitment of personnel shall be provided in accordance with UNDP guidelines, procedures and regulations.
18. In order to ensure optimum involvement of the project partners and beneficiaries, a Project Coordination Committee (PCC) will be set-up. The PCC will build upon the existing LCECP Steering Committee, and will include representatives from all concerned parties including:
 - *Direct Beneficiaries*: National public sector entities and individuals benefiting from the proposed projects (MEW, MPWT, MoD, MoM, MoE, MoF, MoET, CDR, municipalities, etc.)
 - *Indirect Beneficiaries*: local NGOs and private sector entities.
 - *Government of Spain, AECI and other Spanish Energy Agencies*: Donor country and international technical back-stopper to the proposed project
 - *United Nations Development Programme*: Implementing and executing agency (technical and financial management, as well as monitoring and supervision) of the proposed project
 - *Lebanese Center for Energy Conservation Project (LCECP)*: Local Technical Agency collaborating with the proposed project
 - *International Energy Experts*: International Experts from the technical back-stopping agency providing technical services during the project phases
 - *Local Energy Experts*: National Experts providing technical services during the project phases

19. In accordance with the decisions and directives of UNDP's Executive Board reflected in its Policy on Cost Recovery from Other Resources, the Contribution shall be subject to cost recovery by UNDP for two distinct cost categories related to the provision of support services, namely

UNDP **General Management Support** recovered with a flat rate of 7 % and includes the following services:

- Project identification, formulation, and appraisal
- Determination of execution modality and local capacity assessment
- Briefing and de-briefing of project staff and consultants
- General oversight and monitoring, including participation in project reviews
- Receipt, allocation and reporting to the donor of financial resources
- Thematic and technical backstopping through Bureaus
- Systems, IT infrastructure, branding, knowledge transfer

UNDP Direct costs incurred for **Implementation Support Services (ISS)**, recovered through the **Universal Price List**, as long as they are unequivocally linked to the specific project, these costs are built into the project budget against a relevant budget line and, in the case of clearly identifiable transactional services, charged to the project according to standard service rates. ISS include the following services:

- Payments, disbursements and other financial transactions
- Recruitment of staff, project personnel, and consultants
- Procurement of services and equipment
- Organization of training activities, conferences, and workshops, including fellowships
- Travel authorization, visa requests, ticketing, and travel arrangements
- Shipment, custom clearance, vehicle registration, and accreditation

20. The audit of DEX projects is made through the regular external (UN Board of Auditors) or internal audits (audits managed by UNDP's Office of Audit and Performance Review).

Part IV. Monitoring and Evaluation

21. UNDP CO will undertake periodic monitoring of the implementation progress through regular meetings with the project team. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion and to ensure smooth implementation of project activities. Furthermore, UNDP CO will be responsible for financial monitoring and reporting on all disbursements of the programme, and will ensure continued reporting to the Government of Lebanon and the Donor Country. Financial disbursements and auditing, as well as the procurement of goods and services, and the recruitment of personnel shall be based on UNDP procedures and guidelines.
22. Monitoring will be a continuous and systematic process review of the various activities and will be intended to (i) measure input, output, and performance indicators; (ii) provide regular and up-to-date information on the progress towards meeting the overall Project Objectives; (iii) alert the implementing partners with problems in implementation, and provide basis on which performance may be improved, and (iv) determine whether the relevant stakeholders are responding as expected.
23. The regular reporting from the Project is governed by UNDP reporting requirements, and will include the following reports:
- i. Six-monthly progress reports which will reflect progress on works, goods procured, technical assistance, performance indicators and financial reports;
 - ii. Annual Project Progress Report (APR) as per UNDP format to be submitted annually as of project initiation. [The APR will be discussed during the annual Tripartite Project Review (TPR) meeting in the presence of project donors, national counterparts and all concerned stakeholders.]
 - iii. Final Project Evaluation Report carried out by an independent external consultant

24. Furthermore, a number of timely milestone review events will be undertaken in the presence of project donors, national counterparts and all concerned stakeholders and beneficiaries. These events will include: i) a Project Inception workshop, ii) an Annual Tripartite Project Review (TPR) meeting, and iii) a Terminal Project workshop.

Part V. Legal Context

25. This Project Document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Government of Lebanon and the United Nations Development Programme, signed by the parties on 10 February 1986.
26. The UNDP Resident Representative in Lebanon is authorized to effect in writing the following types of revisions to the Project Document, after consultation with the project partners:
 - i. Revision of, or addition to, any of the annexes to the Project Document;
 - ii. Revisions which do not involve significant changes to the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of inputs already agreed to or by cost increases due to inflation;
 - iii. Mandatory annual revisions which re-phase the delivery of agreed project outputs or increased expert or other costs due to inflation, or take into account agency expenditure flexibility; and
 - iv. Inclusion of additional annexes and attachments
27. Upon completion of the project, the UNDP CO shall transfer ownership of all furniture and equipment purchased for the day-to-day operation of the PMU to the Government of Lebanon.

SECTION II - RESULTS AND RESOURCES FRAMEWORK

28. The Objective of the proposed CEDRO project is to support early recovery activities through the implementation of energy efficiency and renewable energy initiatives to be identified and designed for public buildings and facilities in three specific areas (South, Bekaa and Akkar) highly affected by the recent conflict and underdeveloped. To achieve this objective, a number of outputs and activities will be undertaken. These include the following:

Output 1: Situation Analysis and Preparation of Demonstration Projects

Activity 1.1: Undertake a targeted energy assessment (South, Bekaa and Akkar)

- 1.1.1 Prepare an inventory of public buildings and facilities in target areas
- 1.1.2 Collect electricity bills and other energy bills for the last 3 years for target facilities
- 1.1.3 Collect all necessary technical information including facilities drawings, equipment data sheets, catalogues, etc.
- 1.1.4 Identify O&M personnel responsible for the routine maintenance in public facilities
- 1.1.5 Carry out site visits to target public buildings to familiarize with existing facilities
- 1.1.6 Develop and issue an energy assessment report
- 1.1.7 Identify future EE/RE project concepts and proposals

Activity 1.2: Identify EE/RE project sites and Beneficiaries

- 1.2.1 Conduct a thorough mapping of previously undertaken EE/RE initiatives by other donors or organizations to avoid redundancy and possibly to identify future partners in order to ensure the long term continuity and replicability
- 1.2.2 Set Technical Selection Criteria
- 1.2.3 Prepare a list of potential project sites and beneficiaries. (The list of potential projects could be the base of future projects and a following phase)
- 1.2.4 Select definitive project sites and beneficiaries (around 50-60 public buildings). The beneficiary selection criteria and process will be coordinated and agreed with UNDP, LCECP/MEW, the Donor and the specialized international technical backstopping agency;
- 1.2.5 Develop and issue a report on beneficiary sites

Activity 1.3: Undertake detailed energy audits at six selected public buildings (by LCECP)

- 1.3.1 Identify six public buildings/facilities (2 per target area)
- 1.3.2 Develop the work-scope/TOR for the energy audits at the selected 6 public buildings
- 1.3.3 Follow up on the implementation of the energy audits
- 1.3.4 Develop and issue a summary report on the performed energy audit works with detailed benchmarking, energy base lines, energy indicators, etc.

Activity 1.4: Propose EE/RE measures and Develop all related Tender documents

- 1.4.1 Identify and Assess various EE/RE proposals for the selected beneficiaries. The interventions in the selected implementation sites will include: i) Solar Water Heaters for Hospitals, schools, etc.; ii) Solar Photovoltaic for external street lighting within certain municipalities; iii) Energy Efficiency Lamps for public buildings such as schools, hospitals, municipalities, etc.; iv) Thermal Insulation for public buildings, mainly the roof areas; v) electricity supply based on PV for public buildings and facilities; vi) others as might be deemed necessary;
- 1.4.2 Prepare the necessary EE/RE equipment specifications
- 1.4.3 Estimate the financial requirements for the recommended EE/RE works
- 1.4.4 Establish the timeframe and major milestones for the proposed works
- 1.4.5 Prepare all tender documents for the procurement of goods and services for all proposed EE/RE works. The Tender documents and technical specifications will include: qualification and evaluation criteria, design and engineering specifications; equipment specifications; installation requirements; testing & commissioning procedures; monitoring & verification methods; warranty arrangements; etc.
- 1.4.6 Review and approve the prepared tender documents

Activity 1.5: Propose a Capacity Building and Information Dissemination Plan

- 1.5.1 Review all previously undertaken EE/RE capacity building and information dissemination activities by LCECP and other entities
- 1.5.2 Assess Capacity Building and Information dissemination needs (assess scope and number of target beneficiaries, type and theme of needed activities, timing and schedule, strategy and action plan, etc.)
- 1.5.3 Propose a detailed Capacity Building and Information dissemination Plan

Activity 1.6: Propose Operation & Maintenance schemes to ensure sustainability

- 1.6.1 Review existing Operation & Maintenance (O&M) management schemes in Lebanon (including the legal, financial and administrative frameworks)
- 1.6.2 Assess gaps and needs
- 1.6.3 Consult with relevant stakeholders
- 1.6.4 Identify relevant international O&M arrangements and success stories
- 1.6.5 Propose O&M management schemes, and options for their financing in order to ensure sustainability of the EE/RE installations and sustainability of the whole EE/RE program.

Output 2: Implementation of Identified Demonstration Projects

Activity 2.1: Undertake Competitive Bidding for the procurement of goods and services

- 2.1.1 Issue tender documents for the proposed EE/RE works
- 2.1.2 Reply to queries by prospective bidders
- 2.1.3 Review and evaluate the received bids and prepare a findings report
- 2.1.4 Select successful bidders to execute the proposed works

Activity 2.2: Undertake Commissioning of works in accordance with UNDP procedures

- 2.2.1 Establish and agree with contactors on all general work procedures including: work schedules, variation orders procedures, working hours, supply schedules, goods inspection and certification, quality control and assurance procedures and measures, receipt of materials and goods procedures and arrangements, standard site work formats (i.e. communications, memos, contacts, meetings agendas, attendance registers, contractor(s) organizational setup, facilities, construction equipment, authorized personnel, submittals, approvals, signatories, authorities... etc) and so forth;
- 2.2.2 Recruit the necessary PMU personnel to supervise the execution of works
- 2.2.3 Ensure the appointment / involvement of a representative per beneficiary to accompany and further follow-up on the respective installations

Activity 2.3: Undertake Site Supervision and monitoring of the EE/RE installations

- 2.3.1 Establish checklists for supervision of the EE/RE installations
- 2.3.2 Develop O&M checklists taking into consideration suppliers' recommendations
- 2.3.3 Supervise the EE/RE installations and prepare certificates of works
- 2.3.4 Arrange contractor payments based on approved certificates of works
- 2.3.5 Ensure proper handover to assigned public sector personnel
- 2.3.6 Ensure the availability of spare parts for all procured goods
- 2.3.7 Activate the warranty period of the works with all recruited contractors

Activity 2.4: Undertake testing of performance and data collection

- 2.4.1 Establish checklists for performance monitoring
- 2.4.2 Undertake regular performance testing and data collection
- 2.4.3 Set-up a data base

Output 3: Capacity Building and Information Dissemination

Activity 3.1: Develop and implement a targeted Capacity Building program

- 3.1.1 Develop all necessary presentations and materials for the capacity building program and technical training for public sector personnel (on use, installation, O&M and including Thermal Insulation, Solar Water Heaters, Photovoltaics, etc.)
- 3.1.2 Undertake translation as needed
- 3.1.3 Organize and Implement the Capacity building program (before & during works)
- 3.1.4 Prepare and Issue Evaluation forms
- 3.1.5 Evaluate the impact of the Capacity Building program

Activity 3.3: Develop and implement a targeted Information Dissemination program

- 3.3.1 Prepare a targeted communication/outreach campaign aimed at local policy makers /decision makers, based on the executed EE/RE works & the energy savings results
- 3.3.2 Prepare a targeted communication and outreach campaign aimed at the general public on energy efficiency and renewable energy technologies and direct benefits
- 3.3.3 Develop the necessary communication materials
- 3.3.4 Undertake translation as needed
- 3.3.5 Implement the communication/outreach program
- 3.3.6 Evaluate the impact of the communication/outreach program

Output 4: Project Validation and Replicability

Activity 4.1: Undertake validation of project results

- 4.1.1 Collect Data and information from the beneficiary sites (before and after project implementation) to analyse the impact of the installed EE/RE measures on energy consumption and costs.
- 4.1.2 Issue an energy report based on the monitoring and verification results

Activity 4.2: Enable project sustainability and replication

- 4.2.1 Use the resulting energy indicators to assist in the development of further project proposals which may be supported by future funding.
- 4.2.2 Set-up Memorandum of understanding with beneficiaries to ensure that Monitoring is continued and sustained by beneficiaries
- 4.2.3 Identify needs/gaps for the sustainability of EE/RE operations in public buildings (O&M personnel, budget, EE/RE procurement specifications, TORs, etc.)

Activity 4.3 Undertake Final Project Evaluation

- 4.3.1 Set TOR for International Consultant
- 4.3.2 Recruit an International Consultant
- 4.3.3 Organize mission to Lebanon and stakeholder meetings
- 4.3.4 Review and Issue the final Evaluation Report

Results and Resource Framework

Implementation of energy efficiency and renewable energy projects to support the early recovery programme and to reduce national energy consumption and costs.						
- Number of beneficiaries from the installation of energy efficiency & renewable energy equipment						
- Savings of energy consumption / cost and reduction of CO2 emissions						
3.1 Frameworks and Strategies for Sustainable Development						
Lebanese Center for Energy Conservation Project and Ministry of Energy and Water Resources						
"CEDRO" Community Energy efficiency and renewable energy Demonstration Project for the Recovery Of Lebanon (South, Bekaa and Akkar)						
00056604						
Intended Outcome	Target years	Activities	Indicators	Responsible parties	Resources	Inputs USD
1. Project Management	2007 / 2009	1.1 Technical Management 1.2 Financial Management 1.3 Operational Management	<ul style="list-style-type: none"> • Timely completion of activities and effective networking & outreach 	UNDP	<ul style="list-style-type: none"> • PMU 	150,538
2. Situation Analysis and Preparation of pilot projects	2007 / 2008	2.1 Undertake targeted energy assessment 2.2 Identify project beneficiary sites 2.3 Undertake Energy Audits (by LCECP) 2.4 Develop tender documents for all identified works 2.5 Develop capacity building & info dissemination plan 2.6 Propose O&M management schemes	<ul style="list-style-type: none"> • Report on energy assessment • Report on identification of beneficiary sites • Complete set of Tender Documents • Capacity Building and Info dissemination plan • Proposal on O&M schemes 	UNDP	<ul style="list-style-type: none"> • PMU • Technical • Backstopping • LCECP 	117,204
3. Installation of energy efficiency / renewable energy equipment	2008	3.1 Undertake Bidding & Procurement of goods & services 3.2 Undertake Commissioning of works 3.3 Undertake Supervision and monitoring of works 3.4 Undertake testing of performance and data collection	<ul style="list-style-type: none"> • Award of Contracts • Satisfactory execution of works • Data on reduced energy consumption 	UNDP	<ul style="list-style-type: none"> • PMU • Technical • Backstopping • LCECP • Contractors 	2,334,409
4. Increased awareness on EE/RE on both private and public levels	2008	4.1 Develop material for technical workshops 4.2 Implement technical workshops 4.3 Develop material for awareness raising activities 4.4 Implement awareness raising activities	<ul style="list-style-type: none"> • Organization of workshops, lectures, one-on-one trainings with the different stakeholders 	UNDP	<ul style="list-style-type: none"> • PMU • Technical • Backstopping • LCECP 	86,021
5. Project Validation and Replicability	2008 / 2009	5.1 Undertake validation of project results 5.2 Enable project sustainability and replication 5.3 Undertake final project evaluation	<ul style="list-style-type: none"> • Report on validation of project results • Independent Project evaluation report • New project proposal 	UNDP	<ul style="list-style-type: none"> • PMU • Technical • Backstopping • LCECP 	44,068

SECTION III - TOTAL WORK-PLAN AND BUDGET

Project Work-Plan Key Activities	Start of Tech Backstopping				Start of installations				18									
	01	02	03	04	05	06	07	08										
months	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	
1. Project Management																		
1.1 Technical Management																		
1.2 Financial Management																		
1.3 Operational Management																		
2. Analysis and Assessment																		
2.1 Undertake targeted energy assessment																		
2.2 Identify EE/RE beneficiary sites																		
2.3 Coordinate Energy Audits by LCECP																		
2.4 Develop all tender project documents																		
2.5 Develop capacity building & info dissemination plan																		
2.6 Propose O&M management schemes																		
3. Pilot Demonstration Projects																		
3.1 Undertake Bidding & Procurement of goods and services																		
3.2 Undertake Commissioning of works																		
3.3 Undertake Site Supervision and monitoring																		
3.4 Undertake testing of performance & data collection																		
4. Capacity Building & Info Dissemination																		
4.1 Develop material for capacity building workshops																		
4.2 Implement capacity building workshops																		
4.3 Develop material for awareness raising activities																		
4.4 Implement awareness raising activities																		
5. Project Validation and Replicability																		
5.1 Undertake Validation of project results																		
5.2 Enable Project sustainability and replication																		
5.3 Undertake final project evaluation																		

Note: The Project Work Plan will become effective upon PRODOC signature. The Inception Workshop organized within three months of PRODOC signature, will finalize and approve the Project Work Plan as per required procedures. Subsequent Work Plans will be prepared and approved at the project annual Tri-Partite Review.



Annual Work Plan

Lebanon - Beirut

Award Id: 00047251
 Award Title: CEDRO
 Year: 2007

Report Date: 9/10/2007

Project ID	Expected Outputs	Key Activities	Timeframe		Responsible Party	Planned Budget				
			Start	End		Fund	Donor	Budget Descr	Amount US\$	
00056604	CEDRO	Analysis and Assessment			UNDP (Direct Execution)	30000	LRF	71600	Travel	0.00
					UNDP (Direct Execution)	30000	LRF	72100	Contractual Services-Companies	10,000.00
					UNDP (Direct Execution)	30000	LRF	72800	Information Technology Equipm	3,000.00
					UNDP (Direct Execution)	30000	LRF	74500	Miscellaneous Expenses	500.00
					UNDP (Direct Execution)	30000	LRF	75100	Facilities & Administration	945.00
		Project Management			UNDP (Direct Execution)	30000	LRF	71400	Contractual Services - Individ	20,000.00
					UNDP (Direct Execution)	30000	LRF	72200	Equipment and Furniture	2,500.00
					UNDP (Direct Execution)	30000	LRF	73100	Rental & Maintenance-Premises	4,000.00
					UNDP (Direct Execution)	30000	LRF	74500	Miscellaneous Expenses	1,000.00
					UNDP (Direct Execution)	30000	LRF	75100	Facilities & Administration	1,925.00
TOTAL										
GRAND TOTAL										
43,870.00										
43,870.00										

LK



Annual Work Plan

Lebanon - Beirut

Award Id: 00047251
 Award Title: CEDRO
 Year: 2008

Report Date: 9/10/2007

Project ID	Expected Outputs	Key Activities	Timeframe		Responsible Party	Planned Budget					
			Start	End		Fund	Donor	Budget Descr	Amount US\$		
00056604	CEDRO	Analysis and Assessment			UNDP (Direct Execution)	30000	LRF	71400	Contractual Services - Individ	20,000.00	
					UNDP (Direct Execution)	30000	LRF	71100	Contractual Services-Company	50,000.00	
					UNDP (Direct Execution)	30000	LRF	71800	Information Technology Equipm	6,000.00	
					UNDP (Direct Execution)	30000	LRF	74500	Miscellaneous Expenses	2,000.00	
					UNDP (Direct Execution)	30000	LRF	75100	Facilities & Administration	5,460.00	
			CB & Information dissemina			UNDP (Direct Execution)	30000	LRF	71300	Local Consultants	8,000.00
					UNDP (Direct Execution)	30000	LRF	71600	Travel	8,000.00	
					UNDP (Direct Execution)	30000	LRF	72100	Contractual Services-Company	20,000.00	
					UNDP (Direct Execution)	30000	LRF	74200	Audio Visual&Print Prod Costs	10,000.00	
					UNDP (Direct Execution)	30000	LRF	74800	Miscellaneous Expenses	5,000.00	
			Pilot Demonstration Projects			UNDP (Direct Execution)	30000	LRF	75100	Facilities & Administration	3,570.00
					UNDP (Direct Execution)	30000	LRF	71400	Contractual Services - Individ	30,000.00	
					UNDP (Direct Execution)	30000	LRF	72100	Contractual Services-Company	2,120,000.00	
					UNDP (Direct Execution)	30000	LRF	74500	Miscellaneous Expenses	2,000.00	
					UNDP (Direct Execution)	30000	LRF	75100	Facilities & Administration	150,640.00	
	Project Management			UNDP (Direct Execution)	30000	LRF	71400	Contractual Services - Individ	44,000.00		
			UNDP (Direct Execution)	30000	LRF	71500	UN Volunteers	6,000.00			
			UNDP (Direct Execution)	30000	LRF	72200	Equipment and Furniture	500.00			
			UNDP (Direct Execution)	30000	LRF	73100	Rental & Maintenance-Premises	12,000.00			
			UNDP (Direct Execution)	30000	LRF	74500	Miscellaneous Expenses	3,000.00			
		UNDP (Direct Execution)	30000	LRF	75100	Facilities & Administration	4,585.00				
TOTAL										2,510,755.00	
GRAND TOTAL										2,510,755.00	



Annual Work Plan

Lebanon - Beirut

Award Id: 00047251
 Award Title: CEDRO
 Year: 2009

Report Date: 9/10/2007

Project ID	Expected Outputs	Key Activities	Timeframe		Responsible Party	Planned Budget						
			Start	End		Fund	Donor	Budget Descr	Amount US\$			
00056604	CEDRO	Analysis and Assessment			UNDP (Direct Execution)	30000	LRF	71400	Contractual Services - Individ	4,000.00		
					UNDP (Direct Execution)	30000	LRF	72100	Contractual Services-Companie	10,000.00		
					UNDP (Direct Execution)	30000	LRF	72800	Information Technology Equipm	3,000.00		
					UNDP (Direct Execution)	30000	LRF	74500	Miscellaneous Expenses	500.00		
					UNDP (Direct Execution)	30000	LRF	75100	Facilities & Administration	1,225.00		
		CB & Information dissemina					UNDP (Direct Execution)	30000	LRF	71300	Local Consultants	2,000.00
							UNDP (Direct Execution)	30000	LRF	71600	Travel	2,000.00
							UNDP (Direct Execution)	30000	LRF	72100	Contractual Services-Companie	10,000.00
							UNDP (Direct Execution)	30000	LRF	74200	Audio Visual&Print Prod Costs	10,000.00
							UNDP (Direct Execution)	30000	LRF	74500	Miscellaneous Expenses	5,000.00
		Pilot Demonstration Projects					UNDP (Direct Execution)	30000	LRF	75100	Facilities & Administration	2,030.00
							UNDP (Direct Execution)	30000	LRF	71400	Contractual Services - Individ	18,000.00
							UNDP (Direct Execution)	30000	LRF	74500	Miscellaneous Expenses	1,000.00
							UNDP (Direct Execution)	30000	LRF	75100	Facilities & Administration	1,330.00
							UNDP (Direct Execution)	30000	LRF	71400	Contractual Services - Individ	30,000.00
Project Management					UNDP (Direct Execution)	30000	LRF	71500	UN Volunteers	6,000.00		
					UNDP (Direct Execution)	30000	LRF	73100	Rental & Maintenance-Premises	10,000.00		
					UNDP (Direct Execution)	30000	LRF	74500	Miscellaneous Expenses	1,000.00		
					UNDP (Direct Execution)	30000	LRF	75100	Facilities & Administration	3,290.00		
					UNDP (Direct Execution)	30000	LRF	71200	International Consultants	14,000.00		
Validation and Replicability					UNDP (Direct Execution)	30000	LRF	71600	Travel	4,000.00		
					UNDP (Direct Execution)	30000	LRF	72100	Contractual Services-Companie	20,000.00		
					UNDP (Direct Execution)	30000	LRF	74500	Miscellaneous Expenses	15,500.00		
					UNDP (Direct Execution)	30000	LRF	75100	Facilities & Administration	3,740.00		
										177,615.00		
TOTAL												
GRAND TOTAL												

SECTION IV – PROJECT RISKS

Key Activities	Risks	Recommendations
A1. Project Management	<ul style="list-style-type: none"> • Very tight project Timeframe • Unstable Political situation 	<ul style="list-style-type: none"> • Ensure adequate human resources to optimize project management
A2. Analysis and Assessment	<ul style="list-style-type: none"> • Non availability of required data • Low level of collaboration from local communities • Low acceptance of new technology by local communities • Delay in start date of Technical Backstopping Agency 	<ul style="list-style-type: none"> • Ensure adequate outreach, networking and coordination
A3. Pilot Demonstration Projects	<ul style="list-style-type: none"> • Delays/problems in equipment delivery • Delays/problems in sub-contracted works on site • Security risks in target project locations 	<ul style="list-style-type: none"> • Ensure adequate quality of goods and services
A4. Capacity Building & Info Dissemination	<ul style="list-style-type: none"> • Insufficient participation in awareness raising and capacity building to sustain the project 	<ul style="list-style-type: none"> • Ensure adequate needs assessment to address exact beneficiary requirements
A5. Validation and Replicability	<ul style="list-style-type: none"> • Improper maintenance of equipment (ex. absence of spare parts) • Decrease in conventional energy prices (through subsidies or other) • Discontinued government commitment to energy saving policies & programs 	<ul style="list-style-type: none"> • Ensure adequate O&M management arrangements to enable sustainability • Propose that surveys of beneficiary energy bills be effected after project completion

ANNEX 1

Terms of Reference of the PMU Personnel

PROJECT MANAGER

Key Functions/Responsibilities:

Under the direct supervision of UNDP and in close coordination with LCECP and the Ministry of Energy and Water (MEW), the Project Manager will be responsible for the overall execution of the project and will work in close coordination with UNDP, the donor, the Lebanese Government, the local beneficiaries, and the international team of experts from the technical backstopping agency. The specific functions of the Project Manager are as follows:

1. Project elaboration and management:
 - Prepare detailed project document in coordination with UNDP/LCECP, the Donor and the international backstopping agency, and in consultation with MEW
 - Develop a detailed project work plan, budget breakdown and schedule
 - Develop TORs for local short-term consultants on project needs with the guidance of UNDP and assist in the recruitment process based on UNDP procedures
 - Manage local project team and resources
 - Coordinate all project activities with the technical backstopping agency and UNDP
 - Draft technical and financial progress reports to UNDP and the Donor
2. Project implementation and delivery:
 - Monitor project progress against set deliverables and timeframes
 - Supervise and follow-up on all project delivery and execution at the different sites
 - Ensure smooth and successful implementation of the various project activities
 - Compile all technical needs assessment and draft the international bidding documents with the assistance of the technical backstopping agency and UNDP
 - Assist in the entire procurement process for the equipment
 - Proactively inform UNDP and LCECP of project risks along with mitigation measures
 - Ensure communication about the project is regular and accurate
 - Integrate the project results and findings, with the assistance of the technical backstopping agency, to set the basis for a national sustainable energy strategy
 - Prepare any follow-up project proposals as per the needs identified by UNDP/donor.
3. Technical support:
 - Review and provide technical advice on all project outputs
 - Supervise the technical delivery of the sub-contractors and local consultants
 - Provide policy and technical advice to MEW and UNDP on all renewable energy/energy efficiency issues
 - Provide regular training for the project team and local stakeholders to ensure proper project performance
 - Liaise with the local communities to build capacity, ensure cooperation and involvement

Competencies/Qualifications:

The Candidate must have extensive knowledge of the national and local context relating to energy efficiency/renewable energy issues. Some knowledge of the post-conflict situation is also preferable. The Candidate must be willing to travel extensively to the project sites (South, Bekaa and Akkar) and must have experience working with local communities. The Candidate must have strong planning and managerial skills to ensure quick project implementation and timely delivery of required outputs.

- Education: Graduate degree (MSc/MEng) in engineering or environmental sciences or closely related field.
- Experience: Minimum of 8 years of experience in the field. Experience in development projects and prior experience with UNDP and/or energy efficiency and renewable energy is necessary. Computer experience.
- Language Requirements: Effective verbal and written communication skills in both Arabic and English. French is a plus.

RESEARCH ASSISTANT

Key Functions/Responsibilities:

Under the direct supervision of the Project Manager and in close coordination with UNDP, the Research Assistant will be responsible for the data collection and research activities of the project. The specific functions of the Research Assistant include:

1. Data Collection activities
 - Collect and log all data related to inventories of public buildings and facilities;
 - Collect and log all data related to electricity bills and other energy bills of target buildings and facilities;
 - Collect and log all data related to facilities drawings, equipments, etc.
 - Coordinate with LCECP and project beneficiaries to ensure availability of relevant information and data;
 - Collect and log all data related to reduced energy consumption and costs in target facilities;
 - Support other aspects of project data collection activities, as applicable;
2. Research activities
 - Effect various web based research related to the project's energy efficiency and renewable energy applications (solar water heaters, photovoltaic street lighting, efficient lamps, thermal insulation, etc.);
 - Effect various market based research related to the availability of energy efficiency and renewable energy products in the Lebanese market;

Competencies/Qualifications:

The Candidate must have an interest in Energy Efficiency & Renewable Energy Issues. She/He must possess excellent research, organizational, networking and communication skills, in addition to the ability to handle multiple tasks simultaneously and accurately. The Candidate must have a teamwork spirit and be willing to learn and embrace additional responsibilities within the team.

- Education: Bachelor degree in Mechanical, Electrical or Electro-Mechanical Engineering.
- Experience: research experience, and relevant computer experience.
- Languages: Excellent command of English and Arabic. French is a plus.

ADMINISTRATIVE ASSISTANT

Key Functions/Responsibilities:

Under the direct supervision of the Project Manager and in close coordination with UNDP, the Project Assistant will be responsible for the day-to-day administrative and operational activities of the project in addition to research, data collection and communication. The specific functions of the Project Assistant include:

1. Administrative & Operational activities

- Assist in the preparation of relevant procurement procedures for goods and consultancy services, [Request for Proposals, Request for Quotation, Contracts, Request for Payments, etc.] ensuring for all supporting documents in accordance with DEX and UNDP requirements;
- Reconcile Petty Cash, ensuring all disbursements are in accordance with UNDP rules and procedures;
- Assist in the organization of project events (technical workshops, training sessions, stakeholder meetings, project review meetings, etc.)
- Organize a filing system, and maintain records, files, data bases and inventories;
- Arrange appointments and follow up on travel and shipment arrangements, transport, etc;
- Prepare mailing lists and minutes of meeting;
- Support other aspects of project implementation and office management, as applicable;

2. Communication and Outreach activities

- Assist in the preparation of project progress reports and other regular project reporting;
- Assist in the development of project newsletters, press releases, brochures, etc.
- Assist in the development and maintenance of project web-page;
- Assist in the coordination of all communication and outreach activities;

Competencies/Qualifications:

The Candidate must have an interest in Energy Efficiency & Renewable Energy Issues. She/He must possess excellent research, organizational, networking and communication skills, in addition to the ability to handle multiple tasks simultaneously and accurately. The Candidate must have a teamwork spirit and be willing to learn and embrace additional responsibilities within the team.

- Education: Bachelor degree in relevant field (Business Administration, Communication, other).
- Experience: 3 years relevant work experience, and relevant computer experience.
- Languages: Excellent command of English and Arabic. French is a plus.

SITE-SUPERVISION ENGINEER (X 2 OR 3)

Key Functions/Responsibilities:

Under the direct supervision of the Project Manager and in close coordination with LCECP, the Site Engineer will supervise and manage the installation of the proposed Energy Efficiency and Renewable Energy (EE/RE) applications (solar water heaters, photovoltaics, thermal insulation, etc.) which will be installed in selected public buildings and facilities in the South, Bekaa and Akkar. The specific functions of the site supervision engineer include:

Technical Supervision:

- Coordinate with all relevant parties for the proper installation of the EE/RE applications;
- Prepare in collaboration with the Installation Contractor, the time schedule for the execution of the various activities;
- Prepare, in collaboration with the warehouse keepers, the proper forms regarding the proper delivery of equipment from the warehouse to the installation sites;
- Pay visits to all the sites where the equipment are located in order to verify that the specifications and quantities of the items installed are as per the contract. Visits should be evidenced by a signature from the Beneficiaries;
- Convey progress, comments, problems etc.. to the Project Manager regarding the works;
- Provide a complete listing of the installed equipment in each site along with the serial numbers;
- Prepare an acceptance report on the EE/RE installations for payment to installation contractor.
- Assist in the review of EE/RE technical specifications

Reporting:

- Develop regular progress reports on the EE/RE installations, as requested.
- Develop weekly reports detailing the site visits performed and the outcome of these visits.
- Provide detailed reports on the inventory of the EE/RE measures at warehouses
- Effect weekly meetings with PMU in Beirut or at other UNDP back-up offices to review the Project progress and solve any problem facing the execution of works.

Working Hours:

The Consultant shall perform all the activities, in principle, during the official working hours (Monday to Saturday) or as might be agreed upon between the parties.

Competencies/Qualifications:

The Candidate must have a high interest in Energy Efficiency & Renewable Energy Issues. She/He must possess excellent research, attention to detail and communication skills, in addition to the ability to handle multiple tasks simultaneously and accurately. The Candidate must be willing to travel extensively to the project sites (South, Bekaa and Akkar), and must have a teamwork spirit and be willing to learn and embrace additional responsibilities within the team.

- Education: BE in Mechanical / Electrical or Electro-Mechanical Engineering or closely related field. Computer skills
- Experience: 5 years of relevant work experience, particularly EE/RE applications
- Languages: Excellent command of English and Arabic. French is a plus.

ANNEX 2

In-Kind Contribution of LCECP

Activity	Cost
A) Undertaking Energy Audits at selected project sites:	
<ul style="list-style-type: none">- South: 2 audits- Bekaa: 2 audits- Akkar: 2 audits	$6 \text{ audits} \times 7,000 \text{ USD / audit} = 42,000 \text{ USD}$
B) Coordination of Project Personnel:	
<ul style="list-style-type: none">- Project Manager- Engineering Coordinator- Marketing Coordinators- Driver- & Other	$18 \text{ months} \times 2,000 \text{ USD / month} = 36,000 \text{ USD}$
Estimated Overall In-Kind Contribution of LCECP = 78,000 USD	

ANNEX 3

Terms of Reference of the Technical Backstopping Agency

[The terms of reference will be part of the typical UNDP Request for Proposal (RFP) with a technical proposal and a financial proposal submitted in separate sealed envelopes]

1 – BACKGROUND

As a result of the July 2006 conflict, the energy sector in Lebanon deteriorated significantly, resulting in a reduction of electricity supply on a national level and an increase in electricity rationing. This only added to the existing energy supply problems faced by Lebanon and further deteriorated the living conditions in the country.

The Objective of the proposed “Community Energy efficiency and renewable energy Demonstration project for the Recovery Of Lebanon” (CEDRO) is to support early recovery activities through the implementation of energy efficiency and renewable energy initiatives to be identified and designed for public buildings and facilities in three specific areas (South, Bekaa and Akkar) highly affected by the recent conflict and underdeveloped. To achieve this, the project will carry out a targeted energy assessment, and will monitor the direct impacts and benefits of the installed equipment on the beneficiaries' energy bills to set the basis for future national energy sustainable development.

The CEDRO project is financed by the Government of Spain through the Lebanon Recovery Fund, and is inline with Lebanon's ongoing commitment to promoting energy conservation and sustainable energy development. The Project will be executed under the UNDP Direct Execution modality (DEX), whereby UNDP will act as both the implementing and the executing agency.

For the day-to-day management of the project, UNDP will set-up a Project Management Unit (PMU). The PMU will work under the direct supervision of UNDP, and in close collaboration with LCECP, the donor, the Lebanese Government, the local direct and indirect beneficiaries, as well as with the international team of experts from the technical backstopping agency. The PMU will be responsible for the overall execution of the project and will be led by a full time national Project Manager and supported by the required local professional and administrative staff.

The Lebanese Center for Energy Conservation Project (LCECP) will be in charge of undertaking a number of energy audits for public buildings and municipalities, and will further accompany the project's activities. Additionally, the PMU will build on the activities already initiated or are to be initiated by LCECP, including a parallel Solar Water Heater project.

The technical backstopping will be an agency specialized in Energy Efficiency and Renewable Energy applications and technologies (including situation analysis and assessment, implementation of projects, monitoring and evaluation, etc.) and will provide the technical support needed for the effective design, implementation and validation of the project.

The PMU will make available, to the experts from the technical backstopping agency, the relevant operational requirements for the execution of the consultancy, including: assistance in data collection, preparation of all needed networking and coordination with local beneficiaries, organization of all capacity building events, provision of office space during missions, etc.

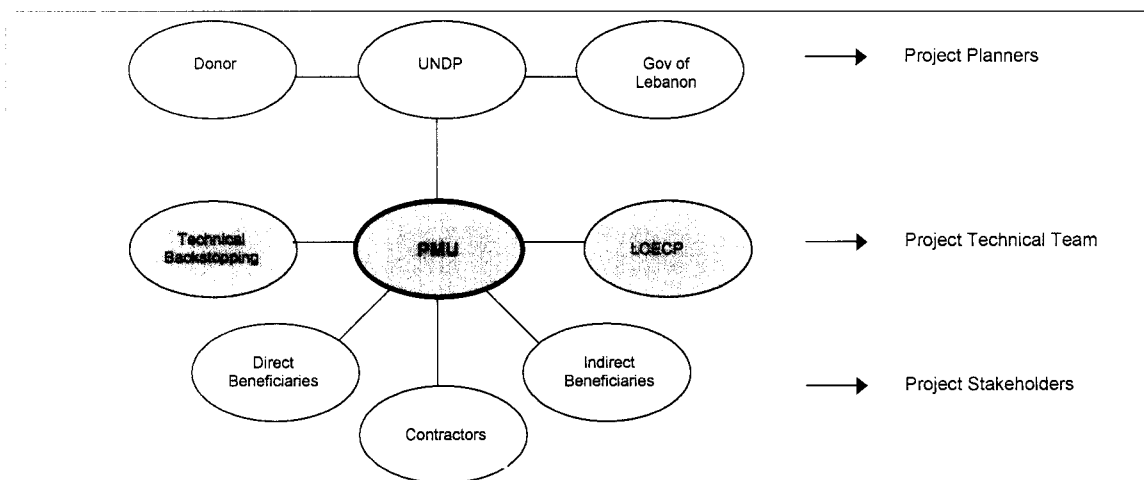


Figure 1: PMU Networking Model

2 – OBJECTIVE OF THE CONSULTANCY

The aim of the Technical Backstopping service is to provide the necessary technical support for the effective design, implementation and validation of the project. The design phase will include: a quick assessment of the energy situation of public buildings and facilities in the target areas (South, Bekaa, Akkar), the identification of project beneficiaries, the preparation of tender documents for the proposed installations, the development of a capacity building and information dissemination plan, and the proposal of operation and maintenance management schemes to ensure sustainability of the installations. The implementation phase will include the provision of support for the commissioning, supervision and monitoring of the installations, the development and implementation of a capacity building program, and the provision of support for the development of an awareness raising campaign. Finally, the validation phase will include undertaking the appropriate evaluation and validation of the results.

3 – SCOPE OF THE CONSULTANCY

The technical backstopping is proposed to accompany the CEDRO project all throughout its operational life. At this stage, it is estimated to last 18 months. The technical backstopping will be subdivided into a number of Tasks and activities, including the following:

	Suggested Timeframe
Task 1: Undertake Situation Analysis and preparation of pilot projects	Months 1 to 6
1.1: Undertake a targeted energy assessment	Months 1 & 2
1.2: Identify EE/RE project sites and Beneficiaries	Months 2 & 3
1.3: Propose EE/RE measures and Develop the related Tender documents	Months 3 & 4
1.4: Propose Capacity Building and Information Dissemination Plan	Months 4 & 5
1.5: Propose O&M management schemes to ensure sustainability	Months 5 & 6
Task 2: Support the implementation of the proposed pilot projects	Months 5 to 18
2.1: Support the procurement of goods/services and the commissioning of works	Months 5 to 10
2.2: Support the supervision and monitoring of the proposed EE/RE installations	Months 6 to 18
Task 3: Implement Capacity Building & support awareness raising	Months 5 to 18
3.1: Develop and Carry out a Capacity Building Program	Months 5 to 18
3.2: Support the development of an awareness raising program	Months 5 to 18
Task 4: Undertake project Validation and Support Project Replication	Months 14 to 18
4.1: Undertake validation of project results	Months 14 to 18
4.2: Support project sustainability and replication	Months 14 to 18

The following is a breakdown of these Tasks and activities:

Task 1: Undertake Situation Analysis and preparation of pilot projects

Activity 1.1: Undertake a targeted energy assessment for public buildings and facilities

- 1.1.1 Review an inventory of public buildings / facilities in target areas (South, Bekaa & Akkar)
- 1.1.2 Review electricity bills and other energy bills for the last 3 years for target facilities
- 1.1.3 Review all necessary technical information including facilities drawings, equipment data sheets, catalogues, etc.
- 1.1.4 Carry out site visits to target public buildings to familiarize with existing facilities
- 1.1.5 Develop an energy assessment report.
- 1.1.6 Support the development of future EE/RE project concept proposals for future funding

Activity 1.2: Identify EE/RE project sites and Beneficiaries

- 1.2.1 Review previously undertaken EE/RE initiatives by other donors or organizations to avoid redundancy and possibly to identify future partners in order to ensure long term continuity and replicability;
- 1.2.2 Set technical Selection Criteria;
- 1.2.3 Set a list of potential project sites and beneficiaries;
- 1.2.4 Select definitive project sites and beneficiaries (around 50-60 public buildings). The beneficiary selection criteria and process will be coordinated and agreed with UNDP, PMU, LCECP/MEW and other stakeholders;
- 1.2.5 Develop a report describing selection criteria and selected beneficiary sites;
- 1.2.6 LCECP will carry out detailed energy audits for six public buildings/facilities (2 per target area). The technical Backstopping Agency will review the summary reports of the performed energy audits and will propose any added value as deemed relevant. (The reports will include detailed benchmarking, energy base lines, energy indicators, etc.)

Activity 1.3: Propose EE/RE measures and develop the related Tender documents

- 1.3.1 Identify and assess various EE/RE proposals for the selected beneficiaries/sites. The interventions in the selected implementation sites will include: i) Solar Water Heaters for Hospitals, schools, etc.; ii) Solar Photovoltaic for external street lighting within certain municipalities; iii) Energy Efficiency Lamps for public buildings such as schools, hospitals, municipalities, etc.; iv) Thermal Insulation for public buildings, mainly the roof areas; v) electricity supply based on PV for public buildings and facilities; vi) others as might be identified or deemed necessary;
- 1.3.2 Prepare the necessary EE/RE equipment specifications
- 1.3.3 Estimate the financial requirements for the recommended EE/RE works
- 1.3.4 Establish the timeframe and major milestones for the proposed works
- 1.3.5 Prepare tender documents for the procurement of goods and services for all proposed works. The Tender documents and technical specifications will include: qualification and evaluation criteria; design and engineering specifications; equipment specifications; installation requirements; testing & commissioning procedures; monitoring & verification methods; warranty arrangements, etc.

Activity 1.4: Propose a Capacity Building and Information Dissemination Plan

- 1.4.1 Review previously undertaken EE/RE capacity building and information dissemination activities by LCECP and others
- 1.4.2 Assess Capacity Building and Information dissemination needs (assess scope and number of target beneficiaries, type and theme of needed activities, timing and schedule, strategy and action plan, etc.)
- 1.4.3 Develop a detailed Capacity Building and Information dissemination Plan

Activity 1.5: Propose Operation & Maintenance management schemes to ensure sustainability

- 1.5.1 Advise on Operation & Maintenance (O&M) management schemes (the PMU will provide information on the existing O&M legal, financial and administrative frameworks in Lebanon)
- 1.5.2 Consult with relevant stakeholders
- 1.5.3 Identify relevant international O&M arrangements and success stories
- 1.5.4 Propose O&M management schemes, and options for their financing in order to ensure sustainability of the EE/RE installations and sustainability of the EE/RE programme.

Task 2: Support the implementation of the proposed pilot projects

Activity 2.1: Support the procurement of goods / services and the commissioning of works

- 2.1.1 Assist in the reply to queries by prospective bidders
- 2.1.2 Assist in the Review and Evaluation of the received bids/offers
- 2.1.3 Assist in the establishment of general work procedures for contractors, including: supply schedules, goods inspection and certification, quality control and assurance procedures and measures, receipt of materials and goods procedures and arrangements, standard site work formats, etc.

Activity 2.2: Support the supervision and monitoring of the EE/RE installations

- 2.2.1 Develop checklists for site supervision of the EE/RE installations
- 2.2.2 Develop O&M checklists taking into consideration suppliers' recommendations
- 2.2.3 Develop checklists for performance monitoring, data collection and evaluation
- 2.2.4 Undertake selected and targeted site supervision and testing of performance
- 2.2.5 Support the review of certificates of works
- 2.2.6 Provide advice on handover arrangements and spare parts arrangements
- 2.2.7 Provide advice to address problems that may arise during the execution of works

Task 3: Implement a Capacity Building Program and support awareness raising

Activity 3.1: Develop and Carry out a Capacity Building Program

- 3.1.1 Develop all presentations related to the proposed workshops, seminars and training sessions (The PMU will be in charge of organizing these events)
- 3.1.2 Carry out the proposed Capacity Building program (capacity building and training will take place before and during implementation of proposed EE/RE installations)
- 3.1.3 Evaluate the impact of the Capacity Building program

Activity 3.2: Support the development of an awareness raising program

- 3.2.1 Support the development of a targeted outreach program aimed at local policy makers /decision makers, based on the executed EE/RE works & the energy savings results
- 3.2.2 Support the development of a targeted outreach program aimed at the general public on energy efficiency & renewable energy technologies and benefits

Task 4: Undertake Project Validation and Support Project Replication

Activity 4.1: Undertake validation of project results

- 4.1.1 Collect Data and information (technical, financial, etc.) from the beneficiary sites (before and after project implementation)
- 4.1.2 Analyse the impact on energy consumption and costs and analyze the performance and the acceptance by beneficiaries
- 4.1.3 Issue an energy report based on the monitoring and verification results. This will form the basis for project replication and final project evaluation.

Activity 4.2: Support project sustainability and replication

- 4.2.1 Use the resulting energy indicators to assist in the development of further project proposals which may be supported by future funding.
- 4.2.2 Identify needs/gaps for the sustainability of EE/RE operations in public buildings (O&M personnel, budget, EE/RE procurement specifications, TORs, etc.)
- 4.2.3 Participate in the project's final workshop to present all findings, lessons learnt and conclusions

4 – REQUIRED DELIVERABLES

The deliverables are to be submitted in stages of draft and final. Each deliverable is to be submitted in the form of a soft copy to the PMU Project Manager. The time needed by the PMU for the Review of each submitted deliverable is 2 weeks. All deliverables are to be submitted in the English Language. The Required deliverables under the terms of reference are:

- Deliverable 1: Report on Energy Assessment (South, Bekaa & Akkar) _____ Month 2
- Deliverable 2: Report on Identification of projects Beneficiaries _____ Month 3
- Deliverable 3: Complete Tender documents for all identified EE/RE projects _____ Month 4
- Deliverable 4: Capacity Building & Info dissemination Strategy, Scope and Plan _____ Month 5
- Deliverable 5: Proposal for O&M management schemes _____ Month 6
- Deliverable 6: Support the implementation of the proposed pilot projects _____ Month 5 to 18
- Deliverable 7: Implement Capacity Building & support awareness raising _____ Month 5 to 18
- Deliverable 8: Undertake project Validation & support project Replication _____ Month 14 to 18

Parallel to these deliverables, the Consultancy will also comprise a number of missions to Lebanon, including inception and fact-finding missions, capacity building and selected site supervision/monitoring missions, as well as validation and final missions. The number and duration of missions are to be proposed by the Technical Backstopping Agency.

5 – TERMS OF EXECUTION OF THE CONSULTANCY

The Start date for this consultancy is **immediate**. The overall term of execution of this consultancy service is spread over **18 months**, effective from contract signature date. The awarded party has to comply with the terms of reference of this consultancy service, and to have all deliverables submitted and approved before/by the last working day of the consultancy period. Extensions, if deemed necessary, can only be granted through mutual agreement between the parties.

6 – TERMS OF PAYMENT

The payment currency is **USD**, and the payments will be made in line with the following:

- **15%** Upon Contract Signature
- **85% (in installments)** Upon the satisfactory submission and approval of each deliverable

ANNEX 4

Approved LRF Project Proposal



**LEBANON RECOVERY FUND
PROJECT DOCUMENT COVER SHEET**

Participating UN Organisation: United Nations Development Agency (UNDP)	Sector: Energy and Environment
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Programme/Project Title: "CEDRO" Community Energy efficiency and renewable energy Demonstration Project for Recovery Of Lebanon (South, Bekaa and Akkar)	Programme/Project Location: South Lebanon, Bekaa and Akkar
Programme/Project Description: The project aims at alleviating poverty and supporting early recovery activities through the implementation of a public energy efficiency/renewable energy programme.	Total Programme/Project Cost: LRF: 2,732,240 USD (equiv. 2,000,000 Euros) Government Input: Other: Total: 2,732,240 USD (equiv. 2,000,000 Euros)
	Programme/Project Duration: 2007 - 2008

Development Goal: Supporting early recovery and alleviating poverty through energy efficiency and renewable energy programmes

Immediate Objectives:

1. Income saving for communities in conflict damaged and poor rural areas in South Lebanon, Bekaa and Akkar
2. Reducing energy consumption and greenhouse gases
3. Securing of electricity supply in rural areas for public buildings and insituations (hospitals, schools, public lighting, etc.)

Outputs and Key Activities:

The project will install energy efficiency/renewable energy equipment in selected areas based on a comprehensive community needs assessment and will monitor the direct impacts and benefits of the installed equipment for future on the beneficiaries' energy bills to set the basis for future national energy sustainable development.

Working Group Review Date: _____
 RRC Review Date: _____
 Steering Committee/Project Approval Group Approval Date: _____

On behalf of:	Signature	Date	Name/Title
Chair, LRF SC		June 12, 2007	Minister of Economy & Trade
UNDP Lebanon		12/11/07	UN Resident Coordinator UNDP Resident Representative

2. Logical Framework

Objectives	Measurable indicators	Means of verification	Important assumptions
Development Objective <i>Ensure green recovery and reconstruction programmes that alleviate poverty</i>	Decrease in energy consumption/cost at the national level	Comparison of annual energy consumption per GDP	Continued government commitment to energy saving policies and programmes
Immediate Objectives: <i>Income saving for communities in conflict damaged and poor rural areas in South Lebanon, Bekaa and Akkar</i> <i>Reducing energy consumption and greenhouse gases</i> <i>Securing of electricity supply in rural areas for public buildings and institutions (hospitals, schools, public lighting, etc.)</i>	Direct saving on beneficiary energy bills	Surveys of beneficiary energy bills after completion of project	(Immediate Objective to Development Objective) Beneficiaries properly use and maintain the installed equipment Sufficient awareness raising and capacity building achieved to sustain the project
OUTPUTS: <i>Installation of energy efficiency/renewable equipment</i> <i>Energy-related data collection and analysis</i> increase awareness on Energy Efficiency and Renewable Energy on both private and public levels	Number of beneficiaries utilising installed equipment Estimated energy/cost savings and reductions in CO ₂ emissions Lessons learned collected	Survey of beneficiaries utilising installed equipment Energy measuring techniques (e.g. measuring equipment/devices) used to collect data	(Outputs to immediate objective) Improper operation maintenance of equipment (e.g. absence of spare parts) Reduction in conventional energy prices (through subsidies or other) Political situation
ACTIVITIES:	INPUTS:		(Activity to output)
1. Undertake needs assessment at community level in project sites (by international and local experts)	68,306 USD	Report on needs and energy assessments	Low level of collaboration from local communities
2. Identify energy efficient/renewable energy beneficiaries (by international and local experts)	34,153 USD	Report on beneficiary identification	Low acceptance of new technology by local communities
3. Develop technical project documentation for all identified beneficiaries (by international and local experts)	34,153 USD	Set of reference documents for implementation	Technical short-sightedness or difficulties
4. Capacity building plan and development of tariff and management schemes to assure sustainability	68,306 USD		
5. Procurement/installation/testing/commissioning of equipment and supervision	2,144,809 USD	Installations commissioned	Delays in equipment delivery Delays in sub-contracted works on site
6. Capacity building and awareness raising	102,458 USD	Organisation of workshops, lectures, one-on-one trainings with the different stakeholders	
7. Data collection and impact analysis	68,306 USD		
8. Evaluation of project	34,153 USD	Financial and technical evaluation report	
9. Project Overhead and management	177,596 USD		

3. Programme/Project Justification

As a result of the July 2007 conflict in Lebanon, the energy sector in Lebanon deteriorated significantly, resulting in reduction in electricity supply at a national level and an increase in rationalisation of electricity. This only added to the existing energy supply problems faced by Lebanon and further deteriorated the living conditions in the concerned areas.

The reconstruction of the war damaged areas in Lebanon, particularly South Lebanon and the Bekaa, as well as other underdeveloped areas (Akkar) presents a major challenge for the next several years for the Lebanese Government and society at large. At the moment, the main focus is on rapid reconstruction of infrastructure and housing with the limited investment capital available which may neglect or not fully take into account energy efficiency and renewable energy measures for several reasons: time constraints, lack of know-how or capacity of local building designers and constructors, lack of awareness about financial and other benefits of energy efficiency measures, lack of financial resources. The threat posed by such massive and large scale reconstruction efforts is the further dependency on external fossil fuels and increase in CO₂ emissions.

To date, Lebanon does not have dedicated demonstration schemes or special incentives that promote energy efficiency and renewable energy initiatives. Furthermore, capacity among relevant governmental and private entities to plan energy efficiency and renewable energy options and interventions is considerably underdeveloped.

The proposed programme is consistent with the European's initiatives in general and with the Spanish Government in specific, which aim at promoting the adoption of energy efficiency and renewable energy technologies and practices in building construction and renovation within Mediterranean countries. Such initiatives will have direct impact on the world energy resources as well as on the world climate change / global warming issues that are becoming the world critical concerns. Countries, such as Spain, that are leaders in energy efficiency and renewable energy technologies would play an essential role in transferring their long gained experience in energy efficiency and renewable energy to other countries in the Mediterranean Basin which will contribute further direct support to the Lebanese Government during its reconstruction effort.

Therefore, the proposed programme shall be assistance to the Government of Lebanon in implementing energy efficiency and renewable energy projects to support the early recovery programme and to reduce national energy consumption and costs. This will ultimately result in a decrease in greenhouse gas (GHG) emissions by introducing and demonstrating new energy and cost efficient approaches in the context of the reconstruction of the war affected zones in Lebanon. The programme is also envisaged to support the overall market transformation towards energy efficiency and the use of decentralized renewable energy technologies. The proposed programme will also set the ground for future Energy Efficiency and Renewable Energy programmes.

The Ministry of Energy and Water does not have any official national organization or institute which overviews and develops the energy efficiency market from various aspects. However, the Lebanese Center for Energy Conservation Project (LCECP), which is a joint project between Ministry of Energy and Water (MEW) and United Nations Development Programme (UNDP), has an essential role to play in development of the Lebanese energy efficiency and renewable energy market and has successfully implemented similar energy efficiency and renewable energy projects in Lebanon including installation of 450 solar water heater units in early 2006, and recently initiating the installation of individual and collective solar water heater systems in conflict damaged areas in Lebanon as part of the early recovery programme. On the other hand, UNDP is also currently working in various sectors within the early recovery programme through its wide network of offices and projects distributed throughout Lebanon. Several countries have participated in UNDP early recovery and reconstructions programme and committed to \$16.0 million to UNDP for early recovery interventions and additional resources are currently under negotiation

4. Management Arrangements

Implementation Arrangements

The following implementation arrangements will be undertaken:

1. Detailed quick community needs assessment will be conducted in the areas of South Lebanon, Bekaa and Akkar will be undertaken by UNDP, MEW and specialised international technical assistance
2. UNDP, MEW and the Donor Country will develop and agree upon the beneficiary selection criteria and process as well as on the villages to be nominated as beneficiaries from this programme within the specified areas.
3. Based on the criteria, the implementation sites will be selected and include the following preliminary interventions:
 - i. Solar Water Heaters for Hospitals, schools, and public buildings
 - ii. Solar Photovoltaic for external street lighting within certain municipalities
 - iii. Energy Efficiency Lamps for public buildings such as schools, hospitals, municipalities, etc...
 - iv. Thermal Insulation for public buildings mainly the roofs of the buildings
 - v. Implementation of Energy Audit studies carried out by LCECP for public buildings and municipalities
 - vi. Securing electricity supply based on PV for public buildings
 - vii. Others as might be deemed necessary
4. Develop technical project documentation for all identified beneficiaries which will include:
 - i. design and engineering
 - ii. equipment specification
 - iii. installation requirements
 - iv. Testing and commissioning procedures
 - v. Monitoring and verification methods
 - vi. Others as might be deemed necessary
5. Based on the technical documentation, an international competitive bid will be undertaken to purchase the required equipment and installation services.
6. A general capacity building programme on energy efficiency and renewable energy issues aimed at local level policy makers/decision makers will be developed, and a specific technical training programme on installation, operation and maintenance procedures catered to local engineers and technicians will be developed. This programme will be implemented during the various implementation stages to ensure the sustainability of the programme.
7. In parallel, general public awareness raising on energy efficiency and renewable energy technologies and direct benefits will be disseminated.
8. Data and information from the beneficiary sites will be collected before and after project implementation to analyse the impact of this programme on energy consumption and costs. This will provide key energy indicators that can be used to assist in the development of the national energy efficiency and renewable energy strategy which may be supported by future funding.
9. Continuous technical follow-up and monitoring by UNDP, MEW and LCECP will be undertaken during the various implementation phases to ensure the objectives of the programme are met and lessons learned are documented.
10. UNDP will financially monitor and report on all disbursements of the programme and will ensure continued reporting to the Government of Lebanon and the Donor Country. Financial disbursements will be based on UNDP procedures.

Project Timeframe

The implementation of the proposed programme is 1.5 years.

Project Partners

The programme shall involve several concerned parties to ensure proper implementation of the programme's phases. These parties are the following:

- **Government of Spain, AECI and other Spanish Energy Agencies:** Donor country and international technical backstopper to the proposed programme
- **United Nations Development Programme :** Implementation agency (technical, management, supervision) of the proposed programme
- **Ministry of Energy and Water :** Decision maker and direct beneficiary of the proposed programme
- **Lebanese Centre for Energy Conservation Project (LCECP) :** Local Technical Agency Executing the proposed programme
- **International Energy Experts :** International Experts providing technical services during the programme phases assigned by AECI/UNDP
- **Local Energy Experts :** National Experts providing technical services during the programme phases identified by LCECP / UNDP
- **Public Beneficiaries :** National public institutes or entities and individuals benefiting from the proposed programmes

5. Analysis of risks and assumptions

Since energy efficiency and renewable energy programmes and projects are relatively new approaches to the Government of Lebanon and to the general Lebanese public, the proposed programme may face some barriers and risks to proper implementation.

These barriers and risks that might face the proposed programme can be summarized as follows:

- a- Improper operation and maintenance of the installed energy efficiency and renewable energy equipment by the beneficiaries
- b- Low level of collaboration by the local communities during the programme implementation
- c- Low level of acceptance of the new installed technologies by local communities
- e- Insufficient funds to implement the proposed programme especially after the detailed needs assessment outcomes

On another level, the proper use, operations and maintenance of the installed equipment is necessary to ensure programme continuation. The proper implementation of the project through qualified national and international personnel, including adequate technical capacity building and awareness raising activities, will minimise the impact of the above listed risks.

In addition, continued or additional energy subsidisation by the Government of Lebanon may pose a risk to the continued adoption of this programme. Any changes in the political situation in Lebanon can also not be neglected. Both of these risks are beyond the control of the proposed programme.

6. Programme/Project Budget

The budget would utilise the Standard Format agreed by UNDG Financial Policies Working Group.

CATEGORY	ITEM	UNIT COST	NUMBER OF UNITS	TOTAL COST (USD)
1. Personnel Incl. staff and consultants				170,765
2. Contracts Incl. companies, professional services, grants				102,458
3. Training				47,814
4. Transport (local)				13,661
5. Supplies and commodities				13,661
6. Equipment (including installation)				2,144,809
7. Travel				27,322
8. Miscellaneous				34,153
9. Agency Management Support (7%)*				177,596
TOTAL				2,732,240

The original proposal budget submitted on 16 April 2007 to the LRF was expressed in Euros and was in the amount of 2.5million Euros. Based on the LRF steering committee decision taken during its second session on 07 May 2007, the budget was revised down to 2.0 million Euros. Accordingly, the budget was revised and expressed as an equivalent amount in US dollars (total of 2,732,240 USD) using the UN rate of exchange prevailing at the time of the LRF Steering Committee meeting (0.732Euros).