

**A. Definition of the Project**

<b>A.1 Title</b>	<b>Renewable Energies in Rural Areas in Morocco: Mini-Hydro, Biogas and PV Solar Pumping</b>
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<b>A.2 Type of project</b>	
Biomass	<input checked="" type="checkbox"/> (Biogas)
Hydro	<input checked="" type="checkbox"/> (Mini-Hydro)
Photovoltaic	<input checked="" type="checkbox"/> (Applied to water Pumping)

<b>A.3 Stakeholders</b>	<i>Partners involved in the project activities:</i> Italian Ministry for the Environment and Territory Centre de Développement des Energies Renouvelables
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<b>A.3 Location of the project</b>	
City / Town / Village	<i>Several sites, in particular: Souss-Massa Region (biogas), Tensift Al Haouz Region (Water Pumping)</i>
Brief description of the location	<i>Rural Areas</i>

<b>A.4 Forecasted Planning for the project</b>											
<b>Status of the project</b>	<table border="1"> <thead> <tr> <th>Phases</th> <th>Status</th> <th>Forecasted timing</th> </tr> </thead> <tbody> <tr> <td>Idea / concept</td> <td><input type="checkbox"/></td> <td rowspan="3">1<sup>st</sup> phase concluded; 2<sup>nd</sup> phase to be carried out in 2006</td> </tr> <tr> <td>Pre feasibility study</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>On going Done</td> <td><input type="checkbox"/></td> </tr> </tbody> </table>	Phases	Status	Forecasted timing	Idea / concept	<input type="checkbox"/>	1 <sup>st</sup> phase concluded; 2 <sup>nd</sup> phase to be carried out in 2006	Pre feasibility study	<input checked="" type="checkbox"/>	On going Done	<input type="checkbox"/>
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**B. Stakeholders**

<b>B.1 Main promoters</b>	
Name	<i>Italian Ministry for the Environment and Territory</i>
Type of organisation	Governmental
Address	Via C.Colombo, 44 00147 Roma - Italy
Contact person	Mr F.Presicce
Telephone/ fax	Tel: +39 06 57228162 Fax: +39 06 57228178
e-mail	<a href="mailto:presicce.francesco@minambiente.it">presicce.francesco@minambiente.it</a>
Name	<i>Centre de Développement des Energies Renouvelables (Morocco)</i>
Type of organisation	Governmental
Address	rue Mechaar Al Haram, Issil, Marrakech, Morocco
Contact person	Mr J.Cherkaoui, Mr M.Bakri
Telephone/ fax	Tel: 0021244309814 Fax: 0021244309795
e-mail	<a href="mailto:cder@menara.ma">cder@menara.ma</a>

**C. Technical description of the project**

<b>C.1 Technical description of the project</b>	This project aims at setting up a favourable environment that could contribute to building the market mechanisms and supporting the local market actors who can sell, finance, install and maintain the technologies required for access to energy. Project activities consist of identifying energy needs and necessary assistance to create the economic, social and
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institutional conditions that will enable their energy needs to be met, and at the same time involving the private sector and the civil society in these activities.

Specifically, the actions to be taken under this project address the problematic of energy deficit in some rural areas in Morocco by supporting some actions intended to enhance energy services such as: lighting, drinking water, health, education, agriculture, cooling, heating and cooking.

The project is composed of two project phases:

Project Phase 1 has been concluded

Project Phase 2 will be carried out through 2006.

While specific activities for Phase 2 are being defined, activities to be performed under Phase 1 have been the following:

**1: Development of a control system for mini-hydraulic plants (MHP)**

The first identified project has been launched in parallel with an on-going program that aims at the adaptation of MHP systems mainly at the regulation level. It consisted of studying the possibility of developing a regulation system to operate a micro-hydraulic plant equipped with instruments for load control, flow control, security, and monitoring and energy production control. This system will be more adapted to the local know-how in order to avoid downtime problems caused mainly by complicated automated systems found in installed plants. Once developed, it will be duplicated in several areas nationwide.

**2: Rehabilitation of PV solar pumps in the region of Tensift Al Haouz**

This project has elaborated a national database to collect information on installed solar pumps. A preliminary survey study in one pilot area has shown the majority of these pumps are not functioning due to simple technical, maintenance or operation problems. The project has generalized these surveys at the national level with more emphasis on analysing the results in order to come up with adequate solutions. In addition, it will permit to identify with different stakeholders large integration of water pumping solar systems in the National Program of Potable Water Supply in Rural Areas.

**3: Evaluation studies for the Souss-Massa biogas project**

This action has consisted of capitalizing the expertise gained through some pilot projects and generalizing it through the promotion of other projects. In particular, it consisted of evaluating the program launched few years ago in some rural areas. About 100 biogas mini-plants were installed in the region of Souss-Massa. The technical, financial and socio-economic evaluation of this first pilot project will be useful to analyze all the collected information, to be used for developing projects in other regions.

**C.2 Photo/drawing of the project/building:**

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<b>C.3 Typical indicators</b>	Investment - thousand euros	100.000
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<b>C.4 Detailed technical indicators</b>	
M <sup>2</sup> installed	-
Power per m <sup>2</sup>	-
Delivered power	-

**D. GHG emissions: reduced / avoided**

D.1 Type of GHG reduced or avoided	
CO <sub>2</sub>	-
CH <sub>4</sub>	-
N <sub>2</sub> O	-
HFCs	-
PFCs	-
SF <sub>6</sub>	-

D.2 Base line	
Description of the level of reference	-
Other elements	-

D.3 Total emission reduction per year	
In Tons CO <sub>2</sub> equivalent	-

D.4 Estimated CER gains - thousand euros			
Estimated price (euros/t) - Tons CO <sub>2</sub> equivalent	3	5	10
Total estimated gain			

#### E. Financial aspects

E.1 Estimated costs - euros	
Total investment	100.000

F. Contribution of the project to sustainable development	
Natural environment	<p>- Improving the reliability of the mini-hydro and solar water pumping technologies will offer alternatives to less environmentally-friendly technologies.</p> <p>- the production of biogas will contribute to alleviate the pressure on forest and vegetal resources and to improve the dung fertilizer quality.</p>
Social (employment, health, education, ...)	<i>The project will improve, in a sustainable way, the life conditions of the rural population.</i>
Economy (local, national, ...)	<i>This project will set up a favourable environment that could contribute to building the market mechanisms and supporting the market actors who can sell, finance, install and maintain the technologies required for access to energy.</i>

G. Other relevant information	
List of available documents	<p>-MoU between IMET and CDER (Framework for project development)</p> <p>-Minute of the kick-off meeting of the project, including programme of the activities</p> <p>- Project Reports</p>