

A. Definition of the Project

A.1 Title	Utilisation of Solar Thermal Energy in resorts and New Villages in Reclaimed Areas
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A.2 Type of project	
Solar thermal	X

A.3 Stakeholders	Public Authorities, private/tourist sector, rural communities
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A.3 Location of the project	
City / Town / Village	Red Sea Area – El Gouna-Hourgada
Brief description of the location	

A.4 Forecasted Planning for the project			
Status of the project	Phases	Status	Forecasted timing
	Idea / concept	<input type="checkbox"/>	
	Feasibility study	X	
	On going		
	Done		

B. Stakeholders

B.1 Main promoters	
Name	Egyptian Environmental Affairs Agency
Type of organisation	Public Organisation under the Ministry of the Environment
Address	Maadi – Cairo - Egypt
Contact person	Eng. El-Sayed Sabry Mansour
Telephone/ fax	
e-mail	eeaa@eeaa.gov.eg
Name	New and Renewable Energy Authority of Egypt
Type of organisation	Public Organisation under the Ministry of the Electricity & Energy
Address	Nasr City – Cairo - Egypt
Contact person	Eng. Samir Hassan – Executive Chairman
Telephone/ fax	00202 2713176
e-mail	

C. Technical description of the project

C.1 Technical description of the project
<p>New villages of the reclaimed lands and tourist resorts are usually far from the sources of main energy supplies and require extension and transformation of power along large distances. All life facilities in these far districts need electric power for lighting, pumping water, operation of small factories, agricultural products conservation, air conditioning, etc. Establishment of the extensions of electric network to the above mentioned far localities could take considerable portion of the GDP.</p> <p>The technologies under consideration for the present applications are a combination of three distinct systems</p> <ul style="list-style-type: none"> • Solar thermal collectors (Parabolic Linear Concentrators - PLC) • Micro turbines (fossil or renewable fuel fed) - MT

- Absorption chillers (AC)

The first approach will be to use solar thermal energy in order to provide heating and cooling through a system composed by solar thermal collectors (PLC) and Absorption Chillers (AC)

Further, it is possible to combine the above mentioned devices into a very effective tri-generation system. The role of MT, further than generating electrical energy, is to integrate the heat produced from solar energy, which is a function of the daily/night and seasonal cycle. Depending on the renewable fuel locally available, also bio-fuels could be considered to feed the MT unit.

This system could be successfully applied to Tourist Resorts, that would greatly benefit from an environmentally sustainable system for energy generation, as it is also very appealing for customers.

As regards isolated rural areas, the tri-generation system using a MT could probably be too complex to be successfully and reliably operated. Therefore other – still solar based – options could be more appropriate, such as heat and cool generation for various purposes. The selection of the most appropriate technologies will strongly depend on local conditions, needs and locally available renewable energy. For instance, electricity could be generated by a PV system or a mini wind energy generator, while heat from solar energy could be integrated with fossil/renewable burner.

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

C.3 Typical indicators		
Investment – thousand euros		3.000
Power installed – MW		To be defined*
Energy produced – MWh / year		To be defined
Cost of energy produced from the project - euro cts/kWh		To be defined
Cost of conventional energy - euro cts/kWh		To be defined
Price of sold energy – euro cts/kWh		To be defined
Population concerned		To be defined

* Studies on Systems development ongoing

C.4 Detailed technical indicators	
M ² installed	To be defined
Power per m ²	To be defined
Delivered power	To be defined

D. GHG emissions: reduced / avoided

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

D.2 Base line	
Description of the level of reference	Diesel Generation Units
Other elements	To be defined

D.3 Total emission reduction per year	
In Tons CO ₂ equivalent	To be defined

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

E. Financial aspects

E.1 Estimated costs - thousand euros	
Total investment	3.000
Allocation	
Development costs	230
Installation	To be defined
Operation and maintenance	To be defined
Other costs	

F. Contribution of the project to sustainable development
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Natural environment	<ul style="list-style-type: none"> Reducing GHGs emission Reducing local air pollution due to diesel generator
Social (employment, health, education, ...)	<ul style="list-style-type: none"> Development of sustainable communities in new reclaimed lands Create job opportunities and help solving unemployment problem
Economy (local, national, ...)	<ul style="list-style-type: none"> – Establishment of clean energy generation in the target Country – Provision of renewable energy for heating, air conditioning, cooling, and electric power for dwelling needs, water pumping, and agricultural products conservation – Energy conservations and environmental protection – Sustainable tourism