

## GEFM&E Terminal Evaluation Review Form

1. PROJECT DATA				
		Review date:		October 2005
GEF ID:	PMIS 86		at endorsement (Million US\$)	at completion (Million US\$)
Project Name:	Solar Water Heating	GEF financing:	\$4.2	\$?
Country:	Tunisia	Co-financing:	\$16.9	\$?
Operational Program:	OP6	Total Project Cost:	\$21.1	\$21.3
IA	WB	Dates		
Partners involved:	Belgium	Work Program date		05/01/93
		CEO Endorsement		Not in database?
		Effectiveness/ Prodoc Signature (i.e. date project began)		05/19/1995
		Closing Date	Proposed: 06/30/2004	Actual: 06/30/2004
Prepared by: Anna Viggh	Reviewed by: Siv Tokle	Duration between effectiveness date and original closing: 9 years and 1 month	Duration between effectiveness date and actual closing: 9 years and 1 month	Difference between original and actual closing: none
Author of TE: Fanny Missfeldt-Ringius Rene G. Mendonca		TE completion date: 12/15/2004	TE submission date to GEF OME: 5/12/2005	Difference between TE completion and submission date: 5 months

## 2. SUMMARY OF PROJECT RATINGS

GEFME Ratings for project impacts (if applicable), outcomes, project monitoring and evaluation, and quality of the terminal evaluation: Highly Satisfactory (HS), Satisfactory (S), Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU), not applicable (N/A) and unable to assess (U/A). GEFME Ratings for the project sustainability: Highly likely (HL), likely (L), moderately likely (ML), moderately unlikely (MU), unlikely (U), highly unlikely (HU), not applicable (N/A), and unable to assess (U/A). Please refer to document "Ratings for the achievement of objectives, sustainability of outcomes and impacts, quality of terminal evaluation reports and project M&E systems" for further definitions of the ratings.

	Last PIR	IA Terminal Evaluation	Other IA evaluations if applicable (e.g. OED)	GEFME
2.1 Project impacts	N/A	S	S	S
2.2 Project outcomes	S	S	S	S
2.3 Project sustainability	N/A	L	L	L
2.4 Monitoring and evaluation	N/A	N/A	N/A	U/A
2.5 Quality of the evaluation report	N/A	N/A	S	S

Should this terminal evaluation report be considered a good practice? Why? No. The ICR, which is generally complete and well balanced, is satisfactory. The analysis of costs and competitiveness of SWH is particularly valuable. However, Section 10 was not used to highlight issues of concern to GEF, as suggested in their ICR guidelines.

### 3. PROJECT OBJECTIVES, EXPECTED AND ACTUAL OUTCOMES

#### 3.1 Project Objectives

- **What are the Global Environmental Objectives? Any changes during implementation?** No. The project did not specify a global environmental objective. The overall project objective was to contribute to the reduction of carbon dioxide emissions, specifically to avoid 18,000 tons of CO2 annually through the installation of 50,000 m2 of collector area.

- **What are the Development Objectives? Any changes during implementation?** The objective is to assist the Republic of Tunisia in encouraging the substitution of renewable solar energy for fossil fuels in public and commercial private institutions so as to mitigate global warming by maximizing CO2 displacement and demonstrate the potential of solar water heating for reducing global warming.

#### Components

1. Technical Assistance - for promotion, performance monitoring (of the equipment and the program), and administration of procurement and subsidies.
2. Investment in Solar Hot Water (SWH) equipment by targeted users - the project provided subsidies to qualified beneficiaries at 35 percent of purchase price.

Two major changes were made to accelerate project implementation:

- a) Allowing the use of "the normal commercial practices of the Beneficiary at a reasonable price," rather than grouping of procurement into ICB packages; and
- b) Extending the project scope to include "individual households."

#### 3.2 Outcomes and Impacts

- **What were the major project outcomes and impacts as described in the TE?**

#### Impact

- CO2 emissions reduced by 25,000 ton/yr (compared to appraisal estimate of 18,000 tons)

#### Outcomes

- 17,626 sub-projects financed over a five year period, amounting to 51,060 m2 collector area (compared to appraisal estimate of 50,000 m2)
- Eight suppliers of SWH systems established, of which two are also manufacturers
- According to the OED review, indications that private sector sales will continue without subsidies
- Public awareness campaign led to substantial demand from the household sector

### 4. GEF OFFICE OF M&E ASSESSMENT

#### 4.1 Outcomes and impacts

Rating: **S**

#### A Relevance

- **In retrospect, were the project's outcomes consistent with the focal areas/operational program strategies? Explain**

Yes, the outcomes were relevant to OP6 strategies. CO2 emissions were reduced, and barriers to access to finance and awareness of SWH systems were partly removed. There are indications that private sales will continue without subsidies.

#### B Effectiveness

- **Are the project outcomes as described in the TE commensurable with the expected outcomes (as described in the project document) and the problems the project was intended to address (i.e. original or modified project objectives)?**

The OED review finds that the change of focus to households was fully justified by the limited demand from the public and commercial private institutions and the unexpectedly high demand from the household sector. The modified project remained clearly directed at the underlying purpose of the grant: to encourage the substitution of renewable solar energy for fossil fuels. As

available funds were fully utilized for this purpose and there is evidence that the SWH units financed are operating as planned, we can conclude that the project objective was fully achieved.

**C Efficiency (cost-effectiveness)**

- **Include an assessment of outcomes and impacts in relation to inputs, costs, and implementation times based on the following questions: Was the project cost – effective? How does the cost-time Vs. outcomes compare to other similar projects? Was the project implementation delayed due to any bureaucratic, administrative or political problems?**

Project costs were estimated on the basis of about 150 large public or commercial installations of \$200,000 each. Unit costs declined substantially during the project period, though only a small part of this is attributable to the project. The project finally financed 171 systems in the "tertiary" sector at an average cost of \$30,400 and 17,455 in the household sector at an average cost of \$1,220. The assumption that a 35 percent subsidy would be sufficient to attract beneficiaries to install SWH proved to be correct. The appraisal judgment that an extended implementation period (nine years) would be required was a little pessimistic, as the grant was fully disbursed two years before the closing date.

**4.2 Likelihood of sustainability.** Using the following sustainability criteria, include an assessment of project sustainability based on the information presented in the TE.

<b>A Financial resources</b>	<b>Rating: L</b>
A government program promoting renewable energy has set up a concessionary credit line available for SWH systems. The government will also offer a per-system flat-rate subsidy for smaller systems as an incentive for the development of a market for solar water heaters.	
<b>B Socio political</b>	<b>Rating: ML</b>
The project raised awareness of SWH systems, and a competitive market of suppliers was established. However, in late 2004, with the end of the 35 percent GEF subsidy, suppliers could only maintain a reasonable level of sales through cuts in their profit margins, which reflect up to the level of the 35 percent subsidy originally paid. But current margins barely cover the simple overhead costs of suppliers. In order to remain in business, suppliers have focused on export markets, developed new promotional schemes, and have diversified their product portfolio.	
<b>C Institutional framework and governance</b>	<b>Rating: L</b>
Partly due to the project the renewable energy department of the national energy agency grew substantially during the project period and attracted additional projects. It has developed a national renewable energy strategy with quantitative targets. Tunisia is also starting to share expertise with other countries in the region.	
<b>D Ecological (for example, for coffee production projects, reforestation for carbon sequestration under OP12, etc.)</b>	<b>Rating: L</b>
Both the annual savings of energy consumption and the avoidance of CO2 emissions are secured for the lifetime of the installed SWH systems. The rating could have been highly likely, but some doubts remain on the ability of householders to operate and maintain SWH units, so as to ensure sustainability.	
<b>E Examples of replication and catalytic outcomes suggesting increased likelihood of sustainability</b>	<b>Rating: HL</b>
Under its 2001 Strategy for Rational Use of Energy and Promotion of Renewable Energies Tunisia has adopted a target of installing 300,000 m2 of solar water heaters by 2010. With the aim of supporting the achievement of this target, the national energy agency is launching a follow-up program for SWH systems in Tunisia in January 2005. The program is financed by the government, UNEP, and Italy.	

**4.3 Assessment of the project's monitoring and evaluation system based on the information in the TE**

<b>A. Effective M&amp;E systems in place: What were the accomplishments and shortcomings of the project's M&amp;E system in terms of the tools used such as: indicators, baselines, benchmarks, data collection and analysis systems, special studies and reports, etc.?</b>	<b>Rating: U/A</b>
The ICR does not provide enough information about the M&E system to rate it. According to the	

ICR the national energy agency directly verified the good performance of SWH systems in the service sector and undertook spot checks of systems in the residential sector. For quality purposes the agency paid a last installment when it was verified that the systems were adequately installed. This contributed to restoring the reputation of SWH systems in Tunisia.

Banks supervision of the project was unsatisfactory. With eleven supervision missions in nine years, some with only one member, no Resident Mission and no use of procurement specialists, Bank supervision does not appear to have been fully adequate. Conversely, recorded administrative costs were a low 7.5 percent of the GEF grant.

**B. Information used for adaptive management: What is the experience of the project with adaptive management? Rating: S**

While the Bank showed flexibility in changing project processes that were not working, such decisions were unnecessarily delayed. For example, after two years of little progress, the procurement issue was addressed through an amendment to the Grant Agreement allowing normal commercial practices. After a further two years, subsidies were extended to the household sector and implementation went into high gear.

**Can the project M&E system be considered a good practice?** Perhaps, but more details on the M&E system than what is provided in the ICR would be needed to judge.

**4.4 Quality of lessons**

Weaknesses and strengths of the project lessons as described in the TE (i.e. lessons follow from the evidence presented, or lessons are general in nature and of limited applicability, lessons are comprehensive, etc.)

**What lessons mentioned in the TE that can be considered a good practice or approaches to avoid and could have application for other GEF projects?**

1. Projects of a quasi-commercial nature like this need to be designed with considerable flexibility to allow for changing market conditions.
2. Even the extended implementation period of this project was not long enough to demonstrate clearly whether SWH can compete with fossil fuels, although there are indications that this will be the case in the medium term.

**4.5 Quality of the evaluation report** Provide a number rating 1-6 to each criteria based on: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, and Highly Unsatisfactory = 1. Please refer to the "Criteria for the assessment of the quality of terminal evaluation reports" in the document "Ratings for the achievement of objectives, sustainability of outcomes and impacts, quality of terminal evaluation reports and project M&E systems" for further definitions of the ratings.

**4.5.1 Comments on the summary of project ratings and terminal evaluation findings**

In some cases the GEF Office of M&E may have independent information collected for example, through a field visit or independent evaluators working for the Office of M&E. If substantial independent information has been collected, then complete this section with any comments about the project.

The LBS did a non-field review of this project which is less favorable than the OED review and the ICR. For example, the subsidy for SWH was cut at the end of 2001 and subsequently the project recorded a 50 percent drop in installations in 2002. Also, the project has not developed an adequate M&E system to track project impacts; development or environmental goals.

4.5.2 Quality of terminal evaluation report	Ratings
A. Does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives? <i>Yes.</i>	5
B. Is the report internally consistent, is the evidence complete/convincing and are the IA ratings substantiated? <i>Yes.</i>	5

C. Does the report properly assess project sustainability and /or a project exit strategy? <i>Yes, although very brief.</i>	4
D. Are the lessons learned supported by the evidence presented and are they comprehensive? <i>Yes.</i>	5
E. Does the report include the actual project costs (total and per activity) and actual co-financing used? <i>Yes, but it is not possible to tell what was financed by GEF.</i>	4
F. Does the report present an assessment of project M&E systems? <i>Not really. It is discussed, but does not assess M&amp;E and Bank supervision of the project.</i>	2

**4.6 Is a technical assessment of the project impacts described in the TE recommended?** Please place an "X" in the appropriate box and explain below.

Yes: **X**

No:

Explain: *As the first of its kind, the project potentially offers valuable lessons to later GEF operations. The assessment should focus, inter alia, on the ability of the Tunisian SWH industry to compete with fossil fuels without subsidy.*

Is there a follow up issue mentioned in the TE such as corruption, reallocation of GEF funds, etc.? *No.*

**4.7 Sources of information for the preparation of the TE review in addition to the TE (if any)**  
*OED ICR review, ICR, PIR04, Project Document, Local Benefits Study Non-Field Case Study.*