GEFM&E Terminal Evaluation Review Form

1. PROJECT DATA				
			Review date:	9/8/05
GEF ID:	372		at endorsement (Million US$)	at completion (Million US$)
Project Name:	Greenhouse Gas Reduction in Chile	GEF financing:	1.700000	NA
Country:	Chile	Co-financing:	0.0	NA
Operational Program:	OP 5	Total Project Cost:	$1.700000	NA
IA	UNDP	Dates		
Partners involved:	Comision Nacional del Medio Ambiente	Work Program date		Dec 1992
		CEO Endorsement		Jun 1995
		Effectiveness/ Prodoc Signature (i.e. date project began)		Jun 1995
		Closing Date	Proposed: Jun 1998	Actual: April 2003
Prepared by: Neeraj Negi	Reviewed by: Aaron Zazueta	Duration between effectiveness date and original closing: Three years	Duration between effectiveness date and actual closing: Seven years and 10 months	Difference between original and actual closing: Four years and 10 months
Author of TE:	Luis J. Geng T.	TE completion date: April 2003	TE submission date to GEF OME: July 2005	Difference between TE completion and submission date: Two years three 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	**HS**	N/A		UA
2.2 Project outcomes	**S**	N/A		UA
2.3 Project sustainability	**N/A**	N/A		UA

2.4 Monitoring and evaluation	**N/A**	**N/A**		UA
2.5 Quality of the evaluation report	**N/A**	**N/A**		U

Should this terminal evaluation report be considered a good practice? Why?

No.

The TE is poorly drafted and does not adequately cover the important issues. The report is also internally inconsistent.

3. PROJECT OBJECTIVES, EXPECTED AND ACTUAL OUTCOMES

3.1 Project Objectives

- **What are the Global Environmental Objectives? Any changes during implementation?**

The original project proposal document submitted for CEO Endorsement is not available. According to the revised project plan (1999) the main purpose of the project is:

"To reduce the emissions of gases that increase global warming, mostly caused by emissions of carbon dioxide (CO_2)[1]."

The TE does not inform us on whether there has been any change in global environmental objectives of the project during the implementation of the project.

- **What are the Development Objectives? Any changes during implementation?**

According to the revised project plan (1999), the original development objectives of the project were:

i. To encourage the production of methanol from biomass residues for use in the transportation sector;
ii. To establish energy service companies (ESCOs) to promote the utilization of newer and more efficient motors in the copper mining sector.

The revised project plan (1999) further informs us that between 1993 and 1999 the Chilean energy market changed dramatically. The cost of production and market price of methanol derived from natural gas was lower in Chile than any other country. As a result, it was decided that the focus should shift from encouraging production of methanol from biomass residues for use in the transport sector to electricity production by biomass gasification. Further, due to fall in electricity prices, which made the existing mining companies less interested in adopting energy efficient motors, and due to the new firms adopting efficient motors on their own the project component aiming at establishing ESCOs to promote utilization of newer and more efficient motors in the copper mining sector was not feasible in its original form. As a result the focus of this component was changed to undertaking activities focusing on improving the efficiency of energy combustion in the small and medium enterprises in the greater metropolitan area. As the result of these changes the revised project development objectives became:

i. To prevent emissions of CO_2 by introducing forest biomass gasification technology for electricity generation in the remotest rural areas replacing electricity produced through

[1] Page 4, paragraph 1.1 of CONAMA/CNE/UNDP/GEF. Reduction of GHG in Chile. 1999. Substantive changes were made in the key components of the project as a result the project proposal was updated by the UNDP in 1999. However, it can not be ascertained whether there was any substantive change in the global environmental objectives of the project.

the use of small size diesel engines.

ii. To lower CO_2 emissions from power generation at coal fired thermoelectric plants by replacing standard efficiency electric motors with high efficiency electric motors in the mining sector.

The TE does not provide any additional information that could tell us whether there were further changes in the revised project development objectives during the period between 1999 and 2003, when the revised plan was under implementation.

3.2 Outcomes and Impacts

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

According to the TE following Outcomes and Impacts have been achieved:

The usage of use of natural gas instead of fuel oil or diesel in electric engines in mining led to a decrease in CO_2 emissions of approximately 29% and 26%, respectively[2]. According to TE estimates small and medium sized firms consumed fuel equivalent to more than 100 million cubic meters of natural gas in the metropolitan area of Santiogo. The TE, however, does not address the issue of the extent to which this shift can be attributed to the project; i.e. whether the conversion to natural gas based electric engines was primarily due to an exogenous drop in price of natural gas as mentioned elsewhere in the TE or was it due to efforts made through project activities.

The TE observes that the electricity generation through use of biomass component has directly benefited 38 households in Metahue. The CO_2 reductions were achieved through use of firewood instead of fossil fuels. TE informs that since September 2001 the plant has been operating on diesel due to the plant operator leaving the job, which implies the CO2 emission reductions are presently not accruing from this plant. The TE, however, fails to inform us on the total number of households that were targeted under this activity; the PIR 2001 provides information on this front. According to it 9000 households had been targeted for this activity. Since TE does not inform us on whether this target was adjusted during implementation of the project, it could probably be inferred that the project's achievement in this subproject was negligible.

The TE tells us that six small and medium size firms have obtained financing through the rotatory fund for conversion to the natural gas.

4. GEF OFFICE OF M&E ASSESSMENT

4.1 Outcomes and impacts **Rating: UA**

A Relevance

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

The project's outcomes and impacts – to the extent they are described in the TE – are relevant and consistent with the operational program strategies. Project activities either aimed at replacing fuel oil with natural gas, which is apparently more efficient fuel and generates lesser quantities of CO2 emissions, or else at replacing fossil fuels with renewable sources of energy such as fire wood. Both these strategies are consistent with the goal to reduce emissions of the green house gases.

S

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)?**

[2] The TE claims that the emission factor for Natural Gas is 55 kg CO2/GJ, while it is 77 Kg CO2/GJ for Fuel oil and diesel.

The exposition of the TE on project's level of achievement of outcomes and impacts is incomplete. The TE narrative doesn't adequately inform us on the extent to which the project has been effective in meeting its objectives. For example, it tells us about 38 households benefiting from electricity generation from biomass gassing but it does not inform us about the total number of households this activity was expected to benefit. Similarly, it does not provide any evidence that could help attribute the conversion of the small and medium scale firms to natural gas to the project activities.

Unable to Assess

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?**

There were delays in implementation of the project. It was originally planned to be a 36 months project and to end in Dec 1998. The TE was written in April 2003, which suggests that there was about five years of delay in completion of the project. Although this is likely to have cost implications but the TE has not discussed it. The TE further points out that for the sub project "electric energy generation from forestry biomass gassing" the investment amount of 5,508 US $ per kW is very high compared to the other non conventional energies. However, it suggests that this intervention may still be a suitable solution in isolated areas as it may be costlier to supply electricity in such areas through other alternatives. It further informs that the Metahue electricity generation intervention, which benefits a total of 38 households, has a load factor of 40% this again makes the cost per unit very high despite low variable costs.

Despite some statements where TE cursorily addresses the issue of cost effectiveness of the project, the overall information provided is not sufficient to help us determine the extent to which the project was cost effective.

Unable to Assess

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

A Financial resources	**Rating: UA**
The issue has not been addressed in the TE.	
B Socio political	**Rating: UA**
The issue has not been addressed in the TE.	
C Institutional framework and governance	**Rating: UA**
The issue has not been adequately addressed in the TE.	
D Ecological (for example, for coffee production projects, reforestation for carbon sequestration under OP12, etc.)	**Rating: NA**
Not Applicable.	
E Examples of replication and catalytic outcomes suggesting increased likelihood of sustainability	**Rating: UA**
The TE has not addressed this issue.	

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

- **A. Effective M&E systems in place: What were the accomplishments and shortcomings of the project's M&E system in terms of the tools used such as: indicators, baselines, benchmarks, data collection and analysis systems, special studies and reports, etc.? Rating: UA**

In the executive summary the TE notes that:

"The sub-project has a logical development framework, with clearly defined and easy-to

monitor-objectives and goals, thanks to the implemented development plan which encloses the area selection, selection criteria, technology selection and project performance.

Information availability, firewood and Diesel consumption, electricity supply and use, operation and administration management, make this project transparent and easy to follow up. But, furthermore we have lacked of a monitoring and verifying plan on emission reduction, starting from a baseline composed by fossil fuel consumption and other kind of sources used by inhabitants to supply electricity."[3]

It is not clear from these statements what the TE is trying to convey and it seems that these statements are inconsistent. Based on the information provided in the TE it is possible to assess the effectiveness of the M&E systems in place.

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

The TE informs that due to changes in the energy market important changes were made in the two major project components. This shows that project did adapt to the exogenous changes in its context. The TE, however, does not inform us on whether the decision to adapt was based on the information generated by the M&E system. Also, it does not comment upon whether the response of the management in responding to the changes in the external environment was prompt or belated. The TE does not discuss when the changes in the energy market became apparent and whether the project's risk management picked up these changes early on.

There are also other major information gaps. For example, the PIR 2001 tells us that the electricity generation activity targeted 9000 households and against it 32 households were actually covered. The TE does not address the issue of whether and to what extent the project could have been adapted in light of market conditions and this unsatisfactory level of achievement.

Can the project M&E system be considered a good practice?

The information provided in the TE is not sufficient to allow us to judge whether the project's M&E system could be considered a good practice.

4.4 Lessons

Project lessons as described in the TE

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?

The TE does not address this issue at all; it neither highlights any practice or approach adopted in the project as a good practice nor does it specify any practice which should be avoided. Cursorily, it does mention the need to collect and maintain the information useful in assessing the level of achievement of the program impacts.

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

[3] See paragraph 2 and 3 in Page 3 of the TE.

the project.

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? The TE provides incomplete information on major outcomes and impacts of the project. Further, the information is also not well organized and presented. This limits the extent to which a reader can get information on the extent to which the project has been able to achieve its objectives.	U
B. Is the report internally consistent, is the evidence complete/convincing and are the IA ratings substantiated? The report is very patchy, full gaps and inconsistent. For example, it claims that only 38 households have benefited from the electricity production and that now the production of electricity from the biomass has stalled due to the plant operator resigning from the job. However, the TE then moves on to suggest that the sub-project has been able to meet its objectives although, as per the PIR 2001, the project activity has targeted 9000 households. The evidence provided for achievement of the targets for conversion to natural gas based electric engines is also unconvincing. The TE claims that there has been decline in CO2 emissions of approximately 29% and 26% due to conversion to natural gas. However, it does not provide us any evidence that could help us attribute this drop to project activities instead of the exogenous drop in the prices of natural gas, as has been described elsewhere in the report.	HU
C. Does the report properly assess project sustainability and /or a project exit strategy? The TE has not addressed this issue at all. Although there is a mention of the presence of a rotatory fund as part of the project activities, it is not clear whether and how this will contribute to the sustainability of the project.	U
D. Are the lessons learned supported by the evidence presented and are they comprehensive? This issue has not been addressed.	U
E. Does the report include the actual project costs (total and per activity) and actual co-financing used? Although the TE does provide a figure for the total amount that had been used at the point of evaluation, it does not provide a break up of the total amount on per activity basis.	MU
F. Does the report present an assessment of project M&E systems? The TE does cover a few aspects of the M&E systems such as inadequacy of baseline information and log frame. However, it has not addressed the issue of use of the information generated by the M&E systems in adaptive management. It also does not describe the reasons that prevented collection of baseline information on CO2 emission's reduction which is central to the project.	MU

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: The TE report is unsatisfactory. It does not provide us convincing information on the extent to which the project has been able to meet its objectives. It exposition on other aspects such as M&E systems and sustainability of the project are also inadequate. A technical assessment of		

project may help us know more about the project performance and learn from this experience.
Is there a follow up issue mentioned in the TE such as corruption, reallocation of GEF funds, etc.? No such issue has been mentioned.

4.7 Sources of information for the preparation of the TE review in addition to the TE (if any)

PIR 2000 & 2001 Revised Project Plan, 1999