

GEF EO Terminal Evaluation Review Form

1. PROJECT DATA				
GEF Project ID: 766		Review date:		10/26/07
IA/EA Project ID: PO58303		<u>at endorsement</u> (Million US\$)		<u>at completion</u> (Million US\$)
Project Name: Landfill Methane Recovery Demonstration Project		GEF financing:	0.98	0.98
		IA/EA own:		
		Government:	2.99	0.39
		Other*:	0.15	0.19
Country: Uruguay		Total Cofinancing	3.14	0.58
Operational Program: STRM (6)		Total Project Cost:	4.14	1.55
IA: WB	Dates			
Partners involved: Ministerio de Vivienda, Ordenamiento Territorial y Medio Ambiente (MVOTMA)	Work Program date		02/01/00	
	CEO Endorsement		03/29/00	
	Effectiveness/ Prodoc Signature (i.e. date project began)		11/02/00	
	Closing Date	Proposed: 06/30/04	Actual: 12/31/05	
Prepared by: Ines Angulo	Reviewed by: Neeraj Negi	Duration between effectiveness date and original closing: 42 months	Duration between effectiveness date and actual closing: 60 months	Difference between original and actual closing: 18 months
Author of TE: Horacio Terraza		TE completion date: 08/24/06	TE submission date to GEF EO: 11/30/06	Difference between TE completion and submission date: 3 months

* Other is referred to contributions mobilized for the project from other multilateral agencies, bilateral development cooperation agencies, NGOs, the private sector and beneficiaries.

2. SUMMARY OF PROJECT RATINGS

Please refer to document "GEF Office of Evaluation Guidelines for the verification and review of terminal evaluations" for further definitions of the ratings.

	Last PIR	IA Terminal Evaluation	Other IA evaluations if applicable (e.g. IEG)	GEF EO
2.1 Project outcomes	S	S	-	S
2.2 Project sustainability	N/A	HL	-	L
2.3 Monitoring and evaluation	HS	HS	-	S
2.4 Quality of the evaluation report	N/A	N/A	-	S

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

Yes. The TE has a good analysis of the project's sustainability, and provides complete and comprehensive information on the implementation of the project.

Is there a follow up issue mentioned in the TE such as corruption, reallocation of GEF funds, etc.?

No

3. PROJECT OBJECTIVES AND ACTUAL OUTCOMES**3.1 Project Objectives**

- What were the Global Environmental Objectives of the project? Were there any changes

during implementation?
<p>According to the ProDoc the main environmental objective of the project was to reduce Uruguay's emissions of greenhouse gases (GHG) by capturing methane from the landfill gas (LFG) generated by the municipal landfill of Las Rosas in the Municipality of Maldonado.</p> <p>No changes during implementation.</p>
<ul style="list-style-type: none"> • What were the Development Objectives of the project? Were there any changes during implementation? <p>According to the ProDoc, the development objectives were to (i) create local capacity for the sound management of the landfill gas recovery sub-project, which is part of Uruguay's action plan for improving municipal solid waste management (SWM), and draw lessons for replication in Uruguay and Latin America, and (ii) raise awareness of global warming and methane gas recovery in the context of Uruguay's Climate Change Strategy.</p> <p>No changes during implementation.</p>
3.2 Outcomes and Impacts
<ul style="list-style-type: none"> • What major project outcomes and impacts are described in the TE? <p>The project's main outcome was the installation of a gas collection system and an electric generation plant that uses landfill methane as a fuel. The project financed a 1-megawatt (MW) power plant (renewable energy capacity added to the Uruguayan grid) that generated 2,609 megawatt-hours (MWh) in 2005 and destroyed approximately 879 tons of methane.</p> <p>As the first project of its kind in Uruguay and South America and one of the few in the developing world, the initiative strongly contributed not only to creating local capacity for landfill gas management but also to proving the technical and economic viability (taking into account climate change externalities) of the installation of a landfill gas capture system and an energy generation plant.</p> <p>Because the project was designed to reach its main goal in 15 years (destruction of 18,962 tons of methane), it is not possible to assess whether the goal has been fully achieved after only 1½ years of implementation.</p>

4. GEF EVALUATION OFFICE ASSESSMENT

4.1.1 Outcomes (use a six point scale 6= HS to 1 = HU)

A Relevance	Rating: HS
<p>Project outcomes were highly relevant to OP6 since electricity created from this new renewable source was connected to the national grid.</p> <p>Furthermore, when the project was designed in 2000, it was in line with the Bank's Country Assistance Strategy (CAS FY98-00) for Uruguay. Solid waste management has been given priority by the Uruguay government so that in addition to GHG mitigation the project contributes towards national development objectives.</p>	
B Effectiveness	Rating: S
<p>The project was successful in delivering its outputs at a high level of quality. Both components were implemented successfully, with the LFG plant fully operational and technical capacity transferred as a consequence of the technical assistance activities.</p> <p>The amount of electricity delivered to the grid in the first year of operation was slightly below the expected target.</p>	
C Efficiency (cost-effectiveness)	Rating: S
<p>The grant budget for the project was underestimated. The main reason was that it did not take into account the inclusion of a procurement specialist for the Project Unit and the hiring of an international recognized expert to overview the installation and the operation of the plant. Also, the costs of the contract for the construction of the plant were higher than expected, requiring the reallocation of funds from other activities and the increase of contribution from the private partner. Despite these problems, the project was able to achieve all expected outcomes.</p>	

4.1.2 Impacts

<p>Since this project was a demonstration pilot, its main impact was the increased capacity of stakeholders and awareness about LFG technologies. It also served as a base for a significant replication and scaling-up of the project not only nationally but regionally as well.</p>
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4.2 Likelihood of sustainability. Using the following sustainability criteria, include an assessment of **risks** to sustainability of project outcomes and impacts based on the information presented in the TE. Use a four point scale (4= no or negligible risk to 1= High risk)

A Financial resources	Rating: L
According to the TE, during project appraisal, the national electric utility (<i>Usinas y Transmisiones Eléctricas</i> , or UTE) signed an agreement with the IMM that committed the UTE to purchase electricity from the project at US\$0.027 per kilowatt hour (kWh) for 15 years. A sensitivity analysis showed that at this price, the project would only be in deficit during 1 of the 15 years.	
B Socio political	Rating: L
According to the TE there were no risks	
C Institutional framework and governance	Rating: L
According to the TE, there were no risks.	
D Environmental	Rating: L
Abnormal climate behavior can have a negative effect on the amount of energy produced, but in the long term this is not an important risk to the project's sustainability.	

4.3 Catalytic role

a. Production of a public good
The installation of a gas collection system and an electric generation plant that uses landfill methane as a fuel was the first project of its kind in Uruguay and South America. Usage of methane as fuel in addition to providing energy in a usable form also reduces the CO2 equivalent emissions.
b. Demonstration
The project organized seminars and visits to raise awareness about the initiative in the context of Uruguay's Climate Change Strategy. The project and its benefits were presented in more than 14 international and local workshops, including a World Bank-ESMAP LFG to Energy Initiative workshop in Monterrey in 2003. Notably, Uruguay hosted the Latin American Landfill Gas Project Expo in 2005 because of the Methane Recovery Demonstration Project.
c. Replication
As a result of the project's achievements, several Bank and non-Bank projects in the region have been designed and implemented based on the Methane Recovery Demonstration Project.
d. Scaling up
Satisfactory outcomes of the project have led the local authorities of Montevideo (Uruguay's capital city) to develop a larger-scale Landfill Gas Recovery Project with support from the WB). In addition the Municipality of Canelones is in the process of negotiating another LFG Recovery Project with the WB.

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

A. M&E design at Entry	Rating (six point scale): S
The project included a detailed M&E plan. Project supervision would be based on 3 types of indicators: Implementation indicators (to track the efficiency of project activities against targets to be agreed as part of the Implementation Plan), Outcome indicators (to track the results of the project in terms of a selected number of commercial-operational and financial indicators), and environmental indicators. In addition, targets were identified for the main activities, clear responsibilities were assigned, and there was a risk assessment of outcomes.	
B. M&E plan Implementation	Rating (six point scale): S
Although the ICM mentions that the planned budget for M&E was inadequate, it clarifies that all required M&E activities were implemented as resources were redirected towards this end. Indicators were closely measured and were used by the team to improve the performance of the LGR plant. With the reporting system developed by the UNDP, project staff was able to monitor implementation and progress in fulfilling project objectives. As a result, the Bank supervision teams were able to identify delays and problems early enough to propose timely remedial measures.	
C.1 Was sufficient funding provided for M&E in the budget included in the project document?	
No. The Bank utilized US\$164,560.26 for supervision over 5 years, compared with the original estimate of US\$50,000 over 3 years for this medium-sized project (MSP). The main reason for the discrepancy was the economic crisis and consequent extended supervision period, and the need to include an international recognized engineer in these types of projects to technically supervise engineering design, construction and operation. However, the budget was inadequate for the project's high level of technical and implementation complexity, which is part of its demonstration characteristics.	

C.2 Was sufficient and timely funding provided for M&E during project implementation? Yes, even though supervision was originally under budgeted, funds planed for other activities were redirected towards the M&E activities.
C.3 Can the project M&E system be considered a good practice? Yes, since this was a demonstration project there was a lot of focus on measuring results, and a great interest in generating lessons for replication and scaling-up of the project.

4.5 Lessons and Recommendations

Project lessons and recommendations 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?
<ol style="list-style-type: none"> 1. Know how to manage a plant under different conditions and how to enhance its operational profile. 2. Consider the importance of energy prices for project viability, sustainability, and replicability. 3. Factor in site characteristics and conditions that may influence project performance.
List (or if detailed summarize) the recommendations given in the terminal evaluation
<ol style="list-style-type: none"> 1. Assess institutional capacity before the start of project implementation. 2. Ensure adequate project budget and Bank supervision budget. 3. Consider exchange-rate variations in project design. 4. Ensure that government agencies encourage private sector participation.

4.6 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 document "GEF Office of Evaluation Guidelines for the verification and review of terminal evaluations" for further definitions of the ratings.

4.6.1 Comments on the summary of project ratings and terminal evaluation findings from other sources such as GEF EO field visits, etc.
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4.6.2 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? Yes. Achievement of the project objectives the resulting outcomes and impacts are assessed.	S
B. Is the report internally consistent, is the evidence complete/convincing and are the IA ratings substantiated? Required information was presented in a concise but complete manner.	S
C. Does the report properly assess project sustainability and /or a project exit strategy? Yes. The terminal evaluation provides a complete assessment of the project's sustainability, including a sensitivity analysis of costs and revenues.	HS
D. Are the lessons learned supported by the evidence presented and are they comprehensive? Considering that this was a demonstration project, the lessons presented in this TE are relevant and comprehensive.	S
E. Does the report include the actual project costs (total and per activity) and actual co-financing used? No detailed information of costs per activity is presented, this is particularly important since the ICM does mention that the funds that were originally planned for information dissemination activities were used for M&E of the project. In addition, the planned budget presented in the ICM differs significantly from the one included in the Project Document.	U
F. Does the report present an assessment of project M&E systems? The ICM reports the amount of energy production and biogas capture on the first year. It also indicates that the Bank was able to effectively supervise and monitor the project despite a significant underestimation of M&E budget.	S

4.6.3 Assessment of processes affected attainment of project outcomes and sustainability.

Co-financing and Project Outcomes & Sustainability. If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for it? Did the extent of materialization of co-financing affect project's outcomes and/or sustainability, and if it did affect outcomes and sustainability
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then in what ways and through what causal linkage did it affect it?
There is a significant difference between the level of expected co-financing identified in the Project Document (approx \$3 million) and the amount mentioned in the ICM (approx 0.5 million). Although the ICM does explain that the economic crisis in Argentina had a serious effect on the economy of Uruguay, it is not clear what % of the originally agreed cofinancing was actually materialized. As a result of the decrease in co-financing, the project had to redirect the funds originally planned for project dissemination activities.
Delays and Project Outcomes & Sustainability. If there were delays in project implementation and completion, then what were the reasons responsible for it? Did the delay affect the project's outcomes and/or sustainability, and if it did affect outcomes and sustainability then in what ways and through what causal linkage did it affect it?
The gas recovery plant constructed under the project was fully functional by the end of 2004. The operational stage was reached, however, a year and a half later than originally planned. This was due mainly to the effect of Argentina's economic crisis on Uruguay's economy, a fact beyond the control of either the beneficiary or project management. Since the municipality resources were fundamental to project execution, the only option besides canceling the project was to wait for the municipality's financial situation to recover. This delay had a direct negative effect on the accumulation of benefits, but not on the project's sustainability.

4.7 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: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>
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Explain: The final project was designed to reach its main goal in 15 years, so the real impact will have to be measured at that time.

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

PIR 2005, Project Document.