

GEFM&E Terminal Evaluation Review Form

1. PROJECT DATA				
		Review date:		
GEF ID:	654		<u>at endorsement</u> (Million US\$)	<u>at completion</u> (Million US\$)
Project Name:	Zakopane/podhale Geothermal District Heating and Environment Project	GEF financing:	5.4	3.4
Country:	Poland	IA/EA own:	38.2	14.5
		Government:	0	0
		Other*:	26.0	19.1
		Total Cofinancing	53.1	33.6
Operational Program:	STRM	Total Project Cost:	96.7	37.0
IA	WB	<u>Dates</u>		
Partners involved:	Geothermia Podhalaska	Work Program date		05/07/1999
		CEO Endorsement		04/07/2000
		Effectiveness/ Prodoc Signature (i.e. date project began)		07/27/2000
		Closing Date	Proposed: 12/31/2004	Actual: 12/31/2004
Prepared by: Tarek Soueid	Reviewed by: Antonio Del Monaco	Duration between effectiveness date and original closing: 4 yrs and 4 months	Duration between effectiveness date and actual closing: 4 years and 4 months	Difference between original and actual closing: None
Author of TE:	WB	TE completion date: October 2005	TE submission date to GEF OME: July 2006	Difference between TE completion and submission date: 9 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

GEF EO 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). GEF EO 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. IEG)	GEF EO
2.1 Project outcomes	U	U	MU	MU
2.2 Project sustainability*	N/A	L	L	MU
2.3 Monitoring and	S	NA	NA	MS

evaluation				
2.4 Quality of the evaluation report	N/A	N/A	S	MS

*IEG ratings have rated project sustainability to be likely because it feels that presence of strong political support will ensure project's sustainability. However, based on the information provided in the TE it could be said that financial risks pose severe threat to project's sustainability. TE's financial analysis shows that the expected financial returns of the project are negative; further operating costs are equal to the revenue which will make it difficult to service the World Bank debt.

Should this terminal evaluation report be considered a good practice? Why?
The terminal evaluation has some inconsistencies. Apart from this, it presents a clear analysis of project performance.

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

3. PROJECT OBJECTIVES, EXPECTED AND ACTUAL OUTCOMES

3.1 Project Objectives

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

According to the Project Appraisal Document the project's global environmental objective was to "achieve cost-effective reduction of CO2 emissions that contribute to global warming on a significant scale in order to help Poland meet its international obligations under UNFCCC (Poland's signing of the Kyoto Protocol in November, 1998)." Identical global environmental objective has been listed in the Terminal Evaluation. Thus, there has been no change in the global environmental objective of the project.

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

Original Objective:

According to PAD the project's development objective was: "through the increased utilization of clean energy resources (such as geothermal heat and natural gas) in the Podhale region of Southern Poland, to reduce the air pollution from local coal-fired heat boilers."

The ICR states that the Project's primary development objective was to reduce local air pollution in full compliance with the national priorities as identified in the CAS of April, 1997.

Thus, despite some minor semantic changes, the development objective of the project has remained the same during the project implementation period.

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 were achieved:

- **Reduction of Global Emissions of CO2.** Annual reductions of CO2 emissions in 2004 were 22% of the anticipated level. Depending on the future development of the Project, the life cycle reductions through 2024 are expected to range between 22% (584,300 tonnes for Case 1) and 31% (817,500 tonnes for Case 2) of appraisal estimates. Thus, achievement of global environmental benefits related outcomes was significantly lower than the expectations.

- **Reduction of Local Pollution.** By 2004 concentrations of PM10 were reduced by more than 30%; of SO2 by almost 50%; and of NOx by about 55% in spite of dramatic increases in local automobile traffic in the past five years. However, this is not an outcome that could be linked with the global environmental benefits.

4. GEF OFFICE OF M&E ASSESSMENT

4.1 Outcomes

A Relevance **Rating: S**

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

program strategies? Explain
 The project's global objective of reduction in carbon emissions is consistent with the focal area of Climate Change focal area.

B Effectiveness **Rating: MU**

- **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)?**

According to the TE achievement of the global objective - reduction in CO2 emissions - was only 22% of appraisal projections, though this could rise to 31% if some presently foreseen investments are made. Altogether, compared to expectations this is a below par performance. According to the TE, there is, however, some evidence that the project is having a useful demonstration effect both within and outside Poland.

C Efficiency (cost-effectiveness) **Rating: MS**

- **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 and did that affect cost-effectiveness?**

TE includes a detailed and thorough re-evaluation of the project's economic and financial rates of return, which compare to the appraisal estimates. According to the TE, 26.6% economic rate of return was expected at the point of project inception. At the end of the project, more realistic estimates by the TE range from 8.6% to 9.3%. This rate of return should be considered moderately satisfactory as GEF's focus as a grant making institution has to be on economic returns rather than financial or cash returns.

According to the TE a measure of efficiency with respect to global objectives is the unit abatement cost of avoided carbon emissions, which is the primary justification for GEF support. This was estimated at appraisal at \$3.16/tonne, while the actual is \$3.90 to \$5.45, depending on the future development scenario. While higher than expected, these figures compare favorably with benchmarks (\$10/ton) used in the Prototype Carbon Fund and the EU trading system.

Impacts

- **Has the project achieved impacts or is it likely that outcomes will lead to the expected impacts?**

The project's performance in achieving the expected impacts has been below expectations. The CO2 emissions have not reduced to the desired extent – the achievement is only 22% of expectations. This may marginally improve in future depending on future development of the project but will still be below the expectations at project initiation. There has been some demonstration value of the project; TE reports that project area has been visited by delegations from neighboring countries that are interested in adopting similar technologies.

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.

A Financial resources **Rating: MU**

According to the TE the MoE, the NFOS and its affiliated banking arm the BOS Bank, the Municipalities, and, the EkoFundusz, will continue to provide financial support to the Project. They will facilitate implementation of new investment components with funds (including equity and grants), and speedy processing, to facilitate PEC/GP in becoming financially viable. While this support is necessary to ensure financial sustainability, based on the analysis presented in the TE it could be said that the financial risk to

global environmental benefits of the project is high. For example, the Financial Rate of Return for the project is - 5.5%, The operating costs of producing energy is almost equal to revenues, making it difficult for the project to service the World Bank debt. .	
B Socio political	Rating: L
According to the TE there are no major socio political risks to sustainability of the project that are mentioned in the ICR. There are, on the other hand, good signs of political contentment from the fact that there are financial and political commitments from the Ministry of Economy and the Municipalities and that the Project continues to deserve their full support.	
C Institutional framework and governance	Rating: ML
At appraisal, the Project teams of Poland and the World Bank convinced the Central Government that there should be no royalty imposed on the use of geothermal resources. However, in 2005, a new mining law amendment introduced such a royalty, which will discourage potential investors into geothermal energy. Thus, the government renegeing on its other commitments could be an issue that poses some risk to the sustainability of global environmental benefits.	
D Environmental	Rating: L
According to the TE the Project has resulted in a well-designed and environmentally friendly geothermal district heating system with proven delivery capabilities located in a well-known Polish tourist attraction. No environmental risks are foreseen.	

A Financial resources	Rating: U
B Socio political	Rating: L
C Institutional framework and governance	Rating: MU
D Environmental	Rating: L

4.3 Catalytic role

1. Production of a public good
According to the TE, the most important public goods produced by the project include reduction in carbon emissions and reduction in local pollution.
2. Demonstration
The ICR mentions that through the project demonstration effects and dissemination activities, it has contributed to spawning a number of small Projects, in part even in the private Sector (Stargard, Trvdosin in Slovakia) and project ideas throughout the Europe and Central Asia (ECA) region. In this context, the Project was considered an important demonstration project by all stakeholders and actors, who from the beginning and mostly throughout implementation actively supported the project
3. Replication
The Podhale Geothermal Project has facilitated adoption of the geothermal energy technology in Poland and its neighbors (Czech Republic, Slovakia, Hungary). Although not the first geothermal Project in the region, it is the biggest, most visible and well known, and most complex (difficult topography). Through its demonstration effects and dissemination activities, it has contributed to spawning a number of small Projects, in part even in the private Sector (Stargard, Trvdosin in Slovakia) and project ideas throughout the Europe and Central Asia (ECA) region. Today, Polish experts, who “trained on the Project”, are advising potential geothermal project investors throughout the ECA region.
4. Scaling up

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

A. In retrospect, was the M&E plan at entry practicable and sufficient? (Sufficient and practical indicators were identified, timely baseline, targets were created, effective use of data collection, analysis systems including studies and reports, and practical organization and logistics in terms of what, who, when for the M&E activities)
The M&E plan at entry was practicable and sufficient. It was detailed, well structured, and had adequate arrangements to track project progress, among others, in terms of connections, sales by customer category, financial performance, as well as environmental parameters.
Rating: S

B. Did the project M&E system operate throughout the project? How was M&E information used during the project? Did it allow for tracking of progress towards projects objectives? Did the project provide proper training for parties responsible for M&E activities to ensure data will continue to be collected and used after project closure?

According to TE, comprehensive assessment of the projects results was facilitated due to presence of a well-designed and well implemented project M&E system. An initial weakness - that the M&E agency had not been selected by the time of Board presentation - was overcome and reporting appears to have been regular and comprehensive. However, TE suggests that the monitoring results were used more by the IA than by the project management.

Rating: MS

C. Was M&E sufficiently budgeted and was it properly funded during implementation?

Although this issue has not been directly covered in the TE, given that the M&E plan at entry was satisfactory and that the monitoring system was able to operate satisfactorily, it could be inferred that M&E was sufficiently budgeted and properly funded during implementation.

Rating: S

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

The M&E Plan and its related studies can serve as good example for other projects. The poor performance of the Project had its roots in the original overestimation of demand, which became apparent during the first two years of project implementation. The M&E Plan informed the management about the growing shortfalls and resulting poor financial performance. Consequently, many of the project components were rescaled.

4.5 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 Project, among the largest and most modern DH projects in Europe based on geothermal energy, has experienced many successes and failures that offer most valuable guidance for similar future projects. Important lessons learned as listed by the ICR include:

- Geothermal projects can bring major benefits, but are complex, with high up-front costs and significant geological risks. Careful geological studies of geothermal resources and careful market assessments, cost forecasts and financing plans are needed. These must be integrated to assure competitive heat prices, which will allow timely market penetration and commercial viability.
- It is critical for government at all levels to have a coherent strategy in support of renewable energy development. Policy coordination, legislative support, and grants that monetize externalities are needed for project success. Royalties on geothermal use and high property taxes on DH systems are counterproductive.
- A rational foundation for geothermal and other renewable energy projects can be provided only when grants are tied to external benefits that would otherwise not be monetized. Projects that do not receive support at this level cannot be expected to perform adequately in conventional commercial terms.
- Foreign exchange risk should be avoided in public municipal service projects, which only generate revenue in local currency. This issue should be addressed in Bank-financed projects.

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 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.

4.6.1 Comments on the summary of project ratings and terminal evaluation findings

In some cases the GEF Evaluation Office may have independent information collected for example,

through a field visit or independent evaluators working for the Office. If additional relevant independent information has been collected that affect the ratings of this project, included in this section. This can include information that may affect the assessment and ratings of sustainability, outcomes, project M&E systems, etc.
None

4.6.2 Quality of terminal evaluation report	Ratings
<p>A. Does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?</p> <p>The TE provides a thorough analysis and clear-sighted views on project weaknesses and Bank and Borrower performance shortfalls. It was strong in analytics as it also assessed project performance in terms of economic and financial rates of return. Annex 1, showing actual outcomes against appraisal projections; extensive use of Section 10 on areas of concern to the GEF; and the detailed lessons learned.</p>	S
<p>B. Is the report internally consistent, is the evidence complete/convincing and are the IA ratings substantiated?</p> <p>There are few inconsistencies in the TE. For example the TE accords high ratings to the project on sustainability although the evidence presented indicates high financial risk. Similarly, institutional issues have not been addressed at adequate depth. There appears to be an inherent discrepancy between the Unsatisfactory outcome rating and the Satisfactory Bank and Borrower performance ratings (given the limited role of factors outside project control). Apart from this, the TE report is internally consistent and the evidence is complete/convincing and the IA ratings have been substantiated.</p>	MU
<p>C. Does the report properly assess project sustainability and /or a project exit strategy?</p> <p>The TE provides an overall positive assessment of project sustainability. This is often inconsistent with evidence cited elsewhere. For example the TE accords high ratings to the project on sustainability although the evidence presented indicates high financial risk.</p>	U
<p>D. Are the lessons learned supported by the evidence presented and are they comprehensive?</p> <p>Yes, the lessons learned are supported by the evidence presented and are comprehensive.</p>	S
<p>E. Does the report include the actual project costs (total and per activity) and actual co-financing used?</p> <p>Yes, the report includes the actual project costs (total and per activity) and actual co-financing used.</p>	S
<p>F. Does the report present an assessment of project M&E systems?</p> <p>The report presents a very good assessment of project M&E systems.</p>	S

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:

No: X

Explain: No, a technical assessment of the project impacts described in the TE is not recommended, since the TE already elaborate on the technical aspect of the project in different parts of the report.

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

Project Appraisal Document, PIR