United Nations Environment Programme

Terminal Evaluation of the UNEP/GEF Project on "Energy Management and Performance Related Savings Scheme" (EMPRESS)

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Acronyms and Abbreviations

BASE	:	Basel Agency for Sustainable Energy
CEE	:	Central and Eastern Europe
CEMC	:	Czech Energy Management Centre
CP	:	Cleaner Production
CZK	:	Czech Kurona
DGEF	:	Division of Global Environment Facility Coordination (UNEP)
DTIE	:	Division of Technology, Industry and Economics (UNEP)
EBPD	:	Energy Building Performance Directive
EE	:	Energy Efficiency
EE-CP	:	Energy Efficiency – Cleaner Production
EMC	:	Energy Management Center
EMPRESS	:	Energy Management and Performance Related Savings Scheme
EPC	:	Energy Performance Contracting
ESCO	:	Energy Service Company
ESG	:	Energy Service Group
EU	:	European Union
GEF	:	Global Environment Facility
GHG	:	Greenhouse Gases
IOP	:	Industry Outreach Program
M&E	:	Monitoring and Evaluation
M&T	:	Monitoring and Targeting
MENA	:	Middle East and North Africa Region
NCPC	:	National Cleaner Production Center
PDF	:	Project Development Form (GEF)
PIR	:	Progress Implementation Review
SEA	:	Slovak Energy Agency
SEMC	:	Slovak Energy Management Centre
SIEA	:	Slovak Innovation and Energy Agency (ex-SEA)
SKK	:	Slovakian Kurona
SMART	:	Specific, Measurable, Acheivable and Attributable, Relevant and Realistic, Time-bound, Timely, Trackable and Targeted.
SMEs	:	Small and Medium Enterprises
TE	:	Terminal Evaluation
ToR	:	Terms of Reference
TUK	:	Technical University in Košice
UNEP	:	United Nations Environment Programme

I. Executive Summary

1- The Energy Management and Performance Related Savings Scheme (EMPRESS) project aimed at the promotion of industrial energy-efficiency using Monitoring and Targeting (M&T) as an energy management tool to save energy and reduce emissions of greenhouse gases. The project intended to build a market for this tool by coupling M&T with private sector financing.. Typically, an Energy Service Company (ESCO) provides the technical assistance needed for M&T operations to client firms, and helps to identify and to implement the energy savings measures and to support the investment costs. The ESCO is paid for its service and investment costs in regard to the energy savings the company achieved..

2- The project started in October 2003 and was originally planned to have a duration of 36 months. An extension of six months was granted to finalize ongoing project activities. Accordingly, the final project closing date was March 31, 2007. The total original budget was 9.18 M$, including 2.02 M$ from the GEF trust fund, 0.26 M$ from UNEP-DTIE, 0.4 M$ from Governments in kind contributions, and 6.5 M$ from the private sector for project activities.

3- This report constitutes the terminal evaluation (TE) of the EMPRESS project consisting of the review of the project outputs and outcomes and the assessment of the level to which project activities have been implemented and the extent to which objectives have been achieved.

4- The evaluation of the EMPRESS project has been carried out during the period June 15 to December 31, 2009. Field visits were organized to UNEP/DTIE in Paris, the Czech Republic and Slovakia from September 27 to October 8, 2009. Visits to three client companies that have implemented the M&T system under an ESCO financing scheme have been organized during the field trip.

5- In evaluating the project's achievements, one had to take the local context, the specifics of the M&T energy management, ESCO concepts and the resulting startup difficulties that the project had to overcome to be fully operational, into account. The M&T system is a very good energy management tool that has been proven effective in achieving and maintaining energy savings through very refine metering, monitoring and the analysis of energy consumptions of equipment or departments. ESCOs financing and reimbursement based on the achieved savings could be considered an innovative energy service and financing scheme. Industrial managers are not very familiar with the scheme; the contractual set up is complicated and requires the establishment of a reliable and unquestionable consumption reference baseline.

6- Experience has shown that M&T/ESCO is successful when long term business relationships are established that build the confidence of the client in the service. In this regard, the service starts, in a first phase, with the establishment of an energy consumption baseline, implementation of low cost measures and technical assistance for M&T installation and energy saving monitoring. Once the confidence of the client in the benefits of the M&T/ESCO service is well established, the identified energy conservation investment projects are considered for financing and implementation. They are either financed by the client or within the framework of an M&T/ESCO service contract. Typically, successful M&T/ESCO service requires at least one year of preparation and negotiations, and a three to four years implementation period with close technical assistance from the ESCO.

7- Accordingly, M&T/ESCO service is not the typical business scheme for which a viable market can be built quickly. Because of its particular business requirements, market build up has to be planned over a long term period. This explains the start up difficulties experienced by the project and the two year time period it took to sign the first service contract. This could have been anticipated at the project design phase. Additional financial resources should have been allocated to the Industry Outreach Program (IOP) and to an extensive scoping activity accordingly.

8- In spite of these limitations, the project managed to achieve most of its assigned objectives. Looking at the results from the project effectiveness assessment, the start-up constraints did not have any significant impact on the achievement of the project performance targets, but on its timing. The TE results confirmed that the overall project performance in terms of the planned outputs and outcomes is satisfactory. Two and a half years after the project end, project activities are being developed in the Czech Republic and Slovakia on a commercial basis. The field visits to selected sites confirmed the continuous active use of M&T, the ongoing technical assistance services by ESCOs and the achieved savings. The market prospects of the M&T/ESCOs in both, the Czech Republic and Slovakia, are very good. The acquired experience with the EMPRESS project and the M&T management tool have offered UNEP a good opportunity for the consolidation of the Energy Efficiency (EE) and Cleaner Production (CP) concepts and to make the CP-EE approach more practicable and cost-effective for SMEs.

9- The evaluation of the EMPRESS project operations shows two important lessons, one on targeting "Private Sector Participation and Mobilization" and the other on the timely use of Monitoring and Evaluation (M&E).

10-Private Sector Participation: The EMPRESS project concept had strong private business components. In this regard, the project design should better have taken into account the need for rapid reactivity, management flexibility and above all, the specific characteristics of the targeted business: ESCOs and EE services. Lessons learned from ESCO development in other countries show that buildings market segment is the core business of ESCOs. It is easy to implement, has less risks and could be very profitable. Even if the main aim of the project was the industrial sector, enlarging the scope of the project to the building sector would have helped to overcome the initial start-up problems. EMPRESS could have started with the easiest market segment by implementing M&T in buildings and then extend its efforts to the more complex industrial plants that require more experience and marketing efforts.

11- M&E: A project mid-term evaluation has not been done and the terminal evaluation has been done two and a half years after the project ended. It seems that the underlying justification of the absence or delay of the evaluations is the myth that there should be tangible results for an evaluation to take place. Why would one undertake an EE project evaluation if there is no energy savings to show? This is a misconception of the M&E system role. A timely mid-term evaluation of the EMPRESS project would have, in the absence of substantial deliverables at that time, helped to identify operational constraints and pertinent recommendations to overcome the experienced problems. With more management reactivity and the implementation of the proposed corrective and remedial actions, valuable time and resources would have been saved.

12- Concerning the catalytic role and replication of the project, it is worthwhile to mention that, the M&T system, as management tool, is widely used for energy savings, but could also be applied to water savings, material flows' optimization and cleaner production. In fact the M&T management tool could play a catalytic role in making the CP-EE approach more practicable and cost-effective for SME. In this regard it should be noted that UNEP/DTIE developed, under the EMPRESS project, a simplified M&T tool to help professionals start with the systematic exploration of energy efficiency opportunities within their sites. The tool is designed primarily for self-help in managing energy efficiency within SME size industrial facilities. It addresses the common problem experienced by many companies: the lack of control over the energy costs within industrial sites. The tool is available on the Energy Branch web site and was introduced to National Cleaner Production Centres in more than 27 countries worldwide and other individual users[1].

[1] http://www.unep.fr/scp/

13- Replicability of the M&T/ESCOs services is likely as they have proven to be effective in energy savings. The experience acquired through the EMPRESS project should be used for the optimal design and implementation of similar M&T based EE and CP integrated projects. Given the synergy of the M&T approach with the ongoing UNEP-DTIE CP activities and the existing UNEP National Cleaner Production Center (NCPC) network, the MENA region would offer a good development opportunity for such program.

II. Introduction and Background

14- Monitoring and Targeting (M&T) is a modern management tool designed to improve companies' productivity. It sets performance targets and monitors the progress, or lack of progress, toward targeted objectives. It is widely used for energy savings, but could also be applied to water savings, material flows optimization and cleaner production.

15- In the context of energy, M&T relates energy consumption to key parameters and helps to gain a better understating of energy efficiency. M&T requires the installation of meters and M&T software. These are backed up by technical assistance to design the energy monitoring system specifications, to assist in its installation, to help monitor project results, and to identify energy savings opportunities. Once implemented, the impact of the implemented measures can be directly checked and monitored by the M&T system.

16- The EMPRESS project aimed at energy savings in industrial units in the Czech Republic and Slovakia through the promotion and implementation of M&T as an energy management tool. The project intended to build a market for the approach by coupling M&T with private sector financing based on the expected energy savings. Typically, an Energy Service Company (ESCOs) provides the technical assistance needed to client firms for M&T operation, helps to identify and implement the energy savings measures and supports the investment costs. The ESCO is paid for its service and investment costs from the energy savings the company achieved. In ESCOs' financial schemes, the M&T tool plays a crucial role for the establishment of energy consumption reference level that is used for the savings evaluation.

17- As designed, the EMPRESS project aimed at the promotion of industrial energy-efficiency (EE) using M&T as an energy management tool to save energy and reduce greenhouse gas emissions. The project had three main objectives i) to create an institutional framework for M&T energy management services and to develop EE and M&T markets in the Czech Republic and Slovakia; ii) to remove barriers to M&T energy services development, and iii) to promote the concept of M&T globally.

18- The project activities were justified by the results of a Project Development Form (PDF) B study carried out in 2000 under a GEF grant to determine whether M&T ESCOs made sense for CEE countries, and if so, under what conditions they might be created and sustained in a competitive market. The study concluded that the potential savings are important and the payback periods short enough to make an M&T project attractive. With appropriate measures to overcome the identified barriers especially with adequate financing arrangements, the study confirmed that a viable market for M&T/ESCOs can be created and sustained by a GEF supported project such as EMPRESS.

19- The programme activities are listed in the Terms of References (ToR) provided in Annex 1. The expected project outcomes can be summarized as follows:

- Establishment of commercially viable markets for M&T energy management services coupled with an ESCO financing option in the Czech Republic and Slovakia.
- Significant improvements in industrial and commercial end-user energy efficiency and reductions in greenhouse gas emissions.
- Increased opportunities to promote M&T as an energy management tool.

20- The project started in October 2003 and was originally planned to have a duration of 36 months. An extension of six months was granted to finalize ongoing project's activities. Accordingly, the final project closing date was March 31, 2007.

21- The original budget was 9.18 M$, including 2.02 M$ from the GEF trust fund, 0.26 M$ from UNEP-DTIE, 0.4 M$ from Governments in kind contributions, and 6.5 M$ from the private sector for project activities.

22- The EMPRESS project has been managed by UNEP's Paris-based Division of Technology, Industry and Economics (DTIE). For the project implementation, UNEP-DTIE worked with the Slovak Energy Agency, ENVIROS, Czech and Slovak Ministries of Environment and ESCOs companies in both countries. UNEP-DTIE was assisted in the implementation of the project's activities by the Basel Agency for Sustainable Energy (BASE), a UNEP-DTIE Collaborating Center that focuses on the financing of energy efficiency and renewable energy projects.

23- The terminal evaluation of the EMPRESS project has been carried out during the period June 15 to December 31, 2009. Field visits were organized to UNEP/DTIE in Paris, the Czech Republic and Slovakia from September 27 to October 8, 2009. Visits to three client companies that have implemented the M&T system under an ESCO financing schemes have been organized during the field trip: PD-Refractories and Celectica (electronic components assembly) in the Czech Republic and PPC insulators (electro-porcelain insulators) in Slovakia (see Annex 2 for complete list of the persons met and interviewed).

24- Despite the fact that the terminal evaluation took place two and a half years after the formal closing of the project activities, all relevant documents and information required for the project's evaluation could be gathered during the mission. This has been possible thanks to the collaborative efforts of the still active project stakeholders and to the still ongoing M&T/ESCOs activities in both the Czech Republic and Slovakia.

25-The details of the evaluation results rating the performance of the project activities are presented in the following paragraphs.

III. Scope, Objectives and Methods of the Evaluation

26- This TE aims at the review of the EMPRESS project outputs and outcomes and the assessment of the level to which project activities have been implemented and the extent to which objectives have been achieved. In other words, as stated is the mission ToR, "The aim of the evaluation is to establish whether the project achieved its objective of promoting Monitoring and Targeting, or M&T as an industrial energy management tool to reduce emission of greenhouse gases in the Czech Republic and Slovakia."

27- The evaluation also has to assess project's performance, activities implementation and planned outputs against actual results. More specifically the evaluation mission should provide justified answers of the following main questions:

- Has the project established commercially viable markets for M&T energy management services in the Czech Republic and Slovakia?
- Are there significant improvements in Industrial and commercial end users energy efficiency in the Czech Republic and Slovakia?
- Has the project increased awareness of M&T as an energy management tool?

28- The evaluation approach included the following tasks:

- Desk review of project documents;
- Review of specific project outputs, namely reports, publications and websites;
- Field visit and direct interviews with concerned UNEP/DTIE staff members involved in the Project;
- Field visits and interviews with relevant stakeholders in the Czech Republic and Slovakia;
- Email exchange and telephone interviews with various stakeholders involved in the project.

29- A list of persons interviewed is presented in Annex 2; the documents reviewed during the evaluation and the websites consulted are listed in Annex 3.

IV. Project Performance and Impact

4.1 Attainment of objectives and planned results

Effectiveness:

30- The project effectiveness is to be assessed against the project's performance indicators to measure the level of achievement of the project objectives. Five performance indicators have been set for the EMPRESS project:

a) Number and size of private sector firms offering M&T professional services to industrial clients in the two project countries.
b) Number and size of companies provided with M&T services in market based transactions and the value of such M&T services provided.
c) Annual turnover in the local M&T market and number of M&T efforts to achieve this turnover.
d) Amount of GHG emission reductions achieved through or in aftermath of M&T efforts compared to the pre-project baseline.
e) Availability and applicability of M&T training material, such as web site, best practice guide, case studies, lessons learned, and the level of use made of this material.

31- In evaluating the achievement of the project one has to take into account the local context, the specifics of the M&T energy management and ESCO concepts and the resulting startup difficulties that the project has to overcome to be fully operational. M&T system is a very good energy management tool that has been proven effective in achieving and maintaining energy savings through very refine metering, monitoring and analysis of equipment (departments) energy consumptions. While it is common, ESCOs financing and reimbursement based on the achieved savings could be considered as innovative energy service and financing scheme. Industrial managers are not very familiar with the scheme; the contractual set up is complicated and requires the establishment of a reliable and unquestionable consumption reference baseline.

32- Experience has shown that M&T/ESCO successful implementation is done through building a long term business relationship to secure progressively the confidence of the client in the service. In this regard, the service starts with a first phase of energy consumption baseline establishment, implementation of low cost measures and technical assistance for M&T installation and energy savings monitoring. Once the confidence of the client in the benefits of the M&T/ESCO service is well established, the identified energy conservation investment projects are then considered for financing and implementation. They are either financed by the client company or within the framework of an M&T/ESCO service contract. Typical successful M&T/ESCO service requires at least one year preparation and negotiation and three to four years' implementation period with a close technical assistance from the ESCO during this period.

33- Accordingly, M&T/ESCO service is not the typical business scheme for which a viable market can be build quickly. Because of its particular business requirements, market build up for M&T/ESCO has to be planned over a long term period.

34- Besides the particularities of the M&T/ESCO business, project institutional setting, ESCOs selection, capacity building, contracts and operational procedures took more than one year to finalize and validate. This explains the start up difficulties experienced by the project and the two year time period it took to sign the first service contract. It also justifies the decision made at the project's annual meeting, on 24 January 2006, *to change the target for number of sites supported by the subsidy within EMPRESS from 15 to 10* (Reference [23])**.**

35- Concerning CO2 emissions reductions and investments in M&T, the project's performance was evaluated with respect to the expected contractual values, guaranteed by the M&T contracts. This approach is deemed conservative since the contractual savings are usually underestimated by the ESCOs to lower their investment risks and to optimize the bonuses associated with extra savings achieved.

36- The project effectiveness evaluation with respect to the five assigned indicators is summarized in the tables below for the two targeted countries:

37- **Czech Republic**:

Indicator	Target	Achieved	Rating	Remarks
Number of private companies offering M&T services	2 providers	4 providers	HS	Companies still active: ENVIROS, Siemens, MVV and EVC
Number of companies provided with M&T	30 scoping audits 10 M&T implementation contracts	31 scoping audits 10 M&T implementation contracts	S	The original target had been to provide 15 companies with M&T. This number was adjusted to 10 after difficulties to mobilize clients. Judging from the energy consumption, most of the companies provided with M&T services are medium to large companies.
Annual turnover of the M&T market	2,5 M$	4,2M$	HS	The annual M&T turnover is calculated by the total investment of the M&T contracts divided by the average of the contracts periods
GHG emissions reduction achieved	150 000 t CO2	83 000 t CO2	MU	Non achievement of GHG emissions reduction target due to the decision to reduce the umber of companies for M&T implementation
Availability and applicability of M&T training materials	Web site Best practice guide Lessons learned case studies	Web sites Lessons learned Case studies Adaptation of the M&T to SMEs Integration of CP concept	S	Except for the best practice guide, awareness raising training materials has been developed as planned and their applicability was satisfactory
Overall project effectiveness rating			**S**	

38- The overall rating of the project effectiveness in the Czech Republic is "Satisfactory". All project indicators values are met except for the amount of GHG emissions reduction. The lower performance could be explained by the reduction of M&T contracts (10 instead of 15), but also by the over estimation of the adopted target value of 5000t CO2/year/company.

39- It is worth mentioning that based on the information gathered from ENVIROS in the Czech Republic and from the managers of the visited factories (PDD-Refractories, Celestica and PPC insulators), the actual energy savings of most implemented M&T projects are higher than the contractual guaranteed savings.

40- **Slovak Republic**:

Indicator	Target	Achieved	Rating	Remarks
Number of private companies offering M&T services	2 providers	2 providers	S	Companies still active: ESG and ECOSAL
Number of companies provided with M&T	10 M&T implementation contracts	14 M&T implementation contracts	HS	The original target had been to provide 15 companies with M&T. This number was adjusted to 10 after difficulties to mobilize clients. The serviced companies were in the range of SME. Their average energy consumption was higher than those of the pilot companies used in the project's design document.
Annual turnover of the M&T market	2,5 M$	Not available	MU	The amount of investment made by the clients was not available. Based on a typical average payback period of 1,5 to 2 years for EE projects, the investment could be estimated at 1,65 M$ which is lower than the indicator target value.
GHG emissions reduction achieved	150 000 t CO2	86 600 t CO2	MU	Non achievement of GHG emissions reduction target due to the decision to reduce the number of companies for M&T implementation
Availability and applicability of M&T training materials	Web site Best practice guide Lessons learned case studies	Web sites Lessons learned Case studies Adaptation of the M&T to SMEs Integration of CP concept	S	Except for the best practice guide, the awareness raising training materials for M&T has been developed as planned and their applicability was satisfactory
Overall project effectiveness rating			**S**	

41- The overall rating of the project activity in Slovakia is "Satisfactory". The number of active ESCOs offering M&T services in Slovakia is two, just meeting the project's performance indicator. This is less than the four companies active in the Czech Republic, which could be explained by the relative size of the two countries but also by the of EE activities and active ESCOs that already existed in the Czech Republic before the EMPRESS project started.

42- The relatively lower performance on GHG emissions reduction in the Czech Republic compared to Slovakia is due to the overestimated target value of 5000t/ plant/ year. The number of installed systems is "Highly Satisfactory": 14 for a set target of 10. However, the sizes of the client companies in Slovakia are much smaller than those of the Czech Republic. Based on their average energy consumption, M&T companies contracted in the Czech Republic are more than 4 times larger than those of Slovakia.

Country	Client companies' average energy consumption	
	MWh/year	M$/year
Czech Republic	109 339,00	3,43
Slovakia	22 538,07	1,09
Multiplying factor	**4,85**	**3,15**

References: [10] and [16]

43- The investment made by the clients companies into M&T services was not available for the evaluation. This has been circumvented using a typical payback time period for the calculation. Assuming a typical average payback period of 1,5 to 2 years for energy efficiency projects, the expected investment for contracted M&T providers has been estimated at 1,65 M$/year. Here again, the lower performance can be explained by the smaller size and overall energy consumption of the clients companies in Slovakia.

Relevance:

44- The expected project outcomes consisting, M&T use for energy efficiency projects in the industry sector fits very well with the GEF strategic long-term objective of the Climate Change focal area to *promote energy-efficient technologies and practices in industrial production.*

45- As a project promoting the wide use of the M&T management tool for the identification and implementation of energy efficiency and GHG emission mitigation activities, the EMPRESS project falls within UNEP-DTIE's core mandate to promote sustainable development practices in the industrial sector.

46- Moreover, the practice of M&T in the energy sector, promoted through the EMPRESS project, could be used to enrich and reinforce UNEP-DTIE's industrial cleaner production projects. Indeed, as a management tool, M&T could be effectively used in industrial water management, flow materials optimization and cleaner production projects. Hence, EMPRESS provides UNEP-DTIE with a good opportunity to integrate the M&T approach into its industrial sector projects.

Efficiency:

47- The operational start up of the project was significantly delayed. In fact the first M&T contract took two years to sign. This is too long for a three years project. A six month extension period was granted but the delay has affected the project's time efficiency.

48- The project's delay could be explained by the many challenges the project had to face. These were e.g.: the establishment and approval of a new approach to deal directly with private companies, the time required to establish the procedures and contractual templates, the selection and support of ESCOs, the specific nature of the ESCO/M&T service requiring an IOP and progressive approach for risk assessment and mitigation, the particular context of the EU access of the two targeted countries[2],

[2] Local companies of both countries are facing a more competitive environment within the EU market and a high risk for the future of their businesses. During the first years of their EU membership, most of the local companies were holding back on investments into new projects.

the long term nature of the M&T service contracts, limited savings for some SMEs and industries' reluctance to sign energy performance contracts, etc.

49- The project actual mobilized co-financing is summarized in the following table:

Co financing	UNEP-DTIE		Governments		Private sector (ESCOs and clients)		Total	
	Proposed	Actual	Proposed	Actual	Proposed	Actual	Proposed	Actual
Grants								
Loans/ Concessional/ market rate								
Credits								
Equity investments								
Committed in-kinds support	260,000	131,700	400,000	403,555			660,000	535,255
Other: leveraged resources					6,500,000	26,400,000	6,500,000	26,400,000
Total	**260,000**	**131,700**	**400,000**	**403,555**	**6,500,000**	**26,400,000**	**7,160,000**	**26 935 255**

50- The overall co-financing mobilization is "Highly Satisfactory" particularly for the leveraged resources which are 3.8 times higher than the originally proposed target.

51- Both Governments met their in-kind co-financing targets. UNEP-DTIE's actual co-financing was only half the amount of what was initially promised.

4.2 Sustainability of project outcomes

52- The main objective of the project is the development of a viable market for M&T and ESCOs services in the Czech Republic and in Slovakia. From the number of private companies that are currently offering their services in both countries for energy audits, M&T software installation and technical assistance services, ESCOs financing schemes etc; it can be asserted that the EMPRESS project has succeeded in the development of viable market for M&T based energy services. For proof, the number of M&T systems that have been installed by ENVIROS alone on a full commercial basis, after the project's end as shown in the following table:

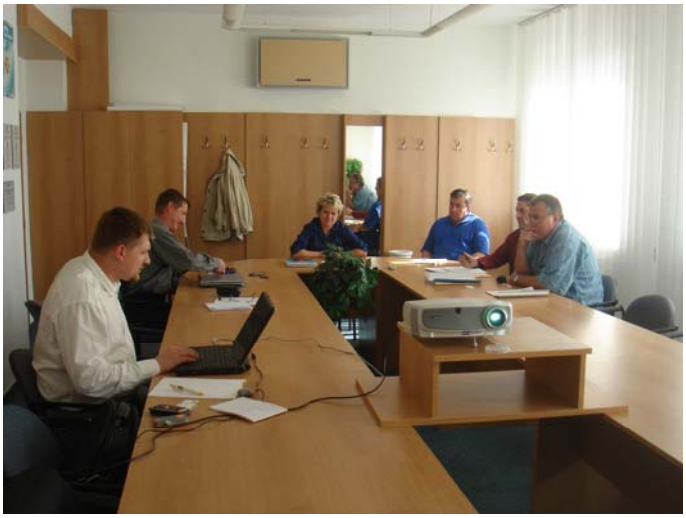
N°	Project	Company	Period	Implementation type
1	M&T system implementation	Kellog Bremen	2006 - 2007	M&T
2	Energy management system administration	Komercni Banka	2007 - 2009	M&T
3	M&T system implementation	Seco Jicin	2008 - 2009	M&T
4	Energy management system assessment	Datart	2008	M&T
5	M&T system implementation	Ligna	2008 - 2009	M&T
6	M&T system implementation	S.E.I.	2008 - 2009	M&T
7	M&T system implementation	P-D Refractories SY	2009	M&T
8	M&T system implementation	Moravia Lacto	2009	M&T
9	M&T system implementation	SPS Na Trebesine	2009	M&T
10	M&T system implementation	SPS Zeleny Pruh	2009	M&T

53- The progress has not been as impressive in Slovakia,. This could be explained by the additional challenges that were faced in this country : i) increased changes in the companies' ownership ii) deteriorated financial viability of local industries in face of the competition, iii) energy price uncertainty and iv) decreasing scope for energy efficiency improvements due to more focusing on production upgrades.

54- The two participating local ESCOs in Slovakia are still actively developing their energy services on a commercial basis. Three new M&T contracts have been signed since the end of the project. It is worth mentioning that both companies are very well positioned to capture the important energy audit market that should be triggered by the enactment of the new energy law in Slovakia which requires energy audits for important energy consumers[3].

55- Three industrial plants using M&T/ESCOs services (P-D Refractories and Celestica in the Czech Republic, and PPC Insulators in Slovakia) were visited and one institution was contacted by phone and email (Technical University of Kosice in Slovakia). The sites visits confirmed the continuous, active use of M&T, the ongoing technical assistance services provided by ESCOs and the achieved savings. All plant managers confirmed the effectiveness of M&T as energy management tool, in identifying energy savings opportunities and in continuous real-time monitoring of the impact of energy saving measures on energy consumption.

M&T biweekly technical meeting at P-D Refractories



56- The visit to P-D Refractories organized on 1 October 2009 coincided with the bi-weekly M&T technical meeting of the senior technical operating management with the ESCO energy expert. Attending the two hours meetings was very informative concerning the practical use and benefits of M&T, the collaborative working approach to analyze and discuss energy consumption variations, energy savings achieved and possible new measures to improve the plant energy performance. The discussion focused on the interpretation of the energy consumption monitoring results, comparison with the reference energy baseline and the energy savings achieved. Further specific energy savings measures and investments projects were also discussed during the meeting. Answering the evaluator's question on benefits of the M&T tool, the energy manager confirmed the general interest for the tool and the importance of the achieved savings. The guaranteed and achieved energy savings and GHG emissions reductions at P-D Refractories are summarized below for reference:

[3] New Energy Law, Act N°476/2008, enacted in Slovakia on January 1st, 2009.

Savings	Guaranteed over 36 months	Achieved in the first year
Energy savings	5,500 MWh	3,747 MWh
Energy bill savings	110,000 €	188,000 €
GHG emissions reduction	1,150 t CO2	1,851 t CO2

Source: Enviros and P-D Refractories

57- ***Financial resources:*** M&T service development does not rely on funding from the project. M&T market development is the best assurance that project outcomes are sustained and enhanced over time.

58- ***Socio-political aspects:*** The socio-political context at project start up in both targeted countries was not favorable for the development of M&T services. The uncertainties for industrial companies following the EU access due to the competitive requirements of the European market have been an important limiting factor to M&T service development in both countries. However – even though the global financial crisis had a strong impact on industrial companies and the energy sector – the overall global demand is favorable given high energy prices and the need for private industrial companies to cut their costs, in particular their energy bills, in order to be more competitive.

59- ***Institutional framework and governance***. As a private sector oriented project, the sustenance of the outcomes of the project is not much dependent on issues relating to institutional frameworks and governance. The project's outcomes and their sustainability are more dependent on issues related to business local environment, energy prices, industrial companies' competiveness, market development process, etc. The project's has helped set the required technical know-how for the M&T business development. The legal framework in both countries should help sustain the project's outcomes/benefits. In this regard, the new energy law that makes energy audits mandatory for important energy consumers will undoubtedly help develop the energy service market in Slovakia. The wide use of ESCOs services in the Czech Republic for energy management in public and administrative buildings like, hospitals and schools is also a very favorable factor that should sustain and help develop more M&T related services.

60- ***Environmental aspects:*** Project activities do not have any negative impact on the environment that could jeopardize the sustainability of the project's outcomes. On the contrary, project activities ensure the development and sustainability of the clients' business, energy resource preservation and GHG emissions reduction.

4.3 Achievement of outputs and activities

61- Project outputs and their performance indicators are presented in the table below. The assessment and rating with respect to the fixed target for each performance indicator is also presented in the table. Overall, with the exception of the number of EE projects implemented, the project has implemented its planned activities and met its targeted deliverables.

EMPRESS PROJECT OUPUT ASSESSMENT

Project Outputs:	Indicators:	Assessment	Achievement Rating
Two national M&T Offices established and operating	Number of national M&T Offices established	Two offices - Energy Management Centers for the promotion of M&T/ESCOs were established in the Czech Republic and in Slovakia at an early stage of the project start. The Czech EMC is managed by the Ministry of Energy and assisted by ENVIROS. In Slovakia, the EMC is managed by the Slovak Energy Agency. Both EMC are still operating after project termination.	100%
Various activities targeting M&T awareness building conducted	Number of activities targeting M&T awareness building conducted	25 technical seminars on EMPRESS and M&T/ESCO services were held in the Czech Republic and in Slovakia. The seminars targeted mainly potential industrial clients. EMPRESS project and M&T/ESCO energy services were also presented in 10 international events including international conferences, meetings of decision makers, expert workshops etc. At the start of the project activity, a study tour was organized in the UK for the training of the two countries' local technical staff.	100%
M&T ESCO partnerships formed	Number of M&T ESCOs formed	Seven M&T ESCOs qualified under the project selection criteria: four in the Czech Republic and three in Slovakia. Out of seven qualified ESCO project partners, six are still active two years after the project termination.	100%
M&T scoping audits conducted based on priory signed M&T participating agreements, a target of 30 per country	Number of M&T scoping audits conducted	In total some 58 scoping audits were carried out in the framework of the project activities: 31 in the Czech Republic and 27 in Slovakia.	97%

Project Outputs:	**Indicators:**	**Assessment**	**Achievement Rating**
Full-scale M&T projects and respective sites' specific M&T training carried out, based on shared energy savings contracts, a target of 10-15 per country	Number of shared energy savings contracts signed. Number of full-scale M&T projects and respective site specific M&T training carried out, a target of 10-15 per country.	Overall 24 M&T contracts have been: 10 in the Czech Republic and 14 in Slovakia. All signed contracts in the Czech Republic and most of the signed contracts in Slovakia are Energy Performance Contracts for which the service is paid based on the achieved energy savings. The signed contracts comprise scoping audits, monitoring equipment procurement and installation, M&T system installation, operational staff training, technical assistance for continuous monitoring of energy consumption, baseline establishment, energy savings projects identification and implementation.	100%
Energy efficiency projects developed and their financing identified	Number of financially attractive energy efficiency projects developed and their financing identified	The number of energy efficiency projects implemented during the contractual periods could not be directly checked during the terminal evaluation. But based on the resulting GHG emission reduction, the rate of EE projects' implementation could be estimated at around 57%.	57%
Project web site maintained and regularly updated; and project meetings and workshops held	Number of visits to the project web site. Number of meetings and workshops held	Three WEB sites have been developed and maintained during the project implementation period: one in English in UNEP Energy Branch, one in Czech Republic and one in Slovakia both in the national languages. The average number of visits to the WEB sites has been estimated at 122 visits/month.	100%
Case studies and lessons learned prepared and publicized	Number of case studies and lessons learned prepared and disseminated	Six case studies of the full scale M&T/ESCO implementation have been developed (three in each country). The case studies representing various sectors detailed information about the services provided, the approach used, the EE projects identified and implemented, the savings achieved as well as the lessons learned.	100%

62- Concerning the quality of the project outputs, according to the information gathered during the field trip and as reported in the different projects monitoring documents, no quality problem was reported for project outputs. The M&T clients met confirmed the quality and usefulness of the service provided and the use M&T tool to achieve energy savings. For the output timeliness, the project experienced major startup constraints that delayed the achievement of the project's outputs.

63- With regard to the *soundness and effectiveness of the methodologies used and to what extent the project outputs produced have the weight of scientific authority /credibility, necessary to influence policy and decision-makers, particularly at the local, national and regional level*, it is worthwhile to mention that M&T is usually used by the Czech Government to establish energy consumption reference baselines for public buildings for ESCOs bidding documents. That M&E enjoys scientific authority can be illustrated by the fact that is being used by the Technical University in Košice (TUK) in Slovakia. Though the university has not been involved in in the M&E design, it acknowledged the benefits of the tool and the energy savings that where achieved. A brief summary of the M&T TUK case study [20] is presented below:

64- The TUK has nine faculties[4], around 12,700 students, 900 professors and the same number of research and administrative staff works at the TUK. The energy bill of the TUK is estimated at 150 million SKK a year (around 5 M€). A scoping energy audit implemented with the framework of the EMPRESS project, has shown that the University could save 25% to 30% on its annual energy bill. The energy audit results convinced the TUK management to implement a M&T system with the technical assistance and financing of the Energy System Group (ESG)[5].

65- In order to implement the M&T management system, the TUK had to modernize and expand the existing water and energy common metering network. ESG proposed an optimal design of a new metering system that provides detailed energy consumption monitoring of each of the four campuses as well as their individual buildings. The old and the new metering systems were integrated in an automotive data collection and saving system. Overall a total of 220 energy and metering spots were installed in the four TUK campuses. All spots are monitored remotely.

66- As for the results achieved and the assessment of the TUK management, they are summarized below in the mail interview made with the Energy Manager at TUK.

[4] Faculty of Mining, Ecology, Process Control and Geotechnology; Faculty of Metallurgy; Faculty of Mechanical Engineering; Faculty of Electrical Engineering and Informatics; Faculty of Civil Engineering; Faculty of Economics; Faculty of Manufacturing Technologies seated in Prešov; Faculty of Arts and Faculty of Aeronautics

[5] The Energy System Group is one on the two ESCO project partners active in Slovakia.

Interview with Ing. Gabriel POLÁK, Energy Management Department, Technical University in Košice (by mail)

1-Is the M&T tool effective in achieving energy savings?
Yes, M&T tool significantly contributed to establish a systematic control method concerning energy consumption at our university. Real energy savings can be proven in full range.

2- Have the contracted savings been achieved?
Guaranteed energy savings have been even exceeded. According to the last update, they have been evaluated as follows:

Energy:	195 MWh
Heat:	4 189 MWh
Natural Gas:	75 368 MWh

3- What are the total savings guaranteed by the M&T contract[6]?
Total energy: 63 770 MWh

4- Has the technical assistance of ESG been effective in M&T installation/ energy saving measures identification and implementation?
During the time of M&T's implementation at TU Košice, the system was new – a genuine one by concept.. Various technical difficulties occurred at the beginning during the installation. Problems mostly concerned the installation of measurement network and the reliability of remote readings from measurement devices.

These problems needed some time to be eliminated. The system is currently working reliably and continuously.

5-Would you still need the assistance of ESG after the end of the contract?
The contract concerning delivery/ implementation and technical assistance of M&T at TU Košice from ESG Company expires in summer 2010.

One person from the Energy Management Department at TU has been selected by us in September. He will be responsible for maintenance of the system. This person is currently being trained. We expect signing a new contract (concerning only technical assistance) after the old one is expired. We expect this new contract to be signed for a period of 12 months.

6- Would you recommend the installation of M&T to another university or plant?
We didn't develop any kind of propagation towards external parties from our university so far. Although, M&T is a real good tool that can be used to manage and control energy consumptions. We can recommend the implementation of this system not only at universities, but generally anywhere, where there is an interest in refined energy management and effective savings.

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[6] This contract was signed between TUK and EMC/ESG as part of the EMPRESS project on 10 July 2007 for a period of three years.

4.4 Assessment of Monitoring and Evaluation systems

67- The assessment of the Monitoring and Evaluation (M&E) system of the EMPRESS project is made for project's design stage, the implementation stage and for the project's budgeting and funding.

68- ***M&E design***. The monitoring and evaluation system envisioned for the project is based on biannual progress reports for each country prepared by the project country managing director of the Energy Management Center (EMC). As the implementing agency of the project, UNEP-DTIE monitors the project progress and impact and publicizes the results of the project. It reports formally to UNEP/DGEF Coordination on the project activities through an annual Progress Implementation Reports (PIR)[3]. The project's monitoring and evaluation system includes also a mid-term and final evaluations according to UNEP's evaluation standards and procedures..

69- According to the project document [1], DTIE was to submit a Final Report detailing the activities taken under the project, lessons learned and any recommendations to improve the efficiency of similar future activities, to the Chief, Budget and Financial Management Service, with a copy to UNEP/DGEF Coordination. The report needed to be submitted within 60 days of the completion of the project.

70- The M&E system comprises external expertise to the project, to check the quality of randomly selected M&T ESCO operations and to determine the degree of project success in meeting its objectives in mid-term and terminal project report evaluations.

71- The baseline situation is well described in the project document. It is based on the results of a Project Development Facility B study carried out in the framework of the project preparation. The study helped to evaluate the potential market for M&T services in the targeted countries, to assess the feasibility of the ESCO financing scheme for M&T services, to estimate the potential energy savings and establish realistic targets for relevant project activities.

72- To help the project evaluation, five analytical performance indicators had been assigned to the project (see paragraph 30). The selected indicators are pertinent to assess the effectiveness and impact of the project activities. They are clearly defined and easy to apply. Except for the "Achievability"[7] aspect (see paragraphs 37-41), the selected indicators are SMART (Specific, Measurable, Attributable, Relevant and Time-bound).

73- M&E plan implementation: An effective M&E system should allow for timely tracking of results and progress toward projects objectives throughout the project implementation period. For EMPRESS the M&E was in place but not effectively and timely applied. Because of the start-up problems discussed above (paragraph 31), it took two years for the first M&T/ESCO contract to be signed. The M&E system has highlighted the local constraints for the project and explained the anticipated delays in the project deliverables. But no important corrective measure on the project activity plan, resource allocation or targeted performance levels has been made until January 2006, just 6 months before the planned project end. **The results reported by the project in 2004 and 2005 should have triggered fundamental and crucial amendments to the project's initial design.** This would have helped the project to achieve its targeted performance results earlier.

74- As for the PIR and the final reports, they were mostly descriptive on the achieved outputs and the constraints and challenges that the project had to face. These have been largely used to justify the important delays in the project's outputs. Here also, more proactive progress reviews would have proposed the early required adjustments to overcome the identified constraints and to ensure a timely delivery of the project's outputs.

[7] The CO2 emission reduction targets were overestimated at the project design level.

75- Given the difficulties in mobilizing industrial clients, the following measures would have helped to accelerate the achievement of results:

- More flexibility in the administrative approval process;
- More flexibility and responsibility for the country managers in terms of procedures, selection criteria, client types, etc.;
- More flexible financing scheme;
- Resources reallocation toward the outreach activities;
- M&T installation in commercial and public buildings.

76- **In other words, given the nature of the project dealing with the private sector and its ambition to create a viable market for M&T energy services, flexibility should have been the essence of the project management approach.**

77- ***Budgeting and Funding for M&E activities:*** A 50,000 US$ budget has been allocated to the monitoring and reporting in the global budget but the mid-term evaluation and the terminal evaluation were not specifically budgeted as such in the project document. If allocated to the project evaluations as was budgeted, this amount would have been adequate to undertake both the mid-term and final evaluations as initially planned.

78- The project midterm evaluation was not done and the terminal evaluation was done two and a half years after the official end of the project. This delay could have been a serious problem if access to the project documents, information and stakeholders contact had not been possible anymore. Thanks to the support and commitment of the involved stakeholders (UNEP-DTIE, UNEP/DGEF, EMCs in the Czech Republic and Slovakia), access to most information and documents required had been ensured for the TE. Incidentally, the two and a half years delay actually allowed for a better assessment of the achieved project performance and has shown the sustainability of its activities.

4.5 Replicability/Catalytic role

79- The replicability of the project concept, results and lessons learned are analyzed below at the targeted countries level and at different countries or geographical areas level.

80- One of the strongest points of the project and also one of its main challenges is the fact that it deals mainly with the private sector governed by fundamental market development rules. The M&T installation and ESCO services are private services that cannot be further developed and sustained without any replicability beyond the first client contracts that were carried out within the framework of the EMPRESS project. In fact, the M&T/ESCO has extended its activities during the project period to public and private buildings to adapt to the particular conditions of the market especially in Slovakia. Since then, 13 new M&T contracts have been signed on a commercial basis in the Czech Republic and in Slovakia (paragraph 52 on the "Sustainability of project outcomes"). In fact, the ESCOs in Slovakia are well positioned to meet the market that is being created by the new Energy Law which requires mandatory energy audits for large consumers. ESCOs in the Czech Republic have the technical capacity and the expertise to replicate M&T/ESCOs services in Eastern European and other countries.

81- Concerning the regional replication, the project has carried out a comprehensive participation program at international conferences[8], informing and reporting on the experience and benefits of the M&T/ESCO as an energy management tool. The M&T/ESCOs energy management concept has also been well publicized through brochures, flyers, case studies and three dedicated web sites.

82- The PDF B study carried out for the project preparation targeted the formerly planned economies of Central and Eastern Europe (CEE). These countries were reputed being among the least energy-

[8] In total ten international events, including conferences, meetings of decision makers and expert workshops.

efficient in the world. As part of the PDF B, CEE countries were reviewed in terms of potential markets, energy consumption levels, energy intensity, economic indicators, market risks and barriers, etc. Based on the study results it was decided to limit the project to the Czech Republic and Slovakia, initially with Hungary and Poland at a second phase to follow, in case the M&T/ESCO approach would prove to be successful. A project extension to these two countries should be considered if an update of the local context assessment could be done. However, given the synergy of the M&T approach with the ongoing UNEP-DTIE Cleaner Production activities and the existing UNEP NCPC network, the MENA region offers better outreach and development opportunities for the M&T concept.

83- In this regard, UNEP-DTIE has already initiated the promotion and development of an integrated approach of CP and EE. In fact the M&T management tool could play a crucial and valuable role in making the CP-EE approach more practicable and cost-effective for SMEs. For this purpose UNEP-DTIE has, in collaboration with the project partner ENVIROS developed a simplified and user friendly version of the M&T tool that can be downloaded by SMEs free of charge from the UNEP-DTIE web site[9]. This illustrates the catalytic role that the project has and the potential of the extension of its benefits to others sectors and geographical areas.

4.6 Preparation and readiness

84- The assessment of the **Preparation and Readiness** aspect of the project is addressed through the following four relevant questions:

a. Were the project's objectives and components clear, practicable and feasible within its timeframe? Were the capacities of executing institution and counterparts properly considered when the project was designed?
b. Were lessons from other relevant projects properly incorporated in the project design?
c. Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project implementation?
d. Were counterpart resources (funding, staff, and facilities), enabling legislation, and adequate project management arrangements in place?

85- **a-** The objectives and components of the project were clear but not practicable and feasible within the timeframe. The project underestimated the time required for the project's setup preparation, the identification of qualified M&T/ESCOs providers, selection and training, commercial marketing and mobilization of clients partners, etc. It took eight months just to start the first scoping audit[10] and two years to sign the first M&T/ESCO contract. The capacities of the executing institution and the counterparts, apart from the language barrier, were effectively taken into consideration in the project concept. It would have helped to choose an EMC director in Slovakia who could speak English.

86- **b-**This is one of the most critical issues of the project concept that explains the delays in the implementation of project activities. The ESCO business model has been largely used in numerous countries and published lessons learned from the practice of ESCOs financing scheme is available[11]. ESCO financing is a particular business model that takes time and expertise to establish. Building projects constitute an important segment of the ESCOs' market. Accordingly, M&T/ESCOs projects in buildings (public and commercial) should have been included in the project concept. ESCOs building projects are simple to implement, their baseline energy consumption easy to establish and they present less risks for the ESCOs.

[9] http://www.unep.fr/energy/information/tools/mt/
[10] In fact the first scoping audit was initiated in January 2004 (4 months after project start). However, the Project Manager halted the audit process until the finalization and approval of the MT/ESCO scheme. Major delays were caused by complicated procedures for feedback and approval of the scheme.
[11] See Reference [29] and more recent references in http://www.reeep.org/130/esco-model.htm

The integration of the building sector into the project concept would have speeded up the project start-up and provided the project with an on-the-job training opportunity for the selection, qualification and training of the M&T/ESCOs providers. **Limiting the market to industrial plants has hindered the project's effectiveness and significantly delayed the achievement of its outcomes.** In fact, the rational of excluding buildings from the project scope is hard to comprehend. This is even truer for EU member countries as the EU Energy Building Performance Directive (EBPD)[12] offers a legal incentive for the EE market development for buildings.

87- Another issue is working with the private sector. As conceived, the administrative set up and its procedures are too complex for a project that has the main objective of developing the market for M&T/ESCO services. Dealing with market development requires **flexibility** and above all **rapid responsiveness**. Those are the key golden rules for a successful market development approach. Here, the integration of lessons learned from other similar projects would have been helpful as well.

88- **c-** The institutional partnership arrangements were properly identified and the roles and responsibilities were negotiated clearly prior to project implementation. But the core partnership arrangements of the project were the ESCOs contractual models with the clients. These were part of the project action plan. In fact they were requisites to the project technical activities deployment.

89- **d-** The counterpart resources in terms of staff and facilities were in place at project start. ENVIROS played an important technical role for the needed M&T capacity building in both the Czech Republic and Slovakia. Committed co-financing was partially available but did not affect the project significantly as the overall leveraged additional resources were 3.8 times higher than the initially fixed target. Project management arrangements had been established as planned in the project document. Again, their simplification at the concept stage or after the first operational year would have helped the project to fully and timely achieve its targeted performance objectives.

4.7 Country ownership

90- Country ownership is assessed through the effectiveness of the project catalyzing the EE activities in the two targeted countries and their commitment to use M&T as an energy management tool.

91- The Czech and Slovak Energy Management Centers were established at project start and they both continue to operate beyond the project duration which is a good illustration for both countries' ownership and commitment to the project's strategic objective: development of a viable and sustainable market for M&T/ESCO services.

92- The EMCs cooperated closely with key stakeholders in the energy sector – Energy Agencies, Ministries, and Industrial Professional Associations – through the Project Advisory Board:. The Advisory Board in the Czech Republic and the Slovak Energy Agency (SEA) played an important role in providing support and feedback on the project implementation. Advisory Board members in the Czech Republic reaffirmed at a meeting held after the project termination, their commitment to continue their support to the M&T/ESCO service development.

93- A relevant indicator for country ownership and commitment is the high number of bids that the Czech Government has received from ESCOs energy management in public buildings.[13] These bids benefit mainly projects partners that have the valuable expertise for the M&T/ESCO service offers.

94- For the Slovak Republic, the continuous activities of the EMC within the SEA and its role in promoting a new enabling law on mandatory energy audits for large consumers is also proof of the

[12] The EBPD entered into force on 4.1.2003; deadline for transposition in the Members States 4.1.2006, see: http://europa.eu/legislation_summaries/energy/energy_efficiency/l27042_en.htm

[13] Bids from ESCOs for big projects at the level of regions or larger cities can be counted in tens in the Czech Republic.

country's ownership of the project objectives and its commitment to continue its support for EE activities.

4.8 Stakeholder participation / public awareness

95- The project stakeholders' participation and public awareness assessment is related to information dissemination, consultation and participation of the various actors involved or concerned by the project's different activities.

96- Achievement of project outcomes is closely related to its capacity to mobilize and convince industrial managers of the benefits of the M&T/ESCO services. For this purpose an important IOP has been put in place and implemented in both countries: overall more than 25 technical seminars on EMRESS and M&T/ESCO services were held in the Czech Republic and in Slovakia.

97- The project's IOP used a systematic approach for the priority target enterprise selection. From a database of approximately 1300 enterprises in the Czech Republic and 500 in Slovakia, the project's most promising clients were narrowed down to 200 in the Czech Republic and 84 in Slovakia. All these enterprises were invited to M&T seminars or/ and approached by telephone or visited for M&T/ESCO services. The mechanism put in place was fairly successful in mobilizing clients for the M&T/ESCOs services. But as it was said before, the mobilization efforts needed for ESCO service business development was underestimated. More resources should have been put into IOP to expedite the marketing process and to rapidly commit more clients to M&T/ESCO services.

98- The collaboration and interactions between the ESCOs, the EMCs and the implementation and the co-implementing agencies were effective. Close consultation meetings were held with the ESCO partners to identify constraints to clients' commitment and to monitor the achieved progress. Annual Project Management meetings were held (UNEP-DTIE, BASE and EMCs), to monitor the project progress and achievement and to make the relevant decisions to overcome the identified problems and operational constraints.

4.9 Financial planning

99- The initial project budget (Annex 4) provides the breakdown of the project activity costs as planned in the project documents. The project budget also comprises the details of the two main sub-contracts for the two co-implementing agencies BASE and the Slovak Energy Agency (SEA) and the breakdown of their sub-budgets.

100- Two amendments to the initial budget were made on 27 December 2005 and 14 September 2006. The latter was made to reflect the revision of the number of subsidized sites (from 15 to 10 sites in each country) and the 6 month extension period granted to the project.

101- The financial assessment of the TE is based on the following documents provided to the evaluator:

- Initial budget breakdown;
- Breakdown of the actual final project cost;
- Breakdown of the actual costs of the sub-projects with Base and SEA;
- Breakdown of the actual co-financing;
- Financial audits reports of the SEA, ENVIROS and Base expenditures.

102- The financial audit reports were reviewed. They all confirmed the conformity of the expenditures with the reported costs. The breakdowns of the planned budget and actual expenditures are in Annex 4 and 5.

103- No payment problems were reported in the project progress reports. Financial reporting and planning were done regularly to allow for a proper and timely flow of funds for the payment of expenses and project deliverables.

104- Project co-financing has been evaluated. The comparison of the proposed financing and the actual financial resources mobilized by the project are summarized in Annex 4 (Table D). As it was stated in paragraph 50, the overall co-financing mobilization is "Highly Satisfactory". Leveraged resources are 3.8 times higher than the initially proposed target. Both the Governments met their committed co-financing targets. UNEP-DTIE's actual co-financing is estimated at around half the amount initially committed.

105- The following table presents activities by group and the variations of the planned budget and the actual cost for the project budget and for the BASE and SEA sub-budgets. It should be noted that the originally planned financial resources for local technical assistance were significantly reduced within the final budget and reassigned to the financial administration of BASE which was not so effective on the technical aspects of the project.

Global

UNEP Code	Activities	Planned	Actual	Difference
10	Project Personnel Component	336 000	306 491,27	(29 509)
20	Sub Contract Component	1 669 000	1 669 132,30	132
40	Equipment And Premises Component	3 000	3 500,00	500
50	Miscellaneous Component	12 000	40 876,32	28 876
	TOTAL	**2 020 000**	**2 020 000**	**(0)**

UNEP/DTIE

UNEP Code	Activities	Planned	Actual	Difference
10	Project Personnel Component	336 000	306 491,27	(29 509)
20	Sub Contract Component	36 000	2 500,00	(33 500)
40	Equipment And Premises Component	3 000		(3 000)
50	Miscellaneous Component	12 000	24 203,72	12 204
	TOTAL	**387 000**	**333 195**	(53 805)

BASE

UNEP Code	Activities	Planned	Actual	Difference
10	Project Personnel Component	183 000	126 708,59	(56 291)
20	Sub Contract Component	1 140 000	1 217 143,71	77 144
40	Equipment And Premises Component			
50	Miscellaneous Component		682,60	683
	TOTAL	**1 323 000**	**1 344 535**	**21 535**

SEA

UNEP Code	Activities	Planned	Actual	Difference
10	Project Personnel Component	185 000	204 570,00	19 570
20	Sub Contract Component	104 000	118 210,00	14 210
40	Equipment And Premises Component	3 000	3 500,00	500
50	Miscellaneous Component	18 000	15 990,00	(2 010)
	TOTAL	**310 000**	**342 270**	**32 270**

4.10 Implementation approach

106- As planned, the project management framework was relatively complex requiring two co-implementation agencies BASE and SEA. This was justified by the fact that the project dealt with private sector clients and directly subsidized the M&T/ESCOs services.

107- The review of the project progress report, minutes of meetings and final reports confirmed that the project implementation set-up has been closely followed. But as it was stated before, the management mechanism was relatively complex with an additional decision/ validation level for the two co-implementing agencies. This has somehow delayed the decision making process and thus the pace of the project implementation.

108- **Dealing with the private sector requires flexibility in the management approach and more delegation authority to the country managers.**

109- The review of the project M&E documents, information gathered during the field mission and the stakeholders interviews confirmed that no major supervision problems were reported and that the project was executed according to the planned management system and procedures. **In fact this system has somehow hindered the project management to take corrective measures.** Progress reports from the first year should have triggered adaptive changes to address the operational constraints faced by the project (paragraph 73). The delays in addressing reported operational problems caused implementation delays.

4.11 UNEP-DTIE supervision and back-stopping

110- This terminal evaluation is essentially based on the documents provided and the interviews made during the visits to the UNEP/DTIE office in Paris and to the Czech Republic and Slovakia.

111- As implementation agency, UNEP-DTIE was assisted by BASE for the funds administration, by SEA and ENVIROS for day to day implementation supervision and management respectively in the Czech Republic and in Slovakia. UNEP-DTIE had the overall supervision role of the project's effective implementation according to the management plan and of the coordination and reporting to DGEF at UNEP-DTIE. In this regard, the responsibility to act on the persistent delays in M&T installations in the first years and to make adaptive changes was with UNEP-DTIE. However, this did not have an impact on the achievement of the project performance targets but on its timing.

V- Conclusions and rating

112- The project experienced considerable delay at start-up. Two years were required for the project management set-up, operational procedure validation, blue print contract finalization, ESCO mobilization and training. This has limited project effectiveness and had a negative impact on the timely achievement of its objectives.

113- The M&E system that had been envisioned for the project should have identified the operational constraints in time and provided recommendations for early corrective actions. In fact, problems with client mobilization were reported but lack of responsiveness delayed the corrective actions to the final phase of the project.

114- In spite of these limitations, the project managed to achieve most of its assigned objectives. The overall project performance in terms of outputs and outcomes is rated "Satisfactory". Two and a half years after project end, the project activities are being developed in the Czech Republic and Slovakia on a commercial basis. Field visits to selected sites confirmed the continuous active use of M&T, ongoing ESCO technical assistance services and achieved savings. The market prospects of the M&T/ESCOs in both the Czech Republic and Slovakia are very good. The acquired experience with the EMPRESS project and the M&T management tool has offered UNEP-DTIE a good opportunity for the integration of the EE and CP projects and for making the CP-EE approach more practicable and cost-effective for SMEs.

Criterion	Evaluator's Summary Comments	Evaluator's Rating
A. Attainment of project objectives and results (overall rating) Sub criteria (below)	Overall, despite some shortcomings, the project managed to overcome the inherent EE market constraints and the difficulties of ESCO services development; and achieved most of the assigned objectives	S
A. 1. Effectiveness	The rating of the project effectiveness in achieving its set objectives is "Satisfactory". Four out of five performance targets were met in the Czech Republic and three in Slovakia.	S
A. 2. Relevance	Project outcomes fit perfectly with the GEF strategic long-term objective for the focal area of Climate Change and are consistent with UNEP's mission. Both targeted countries priorities.	HS
A. 3. Efficiency	The project operational start up was significantly delayed. This has affected the project's efficiency.	MS
B. Sustainability of Project outcomes (overall rating) Sub criteria (below)	Two years after project end, the M&T and related energy services are being developed on a commercial basis. This is the best assurance that project outcomes will be sustained and enhanced over time.	S
B. 1. Financial	M&T /ESCO services are being developed on a commercial basis	HS
B. 2. Socio Political	The current context is very favorable for M&T/ESCO services development (high energy prices, new energy law in Slovakia, growing number of outsourcing energy management projects in the Czech Republic).	S
B. 3. Institutional framework and governance	Although the project has been implemented in collaboration with the SEA, the project's strategic aim was a private sector based market development for M&T/ESCO services .	S
B. 4. Ecological	The project activity has definitely a positive impact on the environment: resource preservation, GHG emissions and air pollution reduction	S
C. Achievement of outputs and activities	Overall, with the exception of the number of EE projects implemented, the project has largely met its targeted deliverables. Visits and interviews in the Czech Republic and in Slovakia have shown that M&T is highly appreciated and the guaranteed contractual savings have, in most cases, been exceeded.	HS
D. Monitoring and Evaluation (overall rating) Sub criteria (below)	The M&E system comprises external expertise to the project to check the quality of randomly selected M&T ESCO operations and to determine the degree of project success.. No such expertise missions were performed. The project mid-	U

Criterion	Evaluator's Summary Comments	Evaluator's Rating
	term evaluation was not done and the terminal evaluation was performed two and a half years after project end. The progress reporting failed to early trigger the required corrective measures.	
D. 1. M&E Design	The M&E design comprised PIR, external evaluations, mid-term and terminal evaluation.	S
D. 2. M&E Plan Implementation (use for adaptive management)	M&E was in place but not effectively and timely applied.	U
D. 3. Budgeting and Funding for M&E activities	Mid-term evaluation and the terminal evaluation were not specifically budgeted as such in the project document.	U
E. Replication/Catalytic Role	The local replicability of the project concept has been clearly shown in both countries. The concept has been successfully extended to the building sector in Slovakia. The project concept should be extended regionally after updating the local context assessment. The project has a high synergy potential with the ongoing UNEP-DTIE Cleaner Production activities. In this regard, UNEP-DTIE has already initiated the promotion and development of an integrated approach of CP and EE.	HS
F. Preparation and readiness	The objectives and components of the project were clear but not feasible within the timeframe. The integration of buildings into the project concept would have speeded up the project start-up and help achieve its objectives earlier. Partnership arrangements and counterpart resources: Satisfactory	MS
G. Country ownership /drivenness	Both the Czech Republic and Slovakia have shown active commitment to the project concept through the support of the ongoing M&T activities, outsourcing of public building energy management for ESCOs, and a new EE law..	S
H. Stakeholder involvement	Strong involvement of ESCOs in the project implementation and industrial clients' mobilization. The mechanism put in place was fairly successful in mobilizing clients for the M&T/ESCOs services. But more resources should have been put into local expertise and IOP to expedite the marketing process and to rapidly commit more clients to M&T/ESCO services.	S
I. Financial planning	The reported expenditures of the main project's partners BASE, SEA and ENVIROS have been audited and no discrepancies have been reported. The reorientation of financial resources	S

Criterion	Evaluator's Summary Comments	Evaluator's Rating
	from administrative management toward the project IOP and local expertise would have helped the project start-up and earlier achievement of its performance targets.	
J. Implementation approach	The project implementation set-up has been closely followed. However, the management structure was complex, requiring an additional decision/ validation level at the co-implementing agencies stage. This has delayed the decision making process and thus the implementation.	MS
K. UNEP Supervision and backstopping	Limited responsiveness to the persistent delays in M&T installations in the first years that should have triggered correcting changes.	MS
Overall Rating		S

VI- Lessons (to be) learned

115- Two important lessons that have a potential for wider application and use can be retained from the evaluation: i) on private sector participation and mobilization at the project design level, and ii) on the role of M&E and its benefits at the implementation phase.

116- ***Private sector participation:*** The EMPRESS project aimed at the market development for EE services through M&T software. As designed, the project's success was highly dependent on its capacity to embark private ESCOs and private industrial clients. Thus the project had strong private and business components that should have been taken into account during project design. Dealing with the private sector and market development requires rapid reactivity, management flexibility and above all a better understanding of the target business: ESCOs and EE services. Lessons learned from ESCOs development in other countries show that the building market segment is the core business of ESCOs; it is easy to implement, has less risks and could be very profitable. Even if the main aim of the project was the industrial sector, enlarging the scope of the project to buildings would have helped to overcome the initial start-up problems experienced by the project. EMPRESS could have started with the easiest market segment implementing M&T in buildings and then extend to the more complex industrial plants that require more experience and marketing efforts.

117- ***M&E:*** The EMPRESS project, the mid-term evaluation had not been done and the terminal evaluation has been done two and a half years after project end. It seems that the absence or delay of evaluations is due to the misconception that there should be tangible results for an evaluation to take place. Why would one undertake an EE project evaluation if there is no energy savings to show? A timely mid-term evaluation of the EMPRESS project would have helped, in the absence of substantial deliverables, in analyzing the project operational constraints and facilitated corrective actions. With more management reactivity and the implementation of the proposed corrective and remedial actions, valuable time and resources would have been saved.

118- On the practical level of project design and implementation, the lessons learned can be summarized as follows:

Project design stage

- A better understating of the ESCO business and the EE market should have allowed for more flexibility in the choice of targeted sectors and for diversified financial scheme offers.

Restricting the market to industrial plants and proposing a particular and unique financial scheme through ESCOs, based on the achieved energy savings, has limited the project effectiveness and delayed the achievement of its objectives;

- The financial resources for the planned mid-term and terminal evaluations should have been budgeted;
- A better financial resource allocation to the IOP and local technical expertise to carry out more scoping audits would have helped to expedite the M&T deployment process.

At the Project implementation phase:

- The administrative validation procedures should have been more flexible to allow for faster deployment of project activities;
- The project management should have been responsive to the requests from EMCs and consequent start-up delays and should have implemented remedial actions in time to enhance the project's efficiency;
- The mid-term evaluation should have been carried out even in the absence of tangible deliverables at that time.

119- As the present evaluation is done for a project that has ended, the suggestions should benefit future UNEP-DTIE activities.

120- ***Catalytic role and replication:*** As management tool, the M&T system and approach is widely used for energy savings, but could also be applied to water savings, material flow optimization and cleaner production. In fact the M&T management tool could play a catalytic role in making the CP-EE approach more practicable and cost-effective for SME. The UNEP-DTIE initiative to develop a user friendly version of the M&T tool for SMEs should be supported for a wider dissemination and use.

121- As for the replicability, the M&T/ESCOs services have proven to achieve energy savings. The experience acquired should be used for the optimal design and implementation of a similar M&T based EE and CP integrated project. Given the synergy of the M&T approach with the UNEP-DTIE CP activities, the existing UNEP NCPC sites offer a good development opportunity for such program.

ANNEX 1

TERMS OF REFERENCE

Terminal Evaluation of UNEP/GEF project - Energy Management and Performance Related Savings Scheme (EMPRESS) GF/4040-03-24 (4704); GFL/2720-03-4704

1. POJECT BACKGROUND AND OVERVIEW

This project, which started in September 2003 and concluded in October 2008, had the aim of promoting a proven industrial energy management tool, *Monitoring and Targeting*, or M&T, in the Czech Republic and Slovakia in order to reduce emission of greenhouse gases. Monitoring and Targeting is an energy saving technique that helps companies achieve and maintain efficiency improvements through the careful analysis of their metered energy consumption data. There was at the project inception very little awareness of Monitoring and Targeting as an energy management tool in Central and Eastern European countries and of the advantages it can bring in reducing costs and improving energy efficiency.

In countries where M&T is an accepted approach to energy management, professional firms offer it on a fee-for-service basis. In Central and Eastern Europe, a fee-for-service structure for this type of energy management service in industrial settings presented difficulties because it was unknown. The project aimed to build a market for the approach by coupling M&T support elements with private sector financing of costs for M&T audits and site training in client firms through an approach often used by Energy Service Companies (ESCOs).

The project had three main objectives:

Objective 1: – Create an institutional framework in the participating countries that supports over the long term a market for Monitoring and Targeting energy management services in Central and Eastern Europe.

Objective 2: – In the industrial sector, remove permanently barriers that prevent or reduce demand for M&T energy services so as to create a commercially viable M&T ESCO market.

Objective 3: Promote more widely the concept of M&T as an energy management tool that helps firms in developing countries reduce their energy costs and emissions of greenhouse gases.

Expected project outcomes were:

a) Establishment of commercially viable markets for Monitoring and Targeting energy management services coupled with an ESCO financing element in the Czech Republic and Slovakia, with the opportunity to replicate a successful approach to Hungary and Poland (possible Phase 2).
b) Significant improvements in industrial and commercial end-user energy efficiency and reductions in greenhouse gas emissions.
c) Increased opportunities to promote M&T as an energy management tool globally.

Linkages with other projects and UNEP-DTIE regular work programme

1. The EMPRESS project was linked to Cleaner Production activities being undertaken by UNEP-DTIE. UNEP-DTIE's Cleaner Production Programme catalyzes the implementation of policies and strategies that support a preventive environmental management approach, including energy use. UNEP-DTIE was helping Slovakia, the Czech Republic, and Hungary strengthen energy

management skills and capabilities at National Cleaner Production Centers through the GEF medium sized project *Promoting Industrial Energy Efficiency through a Cleaner Production / Environmental Management System Framework*. Hence in the Czech Republic and Slovakia there existed the possibility that energy efficiency investments identified as part of energy audits undertaken as part of this effort could feed into M&T ESCO investments.

2. The objectives of this project were also linked to the World Bank/IFC/GEF project entitled Hungarian Energy Efficiency Co-Financing Program 2 (HEECP2), which aimed at creating local capacity in Hungary to fund further energy-efficiency projects and applications.

3. EMPRESS also supported the objectives of the new World Bank/IFC/GEF project concept entitled *Commercializing Energy-Efficiency Finance,* which was to provide partial guarantees and credit enhancement mechanisms to support the financing of energy efficiency (EE) projects by domestic financial institutions in a number of countries including the Czech Republic and Slovakia. The ability of local banks and financial institutions to support attractive EE investments was enhanced by the fact that M&T programmes would provide a strong pipeline of commercially attractive projects.

4. In addition, industry outreach activities undertaken as part of the EMPRESS project were to link closely with national energy-efficiency programmes and other projects and initiatives to promote energy-efficiency in each of these countries, such as the Czech Center for Energy-Efficiency.

Executing Arrangements

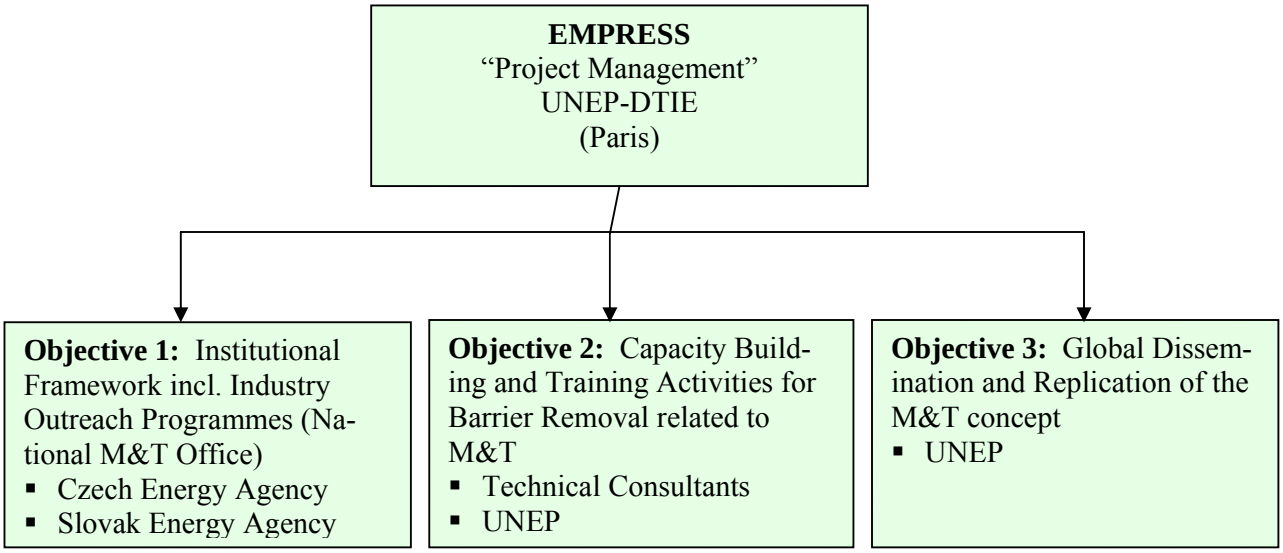
5. UNEP- DTIE (Division of Technology, Industry and Economics) based in Paris managed EMPRESS in collaboration with governments and stakeholders in the Czech Republic and Slovakia. UNEP-DTIE was responsible for:

   (a) Working with the Czech and Slovak Energy Agencies to establish a long-term institutional framework for the promotion of M&T as an energy management tool, including the design and implementation of Industry Outreach Programmes (objective 1).

   (b) Working with M&T service provider firms in the Czech Republic and Slovakia to support capacity building and training activities that remove barriers related to the provision and financing of M&T energy management services. This required increasing understanding and knowledge among stakeholders and sectors of the economy about the opportunities and benefits of M&T and how M&T energy savings programmes based on the M&T approach could be implemented (objective 2).

   (c) Disseminating globally the results from the project and the lessons learned to encourage replication (objective 3).

Project Management Structure



Proposed Membership of the EMPRESS Project Steering Committee:

- UNEP-DTIE (chair)
- GEF Secretariat
- EBRD
- Czech Energy Agency
- Slovak Energy Agency
- IFC

Meeting Frequency:
Twice yearly, via teleconferencing or in conjunction with relevant international meetings.

Purpose of Project Steering Committee:- The purpose of the project steering committee was to review progress and ensure that the EMPRESS project is on track to meet its objectives of:-

1. Establishing an institutional framework for implementing M&T ESCO activities in the Czech Republic and Slovakia
2. Undertaking training and capacity building activities to overcome awareness, market, and financial barriers related to M&T
3. Disseminating globally the results from the project and the lessons learned to encourage replication of the M&T ESCO approach

In addition, the Steering Committee was to ensure coordination with all other relevant GEF initiatives.

Programme Activities

OBJECTIVE 1 – CREATE AN INSTITUTIONAL FRAMEWORK THAT SUPPORTS M&T

Specific activities to achieve this objective included:

Activity 1.1	Assign a UNEP Project Manager, to be based in Paris.
Activity 1.2	Establish National M&T Offices within the appropriate section of the Czech and Slovak energy agencies. This activity would involve hiring a national project staff (one senior national M&T Country Manager, one junior professional, and administrative support, as necessary).
Activity 1.3	Develop a draft Project workplan (UNEP Project Manager in conjunction with National M&T offices).
Activity 1.4	Develop and implement with National M&T Offices a detailed programme of industry outreach activities.
Activity 1.5	Organize and conduct a Project Initiation Workshop in the Czech Republic bringing together all project participants to finalize the work programme and industry outreach activities, prepare finalized detailed workplans, and begin implementing the full project. The workshop will be combined with a detailed training programme for the national M&T country program managers. (See Activity 2.2 below.)
Activity 1.6	Monitor and Report on Project Activities. This includes meetings of the Project Steering Committee and all project Annual and Tri-Partite Reviews, as per GEF and UNEP procedures for monitoring, review, and evaluation.

OBJECTIVE 2 – REMOVE BARRIERS TO M&T

The means of achieving this objective was to work with one or more M&T service provider and ESCO financing companies in the Czech Republic and Slovakia to overcome (i) awareness and information barriers and (ii) financial barriers.

Activities to be undertaken included:

Activity 2.1	Organize and conduct a competitive tender for project technical services related to the barrier removal and M&T ESCO formation elements of the project.
Activity 2.2	Organize and conduct detailed training on M&T energy management for National M&T Offices.
Activity 2.3	Support translations of M&T training materials and energy shared savings contracts into local languages for use at the company level.
Activity 2.4	Work with governments and the private sector to undertake industry-outreach M&T awareness building activities (e.g., conduct 12 M&T one day awareness sales seminars per country each year for three years, prepare promotional material, M&T best practice guides, speak at seminars, participate in meetings, create an EMPRESS project website, and disseminate information to industry and industry associations on the benefits of M&T). This block of activities would remove information barriers preventing more widespread adoption of the M&T approach.
Activity 2.5	Conduct energy scoping audits at possible M&T sites in each country. The goal is a minimum of 30 scoping audits per country over three years.
Activity 2.6	Obtain legal commitments from interested sites to participate in a full M&T effort and provide additional on-site M&T training for company staff in firms that have signed up to an M&T energy savings scheme. The goal is at least 15 companies per country agreeing to participate in a full M&T effort.

Activity 2.7 Undertake M&T activities, including identifying, financing, and implementing site specific energy savings opportunities. The private sector partner(s) will be expected to finance the costs of meters, software, instruments through the 'M&T ESCO' established through the project.

Activities 2.8 Develop a pipeline of bankable energy efficiency projects identified in the course of the M&T efforts and present these to banks, local financial institutions, and mainstream ESCOs to bring about additional energy efficiency investments. Based on the PDFB study, $2.5 million dollars is indicated as a conservative estimate of investments to be made, although the potential for medium and high cost EE investment is likely to be much higher.

Activity 2.9 Support national M&T country managers to develop three detailed selected M&T case studies per county each based on a company that participated in the full M&T effort; each case study would examine barriers, risks, opportunities, and lessons learned.

Activity 2.10 Organize three Project workshops (one per year) that bring all key stakeholders in each participating country together to share information and experiences with a view to identifying and overcoming remaining barriers.

OBJECTIVE 3 – FURTHER DISSEMINATE THE M&T CONCEPT

Specific activities to achieve this objective included:

Activity 3.1 Create a Project Website and project promotional material. Selected materials will also be made available on CD-ROM and in hard copy.

Activity 3.2 Conduct an outreach workshop on M&T in Hungary.

Activity 3.3 Conduct an outreach workshop on M&T in Poland.

Activity 3.4 Publish and disseminate information on the detailed case studies prepared in the Czech Republic and Slovakia.

Activity 3.5 Analyze "lessons learned" in the removal of barriers for the implementation of M&T energy-savings programmes in Central and Eastern Europe to form the basis for further activities and investments.

Activity 3.6 Investigate opportunities for M&T ESCO investments in other countries by undertaking a study "Opportunities for promoting M&T globally", which would review the state of the market in selected key countries, and analyze risks and barriers to be overcome.

Activity 3.7 Determine with governments, GEF, IFC, EBRD (or other financial institutions), and M&T service providers whether or not to proceed with a Phase 2 of EMPRESS.

Activity 3.8 Prepare a project Final Report.

Budget

The total budget was US$ 9,180,000, US$ 2,020,000 funded by GEF, Co-financing US$7,160,000

TERMS OF REFERENCE FOR THE EVALUATION

1. Objective and Scope of the Evaluation

The aim of this terminal evaluation is to establish whether the project achieved its objective of promoting *Monitoring and Targeting*, or M&T as an industrial energy management tool to reduce emission of greenhouse gases in the Czech Republic and Slovakia. The evaluation will also assess project performance and the implementation of planned project activities and planned outputs against actual results. In addition, the evaluation will review the recommendations of the mid term review and their implementation. It will focus on the following main questions:

A. Has the project established commercially viable markets for M&T energy management services in the Czech Republic and Slovakia?

B. Are there significant improvements in Industrial and commercial end users energy efficiency in the Czech Republic and Slovakia?

C. Has the project increased awareness of M&T as an energy management tool?

2. Methods

This terminal evaluation will be conducted as an in-depth evaluation using a participatory approach whereby the UNEP/DGEF Task Manager, UNEP DTIE (Paris), key representatives of the executing agency and other relevant staff are kept informed and consulted throughout the evaluation. The consultant will liaise with UNEP/EOU, UNEP Energy Branch and the UNEP/DGEF Task Manager on any logistic and/or methodological issues to properly conduct the evaluation in as independent a way as possible, given the circumstances and resources offered.

The findings of the evaluation will be based on the following:

1. A desk review of project documents including, but not limited to:
   (a) The project documents, outputs, monitoring reports (such as progress and financial reports to UNEP and GEF annual Project Implementation Review reports) and relevant correspondence.
   (b) Other project-related material produced by the project staff or partners.
   (c) Relevant material published by GEF and the project team on the websites and published documents etc.

2. Interviews with project management and technical support including the Project Management in UNEP-DTIE, Czech Energy Agency and Slovak Energy Agency, and the Steering Committee members (which include IFC, EBRD, GEF Secretariat etc).

3. Interviews and telephone interviews with the stakeholders involved with this project including – Private companies and firms, workshops participants etc. The Consultant shall determine whether to seek additional information and opinions from other organisations.

4. Interviews with the UNEP/DGEF project Task Manager and Fund Management Officer, and other relevant staff in UNEP dealing with energy efficiency related activities as necessary

5. Field visits to the DTIE Paris, Czech Republic and Slovakia to meet with the project staff and the beneficiaries of the project.

Key Evaluation principles.

In attempting to evaluate any outcomes and impacts that the project may have achieved, evaluators should remember that the project's performance should be assessed by considering the difference between the answers to two simple questions ***"what happened?***" and ***"what would have happened***

anyway?". These questions imply that there should be consideration of the baseline conditions and trends in relation to the intended project outcomes and impacts. In addition, it implies that there should be plausible evidence to **attribute** such outcomes and impacts **to the actions of the project**.

Sometimes, adequate information on baseline conditions and trends is lacking. In such cases, this should be clearly highlighted by the evaluator, along with any simplifying assumptions that were taken to enable the evaluator to make informed judgements about project performance.

3. Project Ratings

The success of project implementation will be rated on a scale from 'highly unsatisfactory' to 'highly satisfactory'. In particular the evaluation shall assess and rate the project with respect to the eleven categories defined below:[14]

A. Attainment of objectives and planned results:

The evaluation should assess the extent to which the project's major relevant objectives were effectively and efficiently achieved or are expected to be achieved and their relevance.

- *Effectiveness:* Evaluate how, and to what extent, the stated project objectives have been met, taking into account the "achievement indicators". In particular, the analysis of outcomes achieved should include, *inter alia*, an assessment of the extent to which the project has resulted into establishment of commercially viable markets for Monitoring and Targeting energy management services coupled with an ESCO financing element in the Czech Republic and Slovakia and increased opportunities to promote M&T as an energy management tool globally.

  As far as possible, also assess the potential longer-term impacts considering that the evaluation is taking place upon completion of the project and that longer-term impact is expected to be seen in a few years time. Frame recommendations to enhance future project impact in this context. Which will be the major 'channels' for longer term impact from the project at the national and regional scales? The evaluation should formulate recommendations that outline possible approaches and necessary actions to facilitate an impact assessment study in a few years time.
- *Relevance*: In retrospect, were the project's outcomes consistent with the focal areas/operational program strategies? Ascertain the nature and significance of the contribution of the project outcomes to the wider portfolio of the UNEP.
- *Efficiency*: Was the project cost effective? Was the project the least cost option? Was the project implementation delayed and if it was, then did that affect cost-effectiveness? Assess the contribution of cash and in-kind co-financing to project implementation and to what extent the project leveraged additional resources. Did the project build on earlier initiatives, did it make effective use of available scientific and / or technical information. Wherever possible, the evaluator should also compare the cost-time vs. outcomes relationship of the project with that of other similar projects.

B. Sustainability:

Sustainability is understood as the probability of continued long-term project-derived outcomes and impacts after the project funding ends. The evaluation will identify and assess the key conditions or factors that are likely to contribute or undermine the persistence of benefits after the project ends. Some of these factors might be outcomes of the project, e.g. stronger institutional capacities or better informed decision-making. Other factors will include contextual circumstances or developments that are not outcomes of the project but that are relevant to the sustainability of outcomes. The evaluation should ascertain to what extent follow-up work has been initiated and how project outcomes will be sustained and enhanced over time.

[14] However, the views and comments expressed by the evaluator need not be restricted to these items.

Four aspects of sustainability should be addressed: financial, socio-political, institutional frameworks and governance, and environmental. The following questions provide guidance on the assessment of these aspects:

- *Financial resources.* Are there any financial risks that may jeopardize sustenance of project outcomes? What is the likelihood that financial and economic resources will not be available once the GEF assistance ends (resources can be from multiple sources, such as the public and private sectors, income generating activities, and trends that may indicate that it is likely that in future there will be adequate financial resources for sustaining project's outcomes)? To what extent are the outcomes of the project dependent on continued financial support?
- *Socio-political:* Are there any social or political risks that may jeopardize sustenance of project outcomes? What is the risk that the level of stakeholder ownership will be insufficient to allow for the project outcomes to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public / stakeholder awareness in support of the long term objectives of the project?
- *Institutional framework and governance.* To what extent is the sustenance of the outcomes of the project dependent on issues relating to institutional frameworks and governance? What is the likelihood that institutional and technical achievements, legal frameworks, policies and governance structures and processes will allow for, the project outcomes/benefits to be sustained? While responding to these questions consider if the required systems for accountability and transparency and the required technical know-how are in place.
- *Environmental.* Are there any environmental risks that can undermine the future flow of project environmental benefits? The TE should assess whether certain activities in the project area will pose a threat to the sustainability of the project outcomes.

C. Achievement of outputs and activities:

- Delivered outputs: Assessment of the project's success in producing each of the programmed outputs, both in quantity and quality as well as usefulness and timeliness.
- Assess the soundness and effectiveness of the methodologies used for developing the technical documents and related management options in the targeted project area.
- Assess to what extent the project outputs produced have the weight of scientific authority / credibility, necessary to influence policy and decision-makers, particularly at the local, national and regional level.

D. Assessment of Monitoring and Evaluation systems.

The evaluation shall include an assessment of the quality, application and effectiveness of project monitoring and evaluation plans and tools, including an assessment of risk management based on the assumptions and risks identified in the project document. The Terminal Evaluation will assess whether the project met the minimum requirements for 'project design of M&E' and 'the application of the Project M&E plan' (see minimum requirements 1&2 in Annex 4). GEF projects must budget adequately for execution of the M&E plan, and provide adequate resources during implementation of the M&E plan. Project managers are also expected to use the information generated by the M&E system during project implementation to adapt and improve the project.

M&E during project implementation

- *M&E design.* Projects should have sound M&E plans to monitor results and track progress towards achieving project objectives. An M&E plan should include a baseline (including data, methodology, etc.), SMART indicators (see Annex 4) and data analysis systems, and evaluation studies at specific times to assess

results. The time frame for various M&E activities and standards for outputs should have been specified.

- *M&E plan implementation.* A terminal evaluation should verify that: an M&E system was in place and facilitated timely tracking of results and progress towards projects objectives throughout the project implementation period (perhaps through use of a log frame or similar); annual project reports and Progress Implementation Review (PIR) reports were complete, accurate and with well justified ratings; that the information provided by the M&E system was used during the project to improve project performance and to adapt to changing needs; and that projects had an M&E system in place with proper training for parties responsible for M&E activities.
- *Budgeting and Funding for M&E activities.* The terminal evaluation should determine whether support for M&E was budgeted adequately and was funded in a timely fashion during implementation.

E. Replicability/Catalytic role:
What examples are there of replication and catalytic outcomes? Replication approach, in the context of GEF projects, is defined as lessons and experiences coming out of the project that are replicated or scaled up in the design and implementation of other projects. Replication can have two aspects, replication proper (lessons and experiences are replicated in different geographic area) or scaling up (lessons and experiences are replicated within the same geographic area but funded by other sources). Specifically: Evaluation should describe the catalytic or replication actions that the project carried out.

Assess whether the project has potential to be replicated, either in terms of expansion, extension or replication in other countries and/or regions and whether any steps have been taken by the project to do so and the relevance and feasibility of these steps

F. Preparation and Readiness
Were the project's objectives and components clear, practicable and feasible within its timeframe? Were the capacities of executing institution and counterparts properly considered when the project was designed? Were lessons from other relevant projects properly incorporated in the project design? Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project implementation? Were counterpart resources (funding, staff, and facilities), enabling legislation, and adequate project management arrangements in place?

G. Country ownership/ driveness:
This is the relevance of the project to national development and environmental agendas, recipient country commitment, and regional and international agreements. The evaluation will:

- Assess the level of country ownership. Specifically, the evaluator should assess whether the project was effective in providing and communicating information that catalyzed action in participating countries to improve decisions relating to the energy efficiency.
- Assess the level of country commitment to use the M&T as an energy management tool.

H. Stakeholder participation/ public awareness:
This consists of three related and often overlapping processes: information dissemination, consultation, and "stakeholder" participation. Stakeholders are the individuals, groups, institutions, or other bodies that have an interest or stake in the outcome of the UNEP financed

project. The term also applies to those potentially adversely affected by a project. The evaluation will specifically:

- Assess the mechanisms put in place by the project for identification and engagement of stakeholders and establish, in consultation with the stakeholders, whether this mechanism was successful, and identify its strengths and weaknesses.
- Assess the degree and effectiveness of collaboration/interactions between the various project partners and institutions during the course of implementation of the project.
- Assess the degree and effectiveness of various public awareness activities that were undertaken during the course of implementation of the project.

H. Financial Planning

Evaluation of financial planning requires assessment of the quality and effectiveness of financial planning and control of financial resources throughout the project's lifetime. Evaluation includes actual project costs by activities compared to budget (variances), financial management (including disbursement issues), and co- financing. The evaluation should:

- Assess the strength and utility of financial controls, including reporting, and planning to allow the project management to make informed decisions regarding the budget and allow for a proper and timely flow of funds for the payment of satisfactory project deliverables.
- Present the major findings from the financial audit if one has been conducted.
- Identify and verify the sources of co- financing as well as leveraged and associated financing (in co-operation with the IA and EA).
- Assess whether the project has applied appropriate standards of due diligence in the management of funds and financial audits.
- The evaluation should also include a breakdown of final actual costs and co-financing for the project prepared in consultation with the relevant UNON/DGEF Fund Management Officer of the project. (Table attached in Annex 2 Co-financing and leveraged resources).

I. **Implementation approach**:

This includes an analysis of the project's management framework, adaptation to changing conditions (adaptive management), partnerships in implementation arrangements, changes in project design, and overall project management. The evaluation will:

- Ascertain to what extent the project implementation mechanisms outlined in the project document have been closely followed. In particular, assess the role of the various committees established and whether the project document was clear and realistic to enable effective and efficient implementation, whether the project was executed according to the plan and how well the management was able to adapt to changes during the life of the project to enable the implementation of the project.
- Evaluate the effectiveness and efficiency and adaptability of project management and the supervision of project activities / project execution arrangements at all levels (1) policy decisions: Steering Group; (2) day to day project management.
- Assess whether the logical framework was used during implementation as a management tool and whether feedback from M&E activities more broadly was used for adaptive management.

K. UNEP Supervision and Backstopping

- Assess the effectiveness of supervision and administrative and financial support provided by UNEP DTIE and UNEP/DGEF.
- Identify administrative, operational and/or technical problems and constraints that influenced the effective implementation of the project.

The *ratings will be presented in the form of a table*. Each of the eleven categories should be rated separately with brief justifications based on the findings of the main analysis. An overall rating for the project should also be given. The following rating system is to be applied:

HS = Highly Satisfactory
S = Satisfactory
MS = Moderately Satisfactory
MU = Moderately Unsatisfactory
U = Unsatisfactory
HU = Highly Unsatisfactory

4. Evaluation report format and review procedures

The report should be brief, to the point and easy to understand. It must explain; the purpose of the evaluation, exactly what was evaluated and the methods used. The report must highlight any methodological limitations, identify key concerns and present evidence-based findings, consequent conclusions, recommendations and lessons. The report should be presented in a way that makes the information accessible and comprehensible and include an executive summary that encapsulates the essence of the information contained in the report to facilitate dissemination and distillation of lessons.

The evaluation will rate the overall implementation success of the project and provide individual ratings of the eleven implementation aspects as described in Section 3 of this TOR. ***The ratings will be presented in the format of a table*** with brief justifications based on the findings of the main analysis.

Evidence, findings, conclusions and recommendations should be presented in a complete and balanced manner. Any dissident views in response to evaluation findings will be appended in an Annex. The evaluation report shall be written in English, be of no more than 50 pages (excluding Annexes), use numbered paragraphs and include:

i) An **executive summary** (no more than 3 pages) providing a brief overview of the main conclusions and recommendations of the evaluation;

ii) **Introduction and background** giving a brief overview of the evaluated project, for example, the objective and status of activities; The GEF Monitoring and Evaluation Policy, 2006, requires that a TE report will provide summary information on when the evaluation took place; places visited; who was involved; the key questions; and, the methodology.

iii) **Scope, objective and methods** presenting the evaluation's purpose, the evaluation criteria used and questions to be addressed;

iv) **Project Performance and Impact** providing *factual evidence* relevant to the questions asked by the evaluator and interpretations of such evidence. This is the main substantive section of the report. The evaluator should provide a commentary and analysis on all eleven evaluation aspects (A − K above).

v) **Conclusions and rating** of project implementation success giving the evaluator's concluding assessments and ratings of the project against given evaluation criteria and standards of performance. The conclusions should provide answers to questions about whether the project is considered good or bad, and whether the results are considered positive or negative. The ratings should be provided with a brief narrative comment in a table (see Annex 1);

vi) **Lessons (to be) learned** presenting general conclusions from the standpoint of the design and implementation of the project, based on good practices and successes or problems and mistakes. Lessons should have the potential for wider application and use. All lessons should 'stand alone' and should:
   - Briefly describe the context from which they are derived
   - State or imply some prescriptive action;
   - Specify the contexts in which they may be applied (if possible, who when and where)

vii) **Recommendations** suggesting *actionable* proposals for improvement of the current project. In general, Terminal Evaluations are likely to have very few (perhaps two or three) actionable recommendations.

Prior to each recommendation, the issue(s) or problem(s) to be addressed by the recommendation should be clearly stated.

A high quality recommendation is an actionable proposal that is:

1. Feasible to implement within the timeframe and resources available
2. Commensurate with the available capacities of project team and partners
3. Specific in terms of who would do what and when
4. Contains results-based language (i.e. a measurable performance target)
5. Includes a trade-off analysis, when its implementation may require utilizing significant resources that would otherwise be used for other project purposes.

viii) **Annexes** may include additional material deemed relevant by the evaluator but must include:

1. The Evaluation Terms of Reference,
2. A list of interviewees, and evaluation timeline
3. A list of documents reviewed / consulted
4. Summary co-finance information and a statement of project expenditure by activity
5. The expertise of the evaluation team. (brief CV).

TE reports will also include any response / comments from the project management team and/or the country focal point regarding the evaluation findings or conclusions as an Annex to the report, however, such will be appended to the report by UNEP EOU.

Examples of UNEP GEF Terminal Evaluation Reports are available at www.unep.org/eou

Review of the Draft Evaluation Report

Draft reports shall be submitted to the Chief of Evaluation UNEP. The Chief of Evaluation will share the report with the corresponding Programme or Project Officer and his or her supervisor for initial review and consultation. The DGEF staff, UNEP DTIE and Executing Agency staff is allowed to comment on the draft evaluation report. They may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. The consultation also seeks feedback on the proposed recommendations. UNEP EOU collates all review comments and provides them to the evaluators for their consideration in preparing the final version of the report.

5. Submission of Final Terminal Evaluation Reports.

The final report shall be written in English and submitted in electronic form in MS Word format and should be sent directly to:

Segbedzi Norgbey, Chief,
UNEP Evaluation and Oversight Unit
P.O. Box 30552-00100
Nairobi, Kenya
Tel.: (254-20) 7623387
Fax: (254-20) 7623158
E-mail: segbedzi.norgbey@unep.org

The Chief of Evaluation will share the report with the following individuals:

Maryam Niamir-Fuller
Director
UNEP/Division of GEF Coordination
P.O. Box 30552
Nairobi, Kenya
Tel: + 254-20-7624165

FAX: + 254-20-7624041/4042
E-mail: maryam.niamir-fuller@unep.org

Amr Abdel Hai
Associate Coordinator
Energy Branch DTIE
United Nations Environment Programme (UNEP)
15 rue de Milan, 75441 Paris Cedex 09
France
Tel: +33 1 4437 7616
Fax: +33 1 4437 1474
E-mail: Amr.AbdelHai@unep.org

The final evaluation report will be published on the Evaluation and Oversight Unit's web-site www.unep.org/eou and may be printed in hard copy. Subsequently, the report will be sent to the GEF Office of Evaluation for their review, appraisal and inclusion on the GEF website.

6. Resources and schedule of the evaluation

This final evaluation will be undertaken by an international evaluator contracted by the Evaluation and Oversight Unit, UNEP. The contract for the evaluator will begin on **15 June 2009 and end on 31 December 2009 (28 days)** spread over 6.5 months. The evaluator will submit a draft report on 1 December 2009 to UNEP/EOU. The Chief of EOU will share the draft report with the UNEP/GEF Project Manager, UNEP DTIE and key representatives of the executing agencies. Any comments or responses to the draft report will be sent to UNEP/EOU for collation and the consultant will be advised of any necessary revisions. Comments to the final draft report will be sent to the consultant by 15th December 2009 after which, the consultant will submit the final report no later than 31st December 2009.

The evaluator will after an initial telephone briefing with EOU and UNEP/GEF then travel to the DTIE Paris offices to meet with project staff and later travel to the Czech Republic and Slovakia to meet with the project staff and the beneficiaries of the project.

In accordance with UNEP policy, all UNEP projects are evaluated by independent evaluators contracted as consultants by the EOU. The evaluators should have the following qualifications:

The evaluator should not have been associated with the design and implementation of the project. The evaluator will work under the overall supervision of the Chief, Evaluation and Oversight Unit, UNEP. The evaluator should be an international energy expert. The consultant should have the following minimum qualifications: (i) experience in energy management and planning. (ii) experience with management, implementation and evaluation of projects (Knowledge of UNEP programmes and GEF activities and activities is desirable. Fluency in oral and written English is necessary

7. Schedule Of Payment

Lump-Sum Option

The evaluator will receive an initial payment of 30% of the total amount due upon signature of the contract. A further 30% will be paid upon submission of the draft report. A final payment of 40% will be made upon satisfactory completion of work. The fee is payable under the individual Special Service Agreement (SSA) of the evaluator and is inclusive of all expenses such as travel, accommodation and incidental expenses.

In case, the evaluator cannot provide the products in accordance with the TORs, the timeframe agreed, or his products are substandard, the payment to the evaluator could be withheld, until such a time the products are modified to meet UNEP's standard. In case the evaluator fails to submit a satisfactory final product to UNEP, the product prepared by the evaluator may not constitute the evaluation report.

Annex 1. OVERALL RATINGS TABLE

Criterion	Evaluator's Summary Comments	Evaluator's Rating
A. Attainment of project objectives and results (overall rating) Sub criteria (below)		
A. 1. Effectiveness		
A. 2. Relevance		
A. 3. Efficiency		
B. Sustainability of Project outcomes (overall rating) Sub criteria (below)		
B. 1. Financial		
B. 2. Socio Political		
B. 3. Institutional framework and governance		
B. 4. Ecological		
C. Achievement of outputs and activities		
D. Monitoring and Evaluation (overall rating) Sub criteria (below)		
D. 1. M&E Design		
D. 2. M&E Plan Implementation (use for adaptive management)		
D. 3. Budgeting and Funding for M&E activities		
E. Replication/Catalytic Role		
F. Preparation and readiness		
G. Country ownership / drivenness		
H. Stakeholders involvement		
I. Financial planning		
J. Implementation approach		
K. UNEP Supervision and backstopping		
Overall Rating		

RATING OF PROJECT OBJECTIVES AND RESULTS

Highly Satisfactory (HS): The project had no shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Satisfactory (S): The project had minor shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Moderately Satisfactory (MS): The project had moderate shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Moderately Unsatisfactory (MU): The project had significant shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Unsatisfactory (U) The project had major shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Highly Unsatisfactory (HU): The project had severe shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

Please note: Relevance and effectiveness will be considered as critical criteria. The overall rating of the project for achievement of objectives and results may not be higher than the lowest rating on either of these two criteria. Thus, to have an overall satisfactory rating for outcomes a project must have at least satisfactory ratings on both relevance and effectiveness.

RATINGS ON SUSTAINABILITY

A. Sustainability will be understood as the probability of continued long-term outcomes and impacts after the GEF project funding ends. The Terminal evaluation will identify and assess the key conditions or factors that are likely to contribute or undermine the persistence of benefits after the project ends. Some of these factors might be outcomes of the project, i.e. stronger institutional capacities, legal frameworks, socio-economic incentives /or public awareness. Other factors will include contextual circumstances or developments that are not outcomes of the project but that are relevant to the sustainability of outcomes..

Rating system for sustainability sub-criteria

On each of the dimensions of sustainability of the project outcomes will be rated as follows.

Likely (L): There are no risks affecting this dimension of sustainability.

Moderately Likely (ML): There are moderate risks that affect this dimension of sustainability.

Moderately Unlikely (MU): There are significant risks that affect this dimension of sustainability

Unlikely (U): There are severe risks that affect this dimension of sustainability.

According to the EOU, all the risk dimensions of sustainability are deemed critical. Therefore, overall rating for sustainability will not be higher than the rating of the dimension with lowest ratings. For example, if a project has an Unlikely rating in any of the dimensions then its overall rating cannot be higher than Unlikely, regardless of whether higher ratings in other dimensions of sustainability produce a higher average.

RATINGS OF PROJECT M&E

Monitoring is a continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing project with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds. Evaluation is the systematic and objective assessment of an on-going or completed project, its design, implementation and results. Project evaluation may involve the definition of appropriate standards, the examination of performance against those standards, and an assessment of actual and expected results.

The Project monitoring and evaluation system will be rated on 'M&E Design', 'M&E Plan Implementation' and 'Budgeting and Funding for M&E activities' as follows:

- Highly Satisfactory (HS): There were no shortcomings in the project M&E system.
- Satisfactory(S): There were minor shortcomings in the project M&E system.
- Moderately Satisfactory (MS): There were moderate shortcomings in the project M&E system. Moderately Unsatisfactory (MU): There were significant shortcomings in the project M&E system. Unsatisfactory (U): There were major shortcomings in the project M&E system.
- Highly Unsatisfactory (HU): The Project had no M&E system.

"M&E plan implementation" will be considered a critical parameter for the overall assessment of the M&E system. The overall rating for the M&E systems will not be higher than the rating on "M&E plan implementation."

All other ratings will be on the six point scale.

Performance Description		Alternative description on the same scale
HS	= Highly Satisfactory	Excellent
S	= Satisfactory	Well above average
MS	= Moderately Satisfactory	Average
MU	= Moderately Unsatisfactory	Below Average
U	= Unsatisfactory	Poor
HU	= Highly Unsatisfactory	Very poor

Annex 2. Co-financing and Leveraged Resources

Co-financing (basic data to be supplied to the consultant for verification)

Co financing (Type/Source)	IA own Financing (mill US$)		Government (mill US$)		Other* (mill US$)		Total (mill US$)		Total Disbursement (mill US$)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
– Grants										
– Loans/Concessional (compared to market rate)										
– Credits										
– Equity investments										
– In-kind support										
– Other (*) - - - - -										
Totals										

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

Leveraged Resources

Leveraged resources are additional resources—beyond those committed to the project itself at the time of approval—that are mobilized later as a direct result of the project. Leveraged resources can be financial or in-kind and they may be from other donors, NGO's, foundations, governments, communities or the private sector. Please briefly describe the resources the project has leveraged since inception and indicate how these resources are contributing to the project's ultimate objective.

Table showing final actual project expenditure by activity to be supplied by the UNEP Fund management Officer. (insert here)

Annex 3: Review of the Draft Report

Draft reports submitted to UNEP EOU are shared with the corresponding Programme or Project Officer and his or her supervisor for initial review and discussion. The UNEP Division staff and senior Executing Agency staff provide comments on the draft evaluation report. They may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. The review also seeks agreement on the findings and recommendations. UNEP EOU collates the review comments and provides them to the evaluators for their consideration in preparing the final version of the report. General comments on the draft report with respect to compliance with these TOR are shared with the reviewer.

Quality Assessment of the Evaluation Report
All UNEP Terminal Evaluation Reports are subject to quality assessments by UNEP EOU. The quality assessment is used as a tool for providing structured feedback to the evaluator.

The quality of the draft evaluation report is assessed and rated against the following criteria:

Report Quality Criteria	UNEP EOU Assessment notes	Rating
A. Did the report present an assessment of relevant outcomes and achievement of project objectives in the context of the focal area program indicators if applicable?		
B. Was the report consistent and the evidence complete and convincing and were the ratings substantiated when used?		
C. Did the report present a sound assessment of sustainability of outcomes?		
D. Were the lessons and recommendations supported by the evidence presented?		
E. Did the report include the actual project costs (total and per activity) and actual co-financing used?		
F. Did the report include an assessment of the quality of the project M&E system and its use for project management?		
UNEP EOU additional Report Quality Criteria	UNEP EOU Assessment	Rating
G. Quality of the lessons: Were lessons readily applicable in other contexts? Did they suggest prescriptive action?		
H. Quality of the recommendations: Did recommendations specify the actions necessary to correct existing conditions or improve operations ('who?' 'what?' 'where?' 'when?)'. Can they be implemented?		
I. Was the report well written? (clear English language and grammar)		
J. Did the report structure follow EOU guidelines, were all requested Annexes included?		
K. Were all evaluation aspects specified in the TORs adequately addressed?		
L. Was the report delivered in a timely manner		

Rating system for quality of terminal evaluation reports
A number rating 1-6 is used for each criterion: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, Highly Unsatisfactory = 1, and unable to assess = 0.

Quality of the MTE report = 0.3*(A + B) + 0.1*(C+D+E+F)
EOU assessment of MTE report = 0.3*(G + H) + 0.1*(I+J+K+L)
Combined quality Rating = (2* 'MTE report' rating + EOU rating)/3
The Totals are rounded and converted to the scale of HS to HU

Annex 4: Minimum requirements for M&E

Minimum Requirement 1: Project Design of M&E[15]

All projects must include a concrete and fully budgeted monitoring and evaluation plan by the time of Work Program entry (full-sized projects) or CEO approval (medium-sized projects). This plan must contain at a minimum:

- SMART (see below) indicators for project implementation, or, if no indicators are identified, an alternative plan for monitoring that will deliver reliable and valid information to management
- SMART indicators for results (outcomes and, if applicable, impacts), and, where appropriate, corporate-level indicators
- A project baseline, with:
  - a description of the problem to address
  - indicator data
  - or, if major baseline indicators are not identified, an alternative plan for addressing this within one year of implementation
- An M&E Plan with identification of reviews and evaluations which will be undertaken, such as mid-term reviews or evaluations of activities
- An organizational setup and budgets for monitoring and evaluation.

Minimum Requirement 2: Application of Project M&E

- Project monitoring and supervision will include implementation of the M&E plan, comprising:
- Use of SMART indicators for implementation (or provision of a reasonable explanation if not used)
- Use of SMART indicators for results (or provision of a reasonable explanation if not used)
- Fully established baseline for the project and data compiled to review progress
- Evaluations are undertaken as planned
- Operational organizational setup for M&E and budgets spent as planned.

SMART INDICATORS UNEP projects and programs should monitor using relevant performance indicators. The monitoring system should be "SMART":

[15] http://gefweb.org/MonitoringandEvaluation/MEPoliciesProcedures/MEPTools/meptstandards.html

1. Specific: The system captures the essence of the desired result by clearly and directly relating to achieving an objective, and only that objective.
2. Measurable: The monitoring system and its indicators are unambiguously specified so that all parties agree on what the system covers and there are practical ways to measure the indicators and results.
3. Achievable and Attributable: The system identifies what changes are anticipated as a result of the intervention and whether the result(s) are realistic. Attribution requires that changes in the targeted developmental issue can be linked to the intervention.
4. Relevant and Realistic: The system establishes levels of performance that are likely to be achieved in a practical manner, and that reflect the expectations of stakeholders.
5. Time-bound, Timely, Trackable, and Targeted: The system allows progress to be tracked in a cost-effective manner at desired frequency for a set period, with clear identification of the particular stakeholder group to be impacted by the project or program.

Annex 5 List of intended additional recipients for the Terminal Evaluation (to be completed by the IA Task Manager)

Name	Affiliation	Email
Aaron Zazuetta	GEF Evaluation Office	azazueta@thegef.org
Government Officials/ Country Office		
Vladimír Dobeš	*Czech Republic Office*, Czech Energy Management Centre (run by ENVIROS, a private company, and operates closely with the Czech Ministry of Environment).	vladimir.dobes@iiiee.lu.se
Vlasta Svejnohová	*Czech Republic Office*, Czech Energy Management Centre	vlasta.svejnohova@enviros.cz office@empress.cz
Jaroslav Vich	*Czech Republic Office*, Czech Energy Management Centre	jaroslav.vich@enviros.cz
Mr. Karel Hirman Director, Energy Section *(Mr. Hirman is the successor of Mr.Michal Klemanič)*	*Slovak Republic Office* (established by and hosted in the Slovak Energy Agency).	karel.hirman@siea.gov.sk
GEF Focal Point(s)		
KLINDA, Roderik Director General Ministry of the Environment of the Slovak Republic	GEF- Operational Focal Point in Slovak Republic	klinda.roderik@enviro.gov.sk
PASTVINSKÝ, Michal Director, Department of Global Relations Ministry of Environment of the Czech Republic	GEF- Operational Focal Point in Czech Republic	pastvinsky@env.cz

Executing Agency		
Amr Abdel Hai, Associate Coordinator	Energy Branch DTIE United Nations Environment Programme (UNEP)	Amr.AbdelHai@unep.org
Mark Radka, Chief, Energy Branch	Energy Branch DTIE United Nations Environment Programme (UNEP)	Mark.Radka@unep.org
Implementing Agency		
Daniel Magallon, Managing Director	BASE (BASEL AGENCY FOR SUSTAINABLE ENERGY) / UNEP Collaborating Centre	danielmagallon@yahoo.com
Kai Sametinger Project Assistant	BASE (BASEL AGENCY FOR SUSTAINABLE ENERGY) / UNEP Collaborating Centre	

ANNEX 2

LIST OF Interviewees

Name	Organization	Responsibility	email
Paris			
Mr. Mark Radka	UNEP/DTIE	Head Energy Branch	mark.radka@unep.fr
Mr. Amr M. Abdel Hai	UNEP/DTIE	Technical Coordinator Cleaner Production Energy Efficiency Project	amr.hai@unep.fr
Mr. Edu Hassing	UNEP/DGEF	Task Manager Climate Change	edu.hassing@unep.fr
Mr. Bernard Janet	UNEP/DTIE		
Basel			
Mr. Daniel Magallon (contact by mail)	BASE	Managing Director	daniel.magallon@energy-base.org
Czech Republic			
Ing. Valdimir Dobes	CCEM	Ex- Empress Local Manager	vladimir.dobes@iiiee.lu.se
Mr. Miroslav Marada	ENESA	Commercial Director	miroslav.marada@enesa.cz
Mr. Pavel Ondra	PD-Refractories	Technical Manager	ondra@mstz.cz
Ms. Bomberova	PD-Refractories	Divisional Director	
Mr. Beloch	PD-Refractories	Production Manager	
Mr. Vagher	PD-Refractories	Production Manager	
Mr. Kocar	PD-Refractories	Energy Manager	
Mr. Pavel Sitny	ENVIROS	Reditel Divize	pavel.sitny@enviros.cz
Mr. Vlasta Svejnohova	ENVIROS	Consultant	vlasta.svejnohova@enviros.cz
Mr. Jan Pejter	ENVIROS	Senior Consultant	jan@pejter@enviros.cz
Mr. Petr Sopoliga	ENVIROS	Consultant	petr.sopoliga@enviros.cz
Mr. Josef Pikalek	ENVIROS	Energy Auditor Consultant	josef.pikalek@enviros.cz
Slovakia			
Mr. Klemaniç Micha	SIEA former SCEM	Ex- Empress Local Manager	
Mr. Pavel Strainsky	SIEA former SCEM	Director of International Cooperation and Projects Department	pavel.starinsky@siea.gov.sk
Ing. Hana Saksunova	SIEA former SCEM	Energy Auditor	hana.saksunova@seabb.sk
Mr. Petr Naprstek	Celestica	Facility Manager	pnaprst@celestica.com
Mr. Ivan Kosalko	PPC Insulators	Managing Director	ivan.kosalko@ppcinsulators.com
Mr. Karol Balazi	PPC Insulators	Deputy of Production Director	karol.balazi@ppcinsulators.com
Mr. Peter Chalani	PPC Insulators	Energy	peter.chalani@ppcinsulators.com
Ing. Karol Skocik	ESG	Senior Energy Expert	skocik@tn.psg.sk
Ing. Miroslav Dian	ESG	Senior M&T Expert	dian@esg.sk
Ing. Marcel Behun (contact by mail)	TUK	Quaestor of the University of Kosice	kvestor@tuke.sk
Ing. Polak (contact by mail)	TUK	Energy Manager	polak@tuke.sk

ANNEX 3

DOCUMENTS REVIEWED AND WEB SITES VISITED

DOCUMENTS REVIEWED

[1] Energy Management and Performance Related Energy Savings Scheme (EMPRESS), GEF project document, UNEP, 2002.

[2] Activities and Performance Reports 2005-2006 and 2007, UNEP, DTIE.

[3] Energy Management and Performance Related Energy Savings Scheme (EMPRESS), Annual Progress Implementation Review Reports, 2005, 2006, 2007, 2008 and 2009, UNEP, DTIE.

[4] Energy Management and Performance Related Energy Savings Scheme (EMPRESS), Project flyer, 2004.

[5] Cleaner Production and Energy Efficiency (CP-EE) – A natural Partnership, UNEP-DTIE publication.http://www.unep.fr/energy/activities/cpee/pdf/Factsheet_CPEE.pdf

[6] Cleaner Production and Energy Efficiency Manual – Guidelines for the integration of Cleaner Production and Energy Efficiency, UNEP, 2004.

[7] Global Trends in Sustainable Energy Investment; Analysis of Trends and Issues in the Financing of Renewable Energy and Energy Efficiency, UNEP-SEFI-New Energy Finance, 2009.

[8] Lessons Learned from Evaluation- A Platform for Sharing Knowledge, M. J. Spilsbury, C. Perch, S. Norgbey, G. Rauniyar and C.Battaglino, Evaluation and Oversight Unit, UNEP, Nairobi, 2007.

[9] M&T software Tool for SME – ENVIROS – UNEP. http://www.unep.fr/energy/activities/cpee/manual.htm

[10] EMPRESS implementation in the Czech Republic- Progress reports from 2003, 2004, 2005 and 2006, Czech EMC.

[11] Management and Performance Related Energy Savings Scheme (EMPRESS), Czech Energy Management Centre – Project Final Report, Prague, May 2007.

[12] Financial audit of ENVIROS project account – period 1 October 2003 to 31 March 2007, Ing. Jiri Duka (Independent Auditor), Prague, 22 June 2007.

[13] Implementation of the M&T energy management system in Al Invest Bridlicna, Case study, ENVIROS, 2007.

[14] Implementation of the M&T energy management system in Trinecke Zelezarny, Case study, ENVIROS, 2007.

[15] Implementation of the M&T energy management system in Celestica, Case study, ENVIROS, 2007.

[16] EMPRESS implementation in the Slovak Republic – Progress reports from 2003, 2004, 2005 and 2006, Slovak EMC.

[17] Management and Performance Related Energy Savings Scheme (EMPRESS), Slovak Energy Management Centre – Project Final Report- Branska Bystrica, May 2007.

[18] Financial audits of the EMPRESS project account in the Slovak Republic for the years 2003, 2004, 2005, 2006 and 2007, Rentabil, Bratislava.

[19] Implementation of the M&T energy management system in CONFAL A.S., Case study, Energy Management Group, 2007.

[20] Implementation of the M&T energy management system at the Technical University of Kosice TUK., Case study, Energy Management Group, 2007.

[21] Implementation of the M&T energy management system in CERAM CAB (PPC), A.S., Case study, Energy Management Group, 2007.

[22] New Energy Law, Act number N°476/2008 – Slovak Republic, 2008.

[23] Minutes of the annual meetings of UNEP/SEA/Czech EMC/Slovak EMC; Bratislava; 29 October 2003; 20 February 2004; 24 January 2006; and 25 May 2007.

[24] Energy Management Performance Related Energy Savings Scheme – Project Workplan for the Czech Republic developed by the Czech EMC and agreed upon at the project kick-off meeting on 28 October 2003.

[25] Contract on Savings to be achieved by an Energy Management System Using the M&T/ESCO Scheme – Blue print template.

[26] Global Environment Facility Guidelines for Implementing Agencies to conduct Terminal Evaluations – GEF, revised and final, May 2003.

[27] Implementation of the EMPRESS project in the Czech Republic - Lessons learned, Czech Energy Management Centre, January 2006.

[28] Energy Service Companies in Europe, Paolo Bertoldi and Silvia Rezessy, European Commission, DG, JRC, Institute for Environment and Sustainability, Renewable Energies Unit, 2005.

[29] Les projets en efficacité Energétique et leurs possibilités de financement, Agence de la Francophonie, Institut de l'Energie des Pays ayant en commun l'Usage du Français, 1996.

[30] An international survey of the Energy Service Company (ESCO) industry, Vine E., Energy Policy 33: 691-704, 2005.

[31] Financial audits of the EMPRESS BASE project account for the years 2003 (Leiman Treuhand), 2004 (Largos), 2005 (Largos), 2006 (Price Waterhouse Coopers), and 2007 and 2008 (Deloitte).

WEB SITES VISITED

1- www.enviros.cz
2- www.empress.cz
3- www.unep.org/gef
4- www.esg.sk
5- www.siea.gov.sk
6- www.enesa.cz
7- www.unep.fr/energy
8- www.uneptie.org
9- www.unep.org/eou
10- www.energy-base.org
11- www.ripecap.net
12- www.oee.nrcan.gc.ca/industrial
13- www.sustainablealternatives.net
14- www.tuke.sk/
15- www.ppinsulators.com
16- www.mstz.cz
17- www.celestica.com
18- http://www.buildup.eu/

ANNEX 4

PROJECT BUDGET AND CO-FINANCE INFORMATION

Annex 4(A)–Initial Budget

		2003	2004	2005	2006	Total
10 PROJECT PERSONNEL COMPONENT						
1100 Project Personnel Title Grade w/m						
1101	Project Task Manager (L2/L3) 36 w/m	36,250	72,500	76,500	38,250	223,500
1198	Prior years' adjustment	0	0	0	0	0
1199	Total	36,250	72,500	76,500	38,250	223,500
1200	Consultants (Description of activity/service) w/m					
1201	M&T Materials Preparation	20,000	0	0	0	20,000
1202	Project Website	8,000	1,000	1,000	500	10,500
1203	Case Studies publication	0	0	20,000	0	20,000
1204	Lessons Learned publication	0	0	20,000	0	20,000
1298	Prior years' adjustment	0	0	0	0	0
1299	Total	28,000	1,000	41,000	500	70,500
1600	Travel on official business					
1601	DTIE staff travel	12,000	11,000	11,000	8,000	42,000
1698	Prior years' adjustment	0	0	0	0	0
1699	Total	12,000	11,000	11,000	8,000	42,000
1999 Component Total		76,250	84,500	128,500	46,750	336,000
20 SUB CONTRACT COMPONENT						
2200 Sub-Contracts (MOUs/Las for supporting organizations)						
2201	BASE Sub-Project	1,323,000	0	0	0	1,323,000
2202	SEA Sub-Project	310,000	0	0	0	310,000
2203	Czech NCPC	4,000	8,000	0	0	12,000
2204	Slovak NCPC	4,000	8,000	0	0	12,000
2298	Prior years' adjustment	0	0	0	0	0
2299	Total	1,641,000	16,000	0	0	1,657,000

2300	Subcontracts (for Commercial Purposes)					
2301	Printing of Case Studies & Lessons Learned	0	0	12,000	0	12,000
2398	Prior years' adjustment	0	0	0	0	0
6239	Total	0	0	12,000	0	12,000
2999	Component Total	1,641,000	16,000	12,000	0	1,669,000
40	**EQUIPMENT AND PREMISES COMPONENT**					
4100	Expendable equipment (items under $1,500 each)					
4101	CDRoms, office supplies	500	1,000	1,000	500	3,000
4198	Prior years' adjustment	0	0	0	0	0
4199	Total	500	1,000	1,000	500	3,000
4999	Component Total	500	1,000	1,000	500	3,000
50	**MISCELLANEOUS COMPONENT**					
5200	Reporting costs					
5220	Unspecified	500	1,000	2,500	2,000	6,000
5298	Prior years' adjustment	0	0	0	0	0
5299	Total	500	1,000	2,500	2,000	6,000
5300	Sundry					
5301	Communications (telex, telephone, fax)	1,000	2,000	2,000	1,000	6,000
5398	Prior years' adjustment	0	0	0	0	0
5399	Total	1,000	2,000	2,000	1,000	6,000
5999	Component Total	1,500	3,000	4,500	3,000	12,000
	TOTAL Cost of Project	**1,719,250**	**104,500**	**146,000**	**50,250**	**2,020,000**
	Programme Support Costs (0%)	**0**	**0**	**0**	**0**	**0**
99	**GRAND TOTAL**	**1,719,250**	**104,500**	**146,000**	**50,250**	**2,020,000**

Annex 4(B): Budget of the Sub-Project with the Slovak Energy Agency

			2003	2004	2005	2006	Total
10 PROJECT PERSONNEL COMPONENT							
1100	Project Personnel Title Grade w/m						
	1101	M&T Country Manager	12,000	24,000	24,000	12,000	72,000
	1102	Junior Professional, #1	6,000	12,000	12,000	6,000	36,000
	1103	Junior Professional, #2	6,000	12,000	12,000	6,000	36,000
	1198	Prior year's adjustment	0	0	0	0	0
	1199	Total	24,000	48,000	48,000	24,000	144,000
1300	Administrative Support						
	1301						0
	1398	Prior year's adjustment	0	0	0	0	0
	1399	Total	0	0	0	0	0
1600	Travel of official business						
	1601	Travel	11,500	11,000	15,000	3,500	41,000
	1699	Prior year's adjustment	0	0	0	0	0
	1699	Total	11,500	11,000	15,000	3,500	41,000
1999	Component Total		35,500	59,000	63,000	27,500	185,000
20 SUB CONTRACT COMPONENT							
2100	Sub-contracts (MOUs/Las for cooperating agencies)						
	2101	Logistical support to M&T outreach	25,000	50,000	0	0	75,000
	2102	Web site training & temporary support	2,000	2,000	0	0	4,000
	2103	Translation services	3,000	0	0	0	3,000
	2104	Printing services	12,000	10,000	0	0	22,000
	2198	Prior years' adjustment	0	0	0	0	0
	2199	Total	42,000	62,000	0	0	104,000
2999	Component Total		42,000	62,000	0	0	104,000
40 EQUIPMENT AND PREMISES COMPONENT							
4100	Expendable equipment (items under $1,500 each)						

	4101	Office supplies	500	1,000	1,000	500	3,000
	4198	Prior year's adjustment	0	0	0	0	0
	4199	Total	500	1,000	1,000	500	3,000
4999	Component Total		500	1,000	1,000	500	3,000

50 MISCELLANEOUS COMPONENT

	5300	Sundry					
	5301	Communications (telex, telephone, fax)	3,000	6,000	6,000	3,000	18,000
	5398	Prior year's adjustment	0	0	0	0	0
	5399	Total	3,000	6,000	6,000	3,000	18,000
5999	Component Total		3,000	6,000	6,000	3,000	18,000

TOTAL AVAILABLE TO SEA	**81,000**	**128,000**	**70,000**	**31,000**	**310,000**

Annex 4(C): Budget of the Sub-Project with BASE

			2003	2004	2005	2006	Total
10 PROJECT PERSONNEL COMPONENT							
1200	Consultants (description of activity/service) w/m						
	1201	Finance Consultant	0	25,000	25,000	0	50,000
	1202	Consultants for Legal Review	0	12,500	12,500	0	25,000
	1203	Consultant for Technical Monitoring	0	20,000	20,000	0	40,000
	1298	Prior year's adjustment	0	0	0	0	0
	1299	Total	0	57,500	57,500	0	115,000
1300	Administrative Support						
	1301	Administrative Assistance	10,000	20,000	20,000	10,000	60,000
	1398	Prior year's adjustment	0	0	0	0	0
	1399	Total	10,000	20,000	20,000	10,000	60,000
1600	Travel of official business						
	1601	Travel	2,000	2,000	2,000	2,000	8,000
	1699	Prior year's adjustment	0	0	0	0	0
	1699	Total	2,000	2,000	2,000	2,000	8,000
1999	Component Total		12,000	79,500	79,500	12,000	183,000
20 SUB CONTRACT COMPONENT							
2100	Sub-contracts (MOUs/Las for cooperating agencies)						
	2101	Czech M&T Office Support	81,000	128,000	70,000	31,000	310,000
	2102	M&T Training Provider	56,000	77,000	0	0	133,000
	2103	Organizers of the project initiation workshop	8,000	0	0	0	8,000
	2104	M&Ts & ESCOs meetings organizers	36,000	0	0	0	36,000
	2105	Organizers of the annual project workshops & steering committee meetings	0	9,000	9,000	9,000	27,000
	2108	Organizers of the workshop in Hungary	0	0	26,000	0	26,000
	2109	Organizers of the workshop in Poland	0	0	50,000	0	50,000
	2110	Contracts to support M&T ESCOs	0	275,000	275,000	0	550,000
	2198	Prior years' adjustment	0	0	0	0	0
	2199	Total	181,000	489,000	430,000	40,000	1,140,000
2999	Component Total		181,000	489,000	430,000	40,000	1,140,000
TOTAL AVAILABLE TO BASE			**193,000**	**568,500**	**509,500**	**52,000**	**1,323,000**

Annex 4(D): Co-financing and leveraged resources

Co financing (Type/Source)	IA own Financing (Mill US$)		Governments (Mill US$)		ESCO investors (Mill US$)		Private sector (at ESCO client sites) (Mill US$)		Total Financing (Mill US$)	
	Proposed	**Actual**	**Proposed**	**Actual**	**Proposed**	**Actual**	**Proposed**	**Actual**	**Proposed**	**Actual**
Grants										
Loans/Concessional / market rate										
Credits										
Equity investments										
Committed in-kinds support	260,000	131,700*	400,000	403 555	**				660,000	535,255
Other: leveraged resources					4,000,000	2,400,000	2,500,000	24,000,000	6,500,000	26,400,000
Total	**260,000**	**131,700**	**400,000**	**403 555**	**4,000,000**	**2,400,000**	**2,500,000**	**24,000,000**	**7,160,000**	**26,935,255**

* The UNEP contribution has been evaluated at the terminal evaluation

**Participating ESCOs covered the costs of negotiations with clients and conducing scoping audits.

- Other is referred to contributions mobilized for the project from other multilateral agencies, bilateral development cooperation agencies, NGOs, the private sector and beneficiaries.
- The actual co-financing has evaluated at the terminal evaluation.

ANNEX 5

STATEMENT OF PROJECT EXPENDITURE BY ACTIVITY

EMPRESS (umbrella)															
GFL- 2328/5070-2720-4704/Rev.4						Actual		Actual		Actual		Revision 4		
GF/4040-03-24						2005		2006		2007		2008		
			2003	2004	2328	5070	2328	5070	2328	5070	2328	5070	Total
10	PROJECT PERSONNEL COMPONENT													
	1101	Project personnel												
		1101 Project TM (L2/L3) 36w/m	-	98 174,05	99 100,58		78 238,64							275 513,27
		1199 Total	**-**	**98 174,05**	**99 100,58**	**-**	**78 238,64**	**-**	**-**	**-**	**-**	**-**	**-**	**275 513,27**
		1200 Consultants												
		1201 M&T Materials Preparation	-	-										-
		1202 Project Website	-	-										-
		1203 Case Studies publication	-	-										-
		1204 Lessons Learned publication	-	-		5 344,20								5 344,20
		1299 Total	**-**	**-**	**-**	**5 344,20**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**5 344,20**
		1600 Travel on official business												
		1601 DTIE staff travel	-	19 059,77				4 067,53		2 506,61				25 633,91
		1699 Total	**-**	**19 059,77**	**-**	**-**	**-**	**4 067,53**	**-**	**2 506,61**	**-**	**-**	**-**	**25 633,91**
	1999	**Component Total**	**-**	**117 233,82**	**99 100,58**	**5 344,20**	**78 238,64**	**4 067,53**	**-**	**2 506,61**	**-**	**-**	**-**	**306 491,38**
20	SUB CONTRACT COMPONENT													
	2200	Sub-Contracts												
		2203 Czech NCPC	-	2 500,00										2 500,00
		2204 Slovak NCPC	-	-										-
		2299 Total	**-**	**2 500,00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2 500,00**
	2999	**Component Total**	**-**	**2 500,00**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2 500,00**
	5500	Evaluation												
		5581 Terminal evlaution									24 203,72			24 203,72
		5399 Total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**24 203,72**	**-**	**24 203,72**
	5999	**Component Total**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**24 203,72**	**-**	**24 203,72**
99	GRAND TOTAL		**-**	**119 733,82**	**99 100,58**	**5 344,20**	**78 238,64**	**4 067,53**	**-**	**2 506,61**	**24 203,72**	**-**	**333 195,10**
	Previous Budget (Rev.3)		**-**	**119 733,82**	**99 100,58**	**5 344,20**	**76 975,37**	**21 846,03**	**10 000,00**	**-**			**333 000,00**
	Variance (as at Rev. 4)		**-**	**-**	**-**	**-**	**1 263,27**	**(17 778,50)**	**(10 000,00)**	**2 506,61**	**24 203,72**	**-**	**195,10**

EMPRESS - Sub-Project with BASE									
GFL-2328-2720-4706/Rev.4									
GF/4040-03-71			**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**Total**
10	**PROJECT PERSONNEL COMPONENT**								
	1200	Consultants							
		1201 Finance Consultant				40 000,00	9 949,96		49 949,96
		1202 Consultants for Legal Review							-
		1203 Consultant for Technical Monitoring		12 006,41					12 006,41
		1299 Total	**-**	**12 006,41**	**-**	**40 000,00**	**9 949,96**	**-**	**61 956,37**
	1300	Administrative Support							
		1301 Administrative Assistance	5 050,00	20 000,00	21 836,91	10 000,00		3 163,00	60 049,91
		1399 Total	**5 050,00**	**20 000,00**	**21 836,91**	**10 000,00**	**-**	**3 163,00**	**60 049,91**
	1600	Travel on official business							
		1601 Travel	597,11	758,12	813,00	844,68	1 695,51	(6,11)	4 702,31
		1699 Total	**597,11**	**758,12**	**813,00**	**844,68**	**1 695,51**	**(6,11)**	**4 702,31**
	1999	**Component Total**	**5 647,11**	**32 764,53**	**22 649,91**	**50 844,68**	**11 645,47**	**3 156,89**	**126 708,59**
20	**SUB CONTRACT COMPONENT**								
	2100	Sub-contracts (MOUs/Las for cooperating agencies)							
		2101 Czech M&T Office Support	60 006,17	78 506,27	191 551,00	93 099,00	80 000,00	(0,06)	503 162,38
		2102 M&T Training Provider	30 006,36	64 362,00	38 338,34				132 706,70
		2103 Organizers of the Proj initiation w/s			947,00				947,00
		2104 M&Ts & ESCOs meeting organizers							-
		2105 Organizers of the annual w/s & SC mtg						2 339,51	2 339,51
		2108 Organizers of the w/s in Hungary				3 244,15	4 502,86		7 747,01
		2109 Organizers of the w/s in Poland						21 891,76	21 891,76
		2110 Contracts to support M&T ESCO's			19 000,00	136 000,00	235 000,00	137 730,00	527 730,00
		2111 M&T Training Logistical Support		2 619,35					2 619,35
		2112 Legal & +Technical review		-	18 000,00				18 000,00
		2199 Total	**90 012,53**	**145 487,62**	**267 836,34**	**232 343,15**	**319 502,86**	**161 961,21**	**1 217 143,71**
	2999	**Component Total**	**90 012,53**	**145 487,62**	**267 836,34**	**232 343,15**	**319 502,86**	**161 961,21**	**1 217 143,71**
50	**MISCELLANEOUS COMPONENT**								
	5300	Other fund source - Miscellaneous							
		5301 Bank charges		23,89	151,95	176,04	218,66	112,06	682,60
		5399 Total	**-**	**23,89**	**151,95**	**176,04**	**218,66**	**112,06**	**682,60**
	5999	**Component Total**	**-**	**23,89**	**151,95**	**176,04**	**218,66**	**112,06**	**682,60**
	TOTAL		**95 659,64**	**178 276,04**	**290 638,20**	**283 363,87**	**331 366,99**	**165 230,16**	**1 344 534,90**
	Previous Budget (Rev.3)		**95 659,64**	**178 276,04**	**290 638,20**	**283 363,87**	**331 366,99**	**165 425,26**	**1 344 730,00**
	Variance (as per Rev.4)		**-**	**-**	**-**	**-**	**-**	**(195,10)**	**(195,10)**
		Per Rev.4							
		App D (will be removed when FY 2008 is closed)							
		Per project accounts							

EMPRESS - Sub-Project with SEA							
GFL-2328-2720-4707/Rev.3							
GF/4040-03-24			**2004**	**2005**	**2006**	**2007**	**Total**
10	**PROJECT PERSONNEL COMPONENT**						
	1100	Project Personnel Title Grade w/m					
		1101 M&T Country Manager	24 000,00	30 000,00	18 000,00	12 000,00	84 000,00
		1102 Junior Professional, 1	12 000,00	15 000,00	9 000,00	6 000,00	42 000,00
		1103 Junior Pforessional, 2	12 000,00	15 000,00	9 000,00	6 000,00	42 000,00
		1199 Total	**48 000,00**	**60 000,00**	**36 000,00**	**24 000,00**	**168 000,00**
	1600	Travel on official business					-
		1601 Travel	14 070,00	12 500,00	6 000,00	4 000,00	36 570,00
		1699 Total	**14 070,00**	**12 500,00**	**6 000,00**	4 000,00	**36 570,00**
	1999	**Component Total**	**62 070,00**	**72 500,00**	**42 000,00**	**28 000,00**	**204 570,00**
							-
20	**SUB CONTRACT COMPONENT**						-
	2100	Sub-contracts (MOUs/Las for cooperating agencies)					-
		2101 Logistical support to M&T outreach	55 282,00	26 128,00	3 000,00	2 000,00	86 410,00
		2102 Web site training & temporary suport	3 500,00	500,00	-	-	4 000,00
		2103 Translation services	2 500,00	500,00	-	1 300,00	4 300,00
		2104 Printing services	12 041,00	9 959,00	-	1 500,00	23 500,00
		2199 Total	**73 323,00**	**37 087,00**	**3 000,00**	**4 800,00**	**118 210,00**
	2999	**Component Total**	**73 323,00**	**37 087,00**	**3 000,00**	**4 800,00**	**118 210,00**
							-
40	**EQUIPMENT AND PREMISES COMPONENT**						-
	4100	Expendable equipment (items under $1500 each)					-
		4101 Office supplies	1 046,00	1 454,00	500,00	500,00	3 500,00
		4199 Total	**1 046,00**	**1 454,00**	**500,00**	**500,00**	**3 500,00**
	4999	**Component Total**	**1 046,00**	**1 454,00**	**500,00**	**500,00**	**3 500,00**
50	**MISCELLANEOUS COMPONENT**						-
	5300	Other fund source - Miscellaneous					-
		5301 Communications	5 700,00	5 590,00	3 300,00	1 400,00	15 990,00
		5399 Total	**5 700,00**	**5 590,00**	**3 300,00**	**1 400,00**	**15 990,00**
	5999	**Component Total**	**5 700,00**	**5 590,00**	**3 300,00**	**1 400,00**	**15 990,00**
							-
	TOTAL		**142 139,00**	**116 631,00**	**48 800,00**	**34 700,00**	**342 270,00**
	Previous Budget Rev. 2		**142 139,00**	**116 631,00**	**68 400,00**	**15 100,00**	**342 270,00**
	Variance (as per Rev.3)		**-**	**-**	**(19 600,00)**	**19 600,00**	-

ANNEX 6

BRIEF SUMMARY OF THE EVALUATOR'S EXPERTISE

Dr. Abdelmourhit Lahbabi

Dr. Abdelmourhit Lahbabi received his Engineer Diploma in Industrial Processes from the Institut National Polytechnique de Toulouse France (INPT) in 1978 and his Ph.D. in Chemical Engineering from the University of California at Santa Barbara (UCSB) in 1985. He is a certified engineer and has worked as international energy and environment expert for numerous international organizations such as the World Bank, United Nation Development Programme, United Nations Environment Programme, Food and Agriculture Organization, United Nations Industrial Development Programme, CDM Executive Board, African Development Bank, Islamic Development Bank, GTZ, JICA etc.

Dr. Lahbabi has more than 20 years of working experience, including more than fifty energy efficiency and renewable energy projects on: Energy rational use strategies and action plans, Legal and institutional energy reforms and policies, Energy management systems, Energy audits, Cogeneration, Steam systems optimization, Boilers efficiency assessment, Waste heat valorization, Fuel switching, Energy demand side management, Renewable energy development strategies and programs, Rural Energy development programs, Environmental, economic and social impacts of renewable energy development programs, Wind farms feasibility studies and design, solar heating systems, solar photovoltaic systems, biomass power stations, greenhouse gases mitigation programs, Clean Development Mechanism projects, etc.

Dr. Lahbabi worked in many countries particularly in the MENA region and in Sub Sahara Africa. His international experience includes professional missions to Mauritania, Mali, Kenya, Comoros Islands, Tunisia, Sudan, Egypt, Jordan, Lebanon, Iran, Yemen and the United Arab Emirates.

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