

## GEF EO Terminal Evaluation Review Form

| 1. PROJECT DATA                       |  |  |   |  |
|---------------------------------------|--|--|---|--|
|                                       |  | Review date:   |   | 31 <sup>st</sup> July 2008   |
| GEF Project ID:                       | 98   |  | at endorsement<br>(Million US\$)  | at completion<br>(Million US\$)  |
| IA/EA Project ID:                     | PO 37859   | <b>GEF financing:</b>  | 22.7  | 22.7   |
| Project Name:                         | Energy Conservation Project  | IA/EA own:   | 0.0   | 0.0  |
| Country:                              | China  | Government:  | 70.0  | 67.5   |
|                                       |  | Other*:  | 58.8  | 105.3  |
|                                       |  | <b>Total Cofinancing</b>   | 128.8   | 172.8  |
| Operational Program:                  | OP 5: Removal of Barriers to Energy Efficiency and Energy Conservation | <b>Total Project Cost:</b>   | 151.5   | 195.5  |
| IA                                    | World Bank   | <u>Dates</u>   |   |  |
| Partners involved:                    | State Economic and Trade Commission                                    | Effectiveness/ Prodoc Signature (i.e. date project began)                              |   | December 1998  |
|                                       |  | Closing Date   | Proposed: June 2006   | Actual: June 2007  |
| Prepared by:<br>Neeraj Negi           | Reviewed by:   | Duration between effectiveness date and original closing (in months):<br><br>90 months | Duration between effectiveness date and actual closing (in months):<br><br>102 months | Difference between original and actual closing (in months):<br><br>12 months |
| Author of TE:<br><br>Robert P. Taylor |  | TE completion date:<br><br>December 2007   | TE submission date to GEF EO:<br><br>March 2008                                       | Difference between TE completion and submission date (in months): 3 months   |

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

### 2. SUMMARY OF PROJECT RATINGS AND KEY FINDINGS

Please refer to document GEF Office of Evaluation Guidelines for terminal evaluation reviews for further definitions of the ratings.

| Performance Dimension                        | Last PIR | IA Terminal Evaluation | IA Evaluation Office evaluations or reviews | GEF EO |
|--|----------|------------------------|---|--------|
| 2.1a Project outcomes                        | S        | S                      | S   | S      |
| 2.1b Sustainability of Outcomes              | N/A      | L                      | L   | L      |
| 2.1c Monitoring and evaluation               | S        | NA                     | NA  | S      |
| 2.1d Quality of implementation and Execution | NA       | NA                     | NA  | S      |
| 2.1e Quality of the evaluation report        | N/A      | N/A                    | S   | S      |

2.2 Should the terminal evaluation report for this project be considered a good practice? Why?

Yes. The terminal evaluation report is concise and well written. It comprehensively covers important performance parameters such as project results, sustainability, monitoring and evaluation and supervision.

2.3 Are there any evaluation findings that require follow-up, such as corruption, reallocation of GEF funds, mismanagement, etc.?

No such findings have been listed in the terminal evaluation report.

### 3. PROJECT OBJECTIVES

#### 3.1 Project Objectives

**a. What were the Global Environmental Objectives of the project? Were there any changes during implementation?**

The global environmental objective of the project was “to achieve large, sustained and growing increases in energy efficiency and associated reductions in growth of carbon dioxide emissions and other pollutants by: (a) introducing, demonstrating and disseminating new project financing concepts and market-oriented institutions to promote and implement energy efficiency measures in China; and (b) developing a more efficient national energy conservation information dissemination program”.

According to the terminal evaluation there were no changes in the global environmental objectives of the project.

**b. What were the Development Objectives of the project? Were there any changes during implementation?**

The developmental objectives of the project listed in both the project appraisal document and the terminal evaluation objectives are identical to the global environmental objectives of the project (listed in section 3.1.a of this report). There were no changes in the development objectives of the project during implementation.

### 4. GEF EVALUATION OFFICE ASSESSMENT OF OUTCOMES AND SUSTAINABILITY

**4.1.1 Outcomes (Relevance can receive either a satisfactory rating or a unsatisfactory rating. For effectiveness and cost efficiency a six point scale 6= HS to 1 = HU will be used)**

**a. Relevance**

**Rating: S**

The project contributes to the Chinese government’s focus on improving energy efficiency and conservation. For example, China’s five-year plan for 2006-2010 includes a national target to reduce the energy intensity of the country’s GDP by 20%. The project objectives are also relevant to the country strategy for the World Bank’s engagement with China. The project is also relevant to the GEF operational program 5 which focuses on removal of barriers to energy efficiency and energy conservation.

**b. Effectiveness**

**Rating: S**

According to the terminal evaluation report the project clearly met its development objectives to achieve large, sustained and growing increases in energy efficiency and associated reductions in carbon dioxide emissions and other pollutants. However, the report also notes that the performance targets on key indicators had been revised downwards after the second mid term review of the project as the earlier targets were “overly enthusiastic.” The changes made in the targets were not reported through the PIR reports. Even so, the actual achievements of the project still remain significant.

Energy performance contract investments facilitated by the project had reached cumulative investments of US \$ 280 million and these investments are estimated to provide life cycle carbon dioxide emission reduction of about 15 million tonnes. These investments are likely to expand further leading to further carbon dioxide emission reductions after the project ends.

According to the terminal evaluation all the three pilot energy management companies (EMCs) that were promoted as part of this project have been successful. They effectively designed and implemented projects for the business enterprises. By the end of 2006, the energy performance contracting investments of the three EMCs had reached a total of about US \$ 180 million in 514 projects. The EMCs have facilitated carbon dioxide emissions reduction of about 5.06 million tones during the duration of this project.

According to the terminal evaluation as part of this program a State Economic and Trade Commission Energy Conservation Information Center (SECIDC), later rechristened as National Development and Reform Commission Energy Conservation Information Center (NECIDC), was established. Prior to the reorganization of SECIDC to NECIDC, the performance of this center was assessed to be satisfactory by a World Bank team. SECIDC developed an effective platform for delivery of information on energy efficiency investment opportunities that were attractive under market conditions. After reorganization NECIDC continued the work of its predecessor. By June 2007, when the GEF supported component of the project closed, the center had prepared and disseminated 100 energy conservation investment project case studies and produced 20 energy conservation technical guides. Based on the data collected through the monitoring and evaluation surveys conducted as part of the project, the case studies have led to generation of new investments. The technical guides are also being used by a wide audience. Third party assessment of the indirect benefits in terms of carbon dioxide emissions reduction from information dissemination activities were about 68 million tones for the duration when project was under implementation.

**c. Efficiency (cost-effectiveness)**

**Rating: S**

The investments made in setting up the EMCs have been worthwhile as these companies have been functioning in an effective manner. The total investment in the EMCs by the GEF and other financiers was about 181 million. Compared to this an estimated carbon dioxide emission reduction of 5.1 million tones was achieved by the EMCs during the duration of the project. Since the EMCs are ongoing concerns it is likely that the future carbon emission reduction benefits will be many time over that already achieved. Indirect benefits through the information dissemination work have been estimated by the third party assessments to have been significant. There was a delay of one year in completion of the project. The delay occurred during the startup phase of the project. It, however, does not seem to have affected the cost effectiveness of the project.

#### 4.1.2 Impacts

According to the terminal evaluation, the project led to adoption of a new energy efficiency investment business model. The EMC and the information dissemination center promoted by the project have become successfully established and are likely to continue promoting energy efficiency in industry on a long term basis. The gains made in carbon dioxide emission reduction are significant are these gains will continue to accrue in future.

**4.2 Likelihood of sustainability.** Using the following sustainability criteria, include an assessment of **risks** to sustainability of project outcomes and impacts based on the information presented in the TE. Use a four point scale (4= Likely (no or negligible risk); 3= Moderately Likely (low risk); 2= Moderately Unlikely (substantial risks) to 1= Unlikely (High risk)). The ratings should be given taking into account both the probability of a risk materializing and the anticipated magnitude of its effect on the continuance of project benefits.

|  |                  |
|--|------------------|
| <b>a. Financial resources</b>  | <b>Rating: L</b> |
| Based on the information provided in the terminal evaluation report it could be said that the EMCs promoted by the project have morphed into financially sustainable enterprises – they have been able to break even and their business has shown strong and consistent growth. The individual projects taken up by the EMCs for the client enterprises have high return on investment for both the client and the EMCs. This will ensure steady demand for the EMC products and services. Therefore, there is little financial risk to gains made by the project. |                  |
| <b>b. Socio political</b>  | <b>Rating: L</b> |
| Chinese government’s commitment to energy conservation has increase greatly over the last several years as it attempts to achieve its target of reducing energy intensity by 20% during the 11 <sup>th</sup> five year plan. The energy conservation plan of the country is supportive of energy performance contracting that has been promoted by the project.  |                  |
| <b>c. Institutional framework and governance</b>   | <b>Rating: L</b> |
| The EMC and the information dissemination center promoted by the project have become successfully established and are likely to continue promoting energy efficiency in industry on a long term basis. Thus, there seems negligible institutional and governance related risk to the continuation of benefits from the project outcomes.   |                  |
| <b>d. Environmental</b>  | <b>Rating: L</b> |
| The terminal evaluation has not discussed any environmental variable that may threaten the gains made by the project. Further, the present macro environment – as seen through steady increase in energy prices over the last five years – is conducive to energy conservation.  |                  |
| <b>e. Technological</b>  | <b>Rating: _</b> |
| NA   |                  |

#### 4.3 Catalytic role

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| <b>a.. Production of a public good</b>   |
| The project led to significant reduction in carbon dioxide emissions. In addition, it created institutional structures that will promote energy conservation in future. It also developed literature on energy conservation opportunities and disseminated it to the potential beneficiary organization.   |
| <b>b.. Demonstration</b>   |
| The project demonstrated effectiveness of the energy performance contracting as a business model. As a result, this model has been adopted widely by the industrial sector. Further, the EMC component of the project has attracted interest of other countries. This experience has been shared with other developing countries through support from United Nations Foundation (UNF). |
| <b>c.. Replication</b>   |
| <b>d.. Scaling up</b>  |

#### 4.4 Assessment of processes and factors affecting attainment of project outcomes and sustainability.

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| <b>a. Co-financing.</b> To what extent was the reported cofinancing (or proposed cofinancing) essential to achievement of GEF objectives? If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for it? Did the extent of materialization of co-financing affect project’s outcomes and/or sustainability? If it did, then in what ways and through what causal linkages? |
| The cofinancing mobilized by the project was essential for achievement of the GEF objectives. The cofinancing reported, however, does raise some questions. For example, the figures listed in the balance sheet (Annex 3: table 3.5 of   |

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| <p>the EMC Project Financial Summary) shows that total liabilities and shareholder funds in the EMC were worth about US \$ 96 million (i.e. RMB 756,990,000). This is inconsistent with the reported co-financing of US \$ 181 million including US \$ 101 million from the self financing by EMC. While the reported figures for grants from GEF and European Commission are reflected in the balance sheets, the figures for contributions from EMC appear to be over estimates. This has clear implications for the assessment of cost efficiency of the EMC initiative. For example, the benefits from the EMCs will be assessed against the reported \$ 181 million of total investment instead of \$ 96 million (or lower if the current liabilities are deducted). Thus, while the reported mobilized cofinancing was significantly higher than what was expected. It is not clear whether all the reported resources mobilized through the internal sources of EMC could actually be considered cofinancing. Its, therefore, difficult to assess the implications of the additional cofinancing that has been claimed.</p>   |
| <p><b>b. Delays.</b> If there were delays in project implementation and completion, then what were the reasons for it? Did the delay affect the project's outcomes and/or sustainability? If it did, then in what ways and through what causal linkages?</p> <p>There was a 12 month delay in project completion of the project. According to the terminal evaluation, the delay was primarily due reorganization of the SECIDC into NECIDC due to which project completion was delayed by a year. This did not affect the overall project outcomes.</p> <p>While the reorganization was responsible for the delay in completion of project implementation, during the period when the project was under implementation there were other areas where there were other activities where the delay was faced. After the project was approved, initial difficulties in arranging counter guarantees for the Bank loan and setting up disbursement systems caused delay. This delay slackened the financial progress during the earlier phase. Based on the information provided in the terminal evaluation, it seems that due to this the expansion of EMCs was done at a slower pace. This, however, lowered the risks involved in starting the EMC operations as it allowed EMCs to begin small and expand only after it had gained more operational experience.</p>                                  |
| <p><b>c. Country Ownership.</b> Assess the extent to which country ownership has affected project outcomes and sustainability? Describe the ways in which it affected outcomes and sustainability highlighting the causal links.</p> <p>According to the terminal evaluation report the commitment of the host country's government to the project was a key factory for success. Government's approval of SECIDC as a new institution was completed on time and at a high level, underscoring significant effort from various tiers of the host government. Both central and provincial governments were keen to facilitate the project in addressing problems. For example, when initial difficulties in arranging counter guarantees for the bank loan and setting up disbursement were causing delays, the central and provincial governments collaborated with the project beneficiary companies to resolve the issue. Government agencies were also instrumental in conducting a study on tax treatment of the EMCs and reaching agreements with provincial tax bureaus. Further, through out the implementation of the project the central government issued new policies, regulations and guidelines that were promotive of the central thrust of the project. All these efforts were instrumental for satisfactory implementation of the project and it achieving its targeted results.</p> |

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

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| <p><b>a. M&amp;E design at Entry</b> <b>Rating (six point scale): S</b></p> <p>The M&amp;E design of the project incorporated appropriate indicators such as energy savings and associated carbon emissions reductions. Arrangements were made to gather information on these indicators and report it through project reports on an annual basis. For chosen indicators performance targets were specified. The M&amp;E plan specifies broad responsibilities. The M&amp;E design is not detailed, however.</p>  |
| <p><b>b. M&amp;E plan Implementation</b> <b>Rating (six point scale): S</b></p> <p>According to the terminal evaluation, the M&amp;E system was fully implemented by the project management. Actual energy savings data was compiled for assessment of the savings through sub projects on which investments had been made by the EMCs. The data came from the feasibility studies and energy performance contracts of the sub projects for which the energy savings achieved was a key determinant of the remuneration of the EMCs by the host enterprises. Two mid term reviews were conducted to assess the progress of the project. To facilitate these mid term reviews two surveys were conducted prior to the reviews so as to provide data inputs for the review. These surveys provided detailed information the benefits of the information dissemination program and market feedback on the results of the information products disseminated by the program. These reviews facilitated timely adjustments in allocation of time and resources among various activities. A final survey was conducted to provide inputs for the terminal evaluation.</p> <p>The information provided by the M&amp;E system of the project provides a sufficient basis for assessing the performance of this project. Overall the M&amp;E plan of this project was satisfactory.</p> |
| <p>b.1 Was sufficient funding provided for M&amp;E in the budget included in the project document?<br/>Unable to assess.</p>  |
| <p>b.2a Was sufficient and timely funding provided for M&amp;E during project implementation?<br/>Unable to assess.</p>   |

b.2b To what extent did the project monitoring system provided real time feed back? Was the information that was provided used effectively? What factors affected the use of information provided by the project monitoring system? The project monitoring system does seem to have provided real time feed back due to which the project management unit was able to make suitable alterations in the project activities. For example, the surveys conducted before the mid term review provided detailed information on performance of various knowledge products disseminated by the information dissemination centers.

b.3 Can the project M&E system (or an aspect of the project M&E system) be considered a good practice? If so, explain why.

The M&E system of the project is a good practice. Appropriate result indicators were chosen and performance on these indicators was monitored at a regular basis. The M&E system gathered information from sources that were highly reliable. Thus, ensuring the validity of the performance assessments carried out by it. Two mid term reviews were carried out to assess progress – this is appropriate given the relatively long duration for which the project was under implementation. Another positive element of the system was the project progress surveys that were carried out to provide data inputs for the mid term reviews and the terminal evaluation. This facilitated the subsequent review and evaluation team to have easier access to relevant information.

#### 4.6 Assessment of Quality of Implementation and Execution

**a. Overall Quality of Implementation and Execution (on a six point scale): S**

**b. Overall Quality of Implementation – for IA (on a six point scale): MS**

Briefly describe and assess performance on issues such as quality of the project design, focus on results, adequacy of supervision inputs and processes, quality of risk management, candor and realism in supervision reporting, and suitability of the chosen executing agencies for project execution.

The project design was appropriate for the project of this nature. The two main project components – on demonstration activities through EMC and on information dissemination – built on the gains made by the other. The M&E system tracked appropriate indicators against clear performance standards. The methodology adopted for data collection was and analysis was reliable. The financial and physical progress of the project was timely supervised by the implementing agency. The implementing also restructured some of the activities based the feedback received through the mid term reviews.

The reviews conducted on all procurements in the project found that they were consistent with the IA procurement guidelines. The terminal evaluation also mentions that all project related documentation was maintained and readily available.

The reporting by the IA to the GEF has, however, not been as candid in reporting the changes made in the performance targets. The terminal evaluation reports that initially the overly enthusiastic targets had been chosen. It further asserts that the personnel involved in project design were aware of this. However, this has not been addressed in the project appraisal document. Implying, that the IA gave over enthusiastic estimates of expected results to the GEF Council and later downscaled them when it became apparent that the proposed targets were not achievable.

**c. Quality of Execution – for Executing Agencies<sup>1</sup> (rating on a 6 point scale) S**

Briefly describe and assess performance on issues such as focus on results, adequacy of management inputs and processes, quality of risk management, and candor and realism in reporting by the executive agency.

The State Economic and Trade Commission, a government agency, was the executing agency for this project. The terminal evaluation does not directly describe its performance in execution of the project. Based on the information provided it seems that the project was able to successfully seek collaboration of the central and provincial governments on issues related to counter guarantees and disbursement systems. The information provided in the terminal evaluation shows that most of the activities were completed in a timely manner and that the project results were monitored as per the M&E plan.

### 5. LESSONS AND RECOMMENDATIONS

Assess the project lessons and recommendations as described in the TE

<sup>1</sup> Executing Agencies for this section would mean those agencies that are executing the project in the field. For any given project this will exclude Executing Agencies that are implementing the project under expanded opportunities – for projects approved under the expanded opportunities procedure the respective executing agency will be treated as an implementing agency.

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| <b>a. Briefly describe the key lessons, good practice or approaches mentioned in the terminal evaluation report that could have application for other GEF projects</b>  |
| <p>The terminal evaluation report lists following lessons:</p> <ul style="list-style-type: none"> <li>- Without consistent support from the central government, the project would have likely floundered when faced with the many regulatory and 'system adaptation' issues that arose during the first 4-5 years. Government support provided necessary legitimacy to the emerging new businesses. Provincial government support also was important.</li> <li>- The GEF grants were essential for lowering the risks involved in establishing the EMCs and helping them become commercially viable.</li> <li>- The establishment of the EMCs was phased to allow it to build from a smaller level of operation. This allowed it to learn by doing, and to confront various issues practically, with actual cases, as they arose.</li> <li>- Flexibility and adaptability are crucial in the design of projects that introduce new concepts and practices. Application of the basic EPC concepts evolved and changed substantially through the piloting phases, with the end results becoming unique for application in Chinese market conditions and in line with Chinese business conventions.</li> <li>- The inherent profitability of untapped small and medium-sized energy efficiency investments has proved a key underlying reason for the eventual success of the energy performance contracting business in China, as in other countries. As a relatively complicated investment mechanism requiring multiple skills to implement effectively, the potential of this mechanism to pick up quite profitable investments which otherwise are often overlooked is what has attracted new companies and investors with strong entrepreneurial spirit.</li> <li>- The staging of energy performance contracting through pilots, demonstrations, operations, and dissemination in this project, with a source of dedicated financing, built linkages with the local financiers and fostered development of EMCs and their companies.</li> </ul> |
| <b>b. Briefly describe the recommendations given in the terminal evaluation</b>   |
| The terminal evaluation does not provide specific recommendations.  |

## 6. QUALITY OF THE TERMINAL EVALUATION REPORT

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| <b>6.1 Comments on the summary of project ratings and terminal evaluation findings based on other information sources such as GEF EO field visits, other evaluations, etc.</b> |
| None.  |

Provide a number rating 1-6 to each criteria based on: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, and Highly Unsatisfactory = 1. Please refer to document GEF Office of Evaluation Guidelines for terminal evaluations review for further definitions of the ratings. Please briefly explain each rating.

| <b>6.2 Quality of the terminal evaluation report</b>   | <b>Ratings</b> |
|--|----------------|
| <p><b>a. To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?</b></p> <p>The terminal evaluation report provides a detailed and comprehensive account of the relevant outcomes and impacts of the projects and achievement of objectives.</p>   | HS             |
| <p><b>b. To what extent the report is internally consistent, the evidence is complete/convincing and the IA ratings have been substantiated? Are there any major evidence gaps?</b></p> <p>The terminal evaluation report is internally consistent and the evidence presented to support conclusions is convincing. However, in some areas it could have provided more information. For example, it mentions that the achievement targets on key indicators were downscaled during implementation. It, however, does not provide information on by how much the targets were downscaled.</p> | S              |
| <p><b>c. To what extent does the report properly assess project sustainability and /or a project exit strategy?</b></p> <p>The terminal evaluation report adequately discusses key issues pertaining to project sustainability.</p>  | S              |
| <p><b>d. To what extent are the lessons learned supported by the evidence presented and are they comprehensive?</b></p> <p>The lessons learnt presented in the terminal evaluation are well supported by the evidence and comprehensively cover the key dimensions of project performance.</p>   | S              |
| <p><b>e. Does the report include the actual project costs (total and per activity) and actual co-financing used?</b></p>   | HS             |

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| The terminal evaluation report provides detailed information on actual project costs and actual co-financing. It also tracks the financial progress made by the project during different stages of implementation. |   |
| <b>f. Assess the quality of the reports evaluation of project M&amp;E systems?</b>   | S |
| The terminal evaluation report comprehensively covers the M&E related issues.  |   |

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| <b>7. SOURCES OF INFORMATION FOR THE PRERATATION OF THE TERMINAL EVALUATION REVIEW REPORT EXCLUDING PIRs, TERMINAL EVALUATIONS, PAD.</b> |
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