

## Terminal Evaluation Review form, GEF Evaluation Office, APR 2014

### 1. Project Data

Summary project data			
GEF project ID		80	
GEF Agency project ID		4404; P004607	
GEF Replenishment Phase		Pilot Phase	
Lead GEF Agency (include all for joint projects)		World Bank	
Project name		Leyte-Luzon Geothermal	
Country/Countries		Philippines	
Region		Asia	
Focal area		Climate Change	
Operational Program or Strategic Priorities/Objectives		Promoting the adoption of renewable energy by removing barriers and reducing implementation costs.	
Executing agencies involved		Philippines National Oil Company's Energy Development Corporation (PNOC-EDC) and the National Power Corporation (NPC).	
NGOs/CBOs involvement		None identified.	
Private sector involvement		Build-Operate-Transfer (BOT) Private Power Generation Contractors, through consultations.	
CEO Endorsement (FSP) /Approval date (MSP)		5/1/1991	
Effectiveness date / project start		March 1, 1994	
Expected date of project completion (at start)		June 30, 1999	
Actual date of project completion		NA	
Project Financing			
		At Endorsement (US \$M)	At Completion (US \$M)
Project Preparation Grant	GEF funding		
	Co-financing		
GEF Project Grant		\$31.2	\$31.2 (Trustee dataset)
Co-financing	IA own		
	Government		
	Other multi- /bi-laterals		
	Private sector		
	NGOs/CSOs		
Total GEF funding		\$31.2	\$31.2
Total Co-financing		\$1,333.6	\$1,286.10
Total project funding (GEF grant(s) + co-financing)		\$1,364.8	\$1,317.30 (p. 19, TE)
Terminal evaluation/review information			
TE completion date		October 16, 2000	
TE submission date		October 16, 2000	
Author of TE		Selina Wai Sheung Shum	
TER completion date		January 2015	
TER prepared by		Erika Hernandez	
TER peer review by (if GEF EO review)		Joshua Schneck	

## 2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation	IA Evaluation Office Review	GEF EO Review
Project Outcomes	NA	U*	U	MS
Sustainability of Outcomes	NA	U**	U	MU
M&E Design	NA	U	NA	U
M&E Implementation	NA	NA	NA	UA
Quality of Implementation	NA	S	U	MU
Quality of Execution	NA	S	U	MS
Quality of the Terminal Evaluation Report	-	-	Exemplary	MS

\* Note that the text of the ICR states that the overall outcome of the project is "Marginally Unsatisfactory." However, the WB performance ratings shown at pg 5 of the ICR are on a 3-point scale: Highly Satisfactory; Satisfactory; Unsatisfactory.

\*\*WB Sustainability scale is 4-point from Highly Likely to Highly Unlikely. U rating is taken as equivalent to GEF MU rating.

## 3. Project Objectives

### 3.1 Global Environmental Objectives of the project:

As stated in the Project Document (PD), the global environmental objectives of the project are to help reduce emissions of CO<sub>2</sub> and other GHGs that contribute to climate change. The project would accomplish this by developing a geothermal energy plant in the Philippines, and supporting other policy and institutional measures that are intended to demonstrate the feasibility of this technology, reduce costs, and lower barriers to further develop and utilization. Compared with fossil-fuel powered electric generation, CO<sub>2</sub> emissions from geothermal plants are some 10 to 15 times lower [p.5, PD]. The PD states that the project is expected to reduce emissions of CO<sub>2</sub> by 3,200,000 tons per year, although it does not specify for how long (25 year plant life) or if these are direct or indirect reductions, or a combination of both [p. 5, TE].

### 3.2 Development Objectives of the project:

As stated in the PD, the project's development objectives are to:

- a) "meet the rapidly increasing demand for power in Luzon using indigenous and environmentally superior geothermal energy;
- b) Strengthen the energy sector by implementing institutional, planning, and financial improvements recommended by the Energy Sector Plan (ESP);
- c) Support the large ongoing private sector participation in power generation, and facilitate it by extending the national grid;
- d) Strengthen NPC's capabilities in environmental and social impact analyses;
- e) Introduce Expanded Co-financing Operation (ECO co-financing) in the Philippines; and,
- f) Ensure the financial viability of NPC and Philippine National Oil Corporation (PNOC) for undertaking a long-overdue investment program," [p. 3, PD].

### 3.3 Were there any **changes** in the Global Environmental Objectives, Development Objectives, or other activities during implementation?

There were no changes in the Global Environmental and Development Objectives. Two components were added to the project. They were:

- (1) Construction of a 7 km steam line interconnecting all of the power plant steam collection systems in order for it to function as one integrated network equipped having operational and production flexibility;
- (2) Updated reservoir assessment of the Leyte Geothermal Project, [p. 3, TE].

#### 4. GEF EO assessment of Outcomes and Sustainability

Please refer to the GEF Terminal Evaluation Review Guidelines for detail on the criteria for ratings.

Relevance can receive either a Satisfactory or Unsatisfactory rating. For Effectiveness and Cost efficiency, a six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess. Sustainability ratings are assessed on a four-point scale: Likely=no or negligible risk; Moderately Likely=low risk; Moderately Unlikely=substantial risks; Unlikely=high risk. In assessing a Sustainability rating please note if, and to what degree, sustainability of project outcomes is threatened by financial, sociopolitical, institutional/governance, or environmental factors.

Please justify ratings in the space below each box.

<b>4.1 Relevance</b>	Rating: <b>Satisfactory</b>
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This TER finds the project’s relevance to be *satisfactory*. The abovementioned development objectives are consistent with the Philippine’s stated priorities of energy expansion. As PD notes, this is of particular importance given the power crisis that it underwent during 1991-1993, which posed a great threat to its economic recovery given its prolonged outages. This crisis caused unemployment to increase and economic losses to amount up to USD \$1 billion per year. As a result of this event, the Government prioritized energy reform through launching a “fast-track” generation expansion program based on combustion turbine or diesel-engine systems that are not cost-effective. The usage of geothermal energy will enhance the creation of a cost-effective and more environmental-friendly energy framework. The development objectives are also consistent with the Bank’s Country Assistance Strategy (CAS) during its approval timing (1989-1994). CAS had the aim at assisting the country to regain a “sustainable high growth path” led by an expansion of an internationally competitive private sector and the reduction of infrastructure bottlenecks. This project is also of great interest to the GEF in that it supports its operational program “*Promoting the adoption of renewable energy by removing barriers and reducing implementation costs.*” The GEF grant would help in reducing CO2 emissions at a cost of US \$1.60 per ton and would support the Philippines in pioneering in the optimization of the geothermal pressure utilization [p. 5, PD].

<b>4.2 Effectiveness</b>	Rating: <b>Moderately Satisfactory</b>
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The TE rates the project’s overall outcome as *Unsatisfactory*, although it does not give a specific rating for effectiveness. This rating is one a 3-point rating scale (Highly Satisfactory; Satisfactory; Unsatisfactory, ICR pg 5). In the text of the ICR, TE states overall project outcome is rated as *marginally unsatisfactory*, principally because the objective of strengthening the financial viability of project entities (Philippines National Power Corporation) has not been achieved, and the high cost of meeting the projects

physical and environmental objectives was a contributing factor. However, this TER rates effectiveness as *Moderately Satisfactory*. TE states that the project substantially achieved its physical and environmental objective of meeting the increasing demand for power in Luzon using indigenous and environmentally superior geothermal energy resources [p 6, TE]. Moreover, TE states that the objective of promoting private sector participation was also substantially achieved by the project, with some 50% of total financing coming from the private sector. Shortcomings include long delays by Congress at the time of the TE in the passage of two bills aimed at improving the efficiency, sustainability of the electric sector, and level the playing field for geothermal development. Objectives concerning PNOC-EOC seem to have matched the original goals. However, one of the objectives that sought to ensure financial sustainability of National Power Corporation (NPC) was not attained. Financial sustainability of both organizations (NPC and PNOC-EOC) was regarded as necessary given that one of the key factors in the energy crisis in Philippines was their weak financial feasibility. This project was developed to address such problem. TE finds that sustainability for NPC has not yet been achieved.

Progress towards expected outcomes is detailed further below under each development objective:

1) **Development Objective 1. (Rating by TER: Satisfactory.)** *Meet the rapidly increasing demand for power in Luzon using indigenous and environmentally superior geothermal energy.*

The TE rates this objective as *satisfactory*. The project attained the objective of increasing demand for power in Luzon through indigenous and environmentally effective geothermal resources [p. 6, TE]. An additional 383 MW of capacity were added the Luzon grid. At the time of project closure in 1999, geothermal power (with a substantial share coming from this project) accounted for 27% of the total power generation in the country, compared with a significantly lower amount at project inception (actual percentage not stated in TE) [p. 6, TE].

2) **Development Objective 2. (Rating by TER: Moderately Unsatisfactory.)** *Strengthen the energy sector by implementing institutional, planning, and financial improvements recommended by the Energy Sector Plan (ESP).*

The TE did not rate this objective, although the TE narrative indicates that it was partially achieved. Several ESP actions were implemented however Congress has yet to adopt (i) a power sector restructuring bill to improve sectorial efficiency and sustainability; and (ii) a geothermal bill to increase financial incentives for investment in geothermal development [p. 11, TE]. This delays have adversely affective the finances and sustainability of PNOC-EDC and their components under this project.

3) **Development Objective 3. (Rating by TER: Satisfactory.)** *Support the large ongoing private sector participation in power generation, and facilitate it by extending the national grid.*

The TE rates this objective as *satisfactory*. This goal was largely achieved, with some 51% of the total financing requirement funded by the private sector. For its part, PNOC-EDC entered into 3 BOT agreements with 2 private power companies for construction and a 10-year operation of 3 geothermal plants [p. 6, TE]. This was conducive to the interconnection of the Leyte and Luzon grids [p. 52, TE].

4) **Development Objective 4. (Rating by TER: Unsatisfactory.)** *Strengthen NPC's capabilities in environmental and social impact analyses.*

The TE did not rate this objective, however the text indicates that it was not achieved. TE states that there have been significant delays in compensation resettlement payments by NPC, although TE finds that some of these problems were beyond NPC’s control.

5) **Development Objective 5. (Rating by TER: Satisfactory.)** *Introduce Expanded Co-financing Operation (ECO co-financing) in the Philippines.*

The TE did not rate this objective, but indicates that ECO implementation was successful [p. 6, TE]; through which a drawdown of loan from JEXIM and Eurobond was made for the total of \$53.7 million [p. 45, TE].

6) **Development Objective 6. (Rating by TER: Moderately Unsatisfactory.)** *Ensure the financial viability of NPC and PNOC for undertaking a long-overdue investment program.*

TE does not rate this objective. However, this component has not yet been fully achieved. As per the TE, this objective was not met as NPC had not complied will all the financial covenants. Throughout the years, the NPC incurred extensive debt in order to have liquidity. To solve this, the Lower and Upper Houses have adopted their own power sector restructuring bill although, at the time of that the TE was written, it is not possible to know whether these bills were reconciled and whether NPC was recapitalized. The Asian Development Bank is conducting this last activity with the Government of Philippines [p. 5, TE]. As for PNOC-EDC, it had consistently complied with all its financial performance covenants until 1997 [p. 5, TE]. Some of the results were: (i) increased revenue due to greater electricity generation; increase in PNOC-EDC assets; and (iii) decreased dependence on NPC for utilization of geothermal steam by transforming into an independent power producer [p. 52, TE]. As PNOC-EDC is waiting for its 10-year BOT (Build-Operate-Transfer) financial contract obligations to come to an end and its activities been negatively affected by the economic crisis, it has sought external finances to address its liquidity issue [p. 5-6, TE]. Its financial forecast of the medium-term (by 2006) is that of improvement in profitability [p. 6, 52, TE].

<b>4.3 Efficiency</b>	<b>Rating: Moderately Satisfactory</b>
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The TE does not rate the project’s efficiency. This TER rates the project’s efficiency as *moderately satisfactory*. The TE mentions that the frequent changes of task manager and team members have negatively affected efficiency and effectiveness of the Bank’s inputs [p. 16, TE]. In addition, the project experienced several delays. First, regarding the NPC-executed components, there have been significant delays in land acquisition and Right of Way (ROW) compensation payments. TE finds that in some cases, these delays in compensation were partly beyond the control of NPC, and due to missing or incomplete documentation from landowners [p. 11, TE]. Second, there were delays in improving the efficiency and sustainability of the sector, especially in regards to the Congress’ passage of a power sector restructuring bill and a geothermal bill [p. 4, TE].

4.4 Sustainability	Rating: <b>Moderately Unlikely</b>
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The TE rates this section as *Unlikely*, although WB Sustainability scale is 4-point from Highly Likely to Highly Unlikely. Thus U rating is taken as equivalent to GEF MU rating. This TER rates sustainability as *Moderately Unlikely*, due to significant risks associated with the uncertain financial viability of NPC and the considerable uncertainties in the operating environment.

Risks to the sustainability of project outcomes are assessed further along the following dimensions:

- **Financial resources (Moderately Unlikely).** TE states that the NPC has maintained a precarious financial situation and the goal of strengthening financial viability was not been met. TE notes two key factors that have contributed to this: “(1) general sectoral uncertainty caused by the protracted delay in the passage of an enabling legislation for power sector restructuring and the Geothermal Bill which would reduce the high royalty imposed on the geothermal industry and level the playing field with nominally cheaper but more polluting fossil fuel; and (ii) the current overcapacity in power generation is expected to continue over the medium term, coupled with the fixed take-or-pay IPP obligations of NPC, has had an adverse impact on the Corporation’s finances.” (TE, pg 13).
- **Sociopolitical (Unable to Assess).** No major sociopolitical risks were identified. The TE only mentions that the passage of the power sector restructuring bill has been obstructed by the politicized agenda in Congress [p. 13, TE].
- **Institutional framework and governance (Unable to Assess).** At the moment of the TE’s submission, there were social and political risks that were undermining the project’s institutional sustainability. First, the enabling legislation for power sector restructuring and Geothermal Bill was in the process of approval when the TE was written. The wording suggests that this legislation had been blocked for some time, which had possibly affected royalty revenues and making nominally cheaper and more polluting energy to be purchased [p. 13, TE].
- **Environmental (Unable to Assess).** TE does not discuss environmental risks to sustainability of outcomes.

## 5. Processes and factors affecting attainment of project outcomes

5.1 Co-financing. To what extent was the reported co-financing essential to the 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 so, in what ways and through what causal linkages?

Co-financing represented significant support for the attainment of the project’s goals (co-financing represented 98% of the project’s financing), thus the project clearly would not have gone forward using only GEF funds. However, the TE does not mention whether co-financing contributed to the project’s sustainability.

5.2 Project extensions and/or delays. 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 so, in what ways and through what causal linkages?

Yes, the project underwent several extensions. The project experienced a loan extension of 9 months (from June 30, 1999 to March 31, 2000), [TE, p. 3]. The National Power Corporation (NPC) component underwent substantial delay. According to the TE, these delays were a product of inadequate readiness for the project's implementation regarding the resettlement action plan [p. 3, TE]. Other major delays consist on the protracted passage by Congress of a power sector restructuring bill that would allow the improvement in efficiency and sustainability; and, a geothermal bill that enables increasing financial incentives for investment in geothermal development [p. 4, TE]. In addition, a different legal interpretation was given to the liabilities for the fixed BOT (Build-Operate-Transfer) obligations on the finances of project entities, which was part of the first component.

5.3 Country ownership. 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:

Country ownership positively and negatively affected project outcomes and sustainability. The TE rates performance of NPOC-EDC and NPC as *satisfactory*. The TE considers that both institutions were "committed to the Project and undertook necessary actions by the Bank," [p. 15, TE]. However, there were several other factors that have affected the organizations' performance. First, the introduction of competition from new Independent Power Producers (IPPs) caused NPC to lose market shares, which exacerbate its financial difficulties [p. 11, TE]. Second, the levels and pace of power tariff adjustments have had a negative impact on the finances of these agencies, project economic viability and sustainability. Third, bureaucratic and political procedures have also negatively impacted the strengthening of these institutions. For instance, the delayed passage of the power sector restructuring bill as well as that of the Geothermal Bill have prevented (1) NPC's financial recovery action plan, and (2) the financial sustainability of PNOC-EDC [p. 11, TE]. However, in general, both institutions have positively influenced project outcomes and sustainability.

## **6. Assessment of project's Monitoring and Evaluation system**

Ratings are assessed on a six point scale: Highly Satisfactory=no shortcomings in this M&E component; Satisfactory=minor shortcomings in this M&E component; Moderately Satisfactory=moderate shortcomings in this M&E component; Moderately Unsatisfactory=significant shortcomings in this M&E component; Unsatisfactory=major shortcomings in this M&E component; Highly Unsatisfactory=there were no project M&E systems.

Please justify ratings in the space below each box.

<b>6.1 M&amp;E Design at entry</b>	Rating: <b>Unsatisfactory</b>
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The TE does not provide a rating or assess the quality of M&E Design at entry. This TER rates M&E Design as *unsatisfactory* based on the design presented in the PD. The PD does not include a logical framework matrix with indicators and targets. The project does have an overall target for emissions reductions and does provide a detailed list of activities to be undertaken. However, there are no indicators or targets provided for expected project outcomes. As TE notes, the M&E indicators that were provided were oriented toward project outputs instead of outcomes [p. 14, TE]. PD does not discuss project M&E requirements in any way, except to note that certain aspects of the project, such as field development “will be reviewed periodically” [PD, Annex 1, p. 10]. The lack of indicators, targets, and baseline data is particularly pressing for the non-engineering components of the project, including Objective 4, *Strengthen NPC’s capabilities in environmental and social impact analyses*, and Objective 2, *Strengthen the energy sector by implementing institutional, planning, and financial improvements recommended by the Energy Sector Plan (ESP)*, where project performance is both difficult to assess and where TE indicates there were delays and underperformance. Lastly, TE does not provide any dedicated budget for M&E.

<b>6.2 M&amp;E Implementation</b>	Rating: <b>Unable to Assess</b>
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The TE did not rate M&E implementation. This TER rated M&E Implementation as *unable to assess* based on the assessment in the TE narrative, indicating both the extent of monitoring and limitations of M&E during the project. General monitoring seems to have taken place throughout the project by monitoring the maintenance and operations of PNOC-EDC plants [p. 13, TE]. A protocol was provided by the CO<sub>2</sub> Absorption and Sequestration Study for regular monitoring of PNOC’s CO<sub>2</sub> emissions [p. 42, TE]. Post project, it was expected that the future maintenance and operation of BOT power plants would be monitored by Power Department in the Field Office, created by PNOC-EDC. The Field Office would monitor: actual available energy and sales from geothermal plants in Leyte to NPC Leyte-Luzon system. Once having commissioned the Leyte-Luzon HVDC interconnection system of NPC, monitoring future operations and development impact was expected. No other forms of monitoring, information on M&E training or M&E budget were found. A TE was conducted.

## **7. Assessment of project implementation and execution**

Quality of Implementation includes the quality of project design, as well as the quality of supervision and assistance provided by implementing agency(s) to execution agencies throughout project implementation. Quality of Execution covers the effectiveness of the executing agency(s) in performing its roles and responsibilities. In both instances, the focus is upon factors that are largely within the control of the respective implementing and executing agency(s). A six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess.

Please justify ratings in the space below each box.



<b>7.1 Quality of Project Implementation</b>	Rating: <b>Moderately Unsatisfactory</b>
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The TE rates the World Bank’s performance as *Satisfactory*. TE states that the World Bank provided critical and significant support in organizing the financial engineering for the project, and in providing significant policy and project preparation inputs. However, this TER rates Quality of Implementation as *Moderately Unsatisfactory* as there were significant shortcomings in WB performance. Some of the project’s major design shortcomings were: a poor project design that heavily relied on external exercises such as the passage of legislation; the Bank’s failure to implement its own social safeguard policies; and, a poor risk assessment was performed. TE also mentions that there were frequent changes in task manager and team members that hampered the continuity of supervision efforts [p. 14-15, TE].

Regarding the social safeguard policies, the NPC resettlement policy was rated as *highly unsatisfactory* because the recovery action plan did not meet with the original completion date of June 30, 2000 [p. 8, TE]. There were also delays concerning resettlement compensations but this was partly due to incomplete documentation given by landowners [p. 11, TE]. As for a poor risk assessment, the TE mentions that there needs to be a sufficient risk analysis/management of the energy restructuring sector, particularly related to the improving the economic efficiency of specific projects. Guidelines for the payment of BOT schemes were not adequately designed and, thus, their obligations were not paid in full [p. 5, TE]. Finally, the project’s poor M&E design heavily relied on the passage of legislation which was not within the project executors / implementers reach (as per the IEG).

<b>7.2 Quality of Project Execution</b>	Rating: <b>Moderately Satisfactory</b>
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The TE rates the performance by NPOC-EDC and NPC as *Satisfactory*. This TER rates this section as *moderately satisfactory*. While execution by NPOC-EDC was satisfactory, project execution by NPC had moderate shortcomings. As per the TE, both project executors were committed to project outputs and undertook direct actions, as advised by the Bank. Nevertheless, both institutions performed differently. PNOC-EDC’s performance was rated as highly satisfactory as its components were mostly on schedule and below the budget. The only delay that this institution faced was one related to the implementation of the CO<sub>2</sub> reinjection plant [p. 41, Annex 11, TE]. As for NPC, the procurements activities under its components were delayed. The document deems that the implementation of NPC’s resettlement action plans were a mirror of the organization’s inadequate preparation [p. 15, TE].

As previously mentioned, NPC experienced implementation delays in land acquisition, ROW compensation payments, among others. Some of compensation payments depended on landowners’ inability to provide complete documents [p. 11, TE]. For this, NPC offered a revised schedule where it will allow for timely compensation for non-expropriation cases [p. 8, TE], but its completion remains unknown. The physical components implemented by NPC were mostly behind schedule. The *construction of two high voltage DC (HVDC) converter stations* was eight months behind its appraisal schedule. The *construction of (i) a twin circuit HVDC overhead transmission line* from Ormoc to Cabacungan and from Matnog to Naga, was completed and energized eight months later than its effective date for its power purchase agreement. The *rehabilitation of the Naga-Tayabas transmission lines* was completed but was behind its schedule partly because tower plants underwent pilferage [p. 43, TE].

Taking into account both institutions, the TE considers that the project implementation was within budget for great part of the components [p. 15, TE]. The TE rates ‘borrower’ performance as *satisfactory*.

## 8. Assessment of Project Impacts

**Note - In instances where information on any impact related topic is not provided in the terminal evaluations, the reviewer should indicate in the relevant sections below that this is indeed the case and identify the information gaps. When providing information on topics related to impact, please cite the page number of the terminal evaluation from where the information is sourced.**

8.1 Environmental Change. Describe the changes in environmental stress and environmental status that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

This TER found that there were two possible environmental impacts originating from this project. First, this TER concurs with the TE in that the incapacity to enhance NPC’s (National Power Corporation) financial situation may further produce a negative environmental impact. The inability to maintain a stable geothermal energy supply may cause consumption to default back into polluting energy technologies, such as fossil fuels [p. 13, TE]. Second, the CO<sub>2</sub> Absorption and Sequestration study state that “the amount of Carbon stores in the reservation as well as the Carbon to be sequestered for 25 years” will more than outweigh total CO<sub>2</sub> emissions that power plants will likely emit in 25 years [p. 10, TE].

8.2 Socioeconomic change. Describe any changes in human well-being (income, education, health, community relationships, etc.) that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

No socioeconomic changes were reported in the TE.

8.3 Capacity and governance changes. Describe notable changes in capacities and governance that can lead to large-scale action (both mass and legislative) bringing about positive environmental change. “Capacities” include awareness, knowledge, skills, infrastructure, and environmental monitoring systems, among others. “Governance” refers to decision-making processes, structures and systems, including access to and use of information, and thus would include laws, administrative bodies, trust-building and conflict resolution processes, information-sharing systems, etc. Indicate how project

activities contributed to/ hindered these changes, as well as how contextual factors have influenced these changes.

#### a) Capacities

Using the information provided in the TE, capacity development provided by the NPC component is not likely to have a long-term impact in building up competencies. Impact by training provided by the PNOC-EDC component remains to be assessed. For the NPC component, the report considers that its impact on capacities will be insignificant given that the consultant's report was not disseminated [p. 10, TE], impeding technicians and public officers to further learn from their implementation errors. This prevented capacity development regarding the Casecnan hydroelectric project. Moreover, NPC's training in project management is also regarded as minimal in view of NPC's project delays [p. 10, TE]. Technical assistance to help design this project was cancelled because it was then handed over the National Irrigation Administration (NIA) [p. 10, TE]. If the Power Department established by PNOC-EDC provides a formal training program for its personnel in the next 2 years as originally stated, then there will be a change in monitoring capacities. Furthermore, BOT contracts are supposed to provide training to PNOC-EDC personnel one year prior formal turn-over but their result is unknown [see p. 13, TE]. However, construction of the two high voltage DC (HVDC) converter stations, a twin circuit HVDC overhead transmission line, the installation of submarine cables for the HVDC system represent a long-term asset for enhancing countries' geothermal energy competences.

#### b) Governance

This TER observes that the impact of governance was minimal, up until the submission of the TE. This because the power sector restructuring bill and the geothermal bill had not been passed by the Upper and Lower Houses at Congress. Both Houses had their own different bill proposals and, so, a reconciliation of wording was expected. Whether these laws have now been adopted, this TER was unable to assess their impact in Philippines' power sector governance as they had not been adopted by the time the TE was submitted [p. 13, TE]. Institutional development impact of the NPC component was rated as negligible by the TE. Despite having attempted to provide compensation for land acquisition and Right-of-Way (ROW), the TE considers that the project will achieve limited impact in the governance structures under which the NPC operates. While there were attempts to address weaknesses manifested during the three-year drought by institutions like the NPC, there seems to be very limited progress. Like during the crisis, approvals for new power projects were delayed once again, suggesting that delay in approvals might be at the upper echelon of NPC or at the legislative branch.

8.4 Unintended impacts. Describe any impacts not targeted by the project, whether positive or negative, affecting either ecological or social aspects. Indicate the factors that contributed to these unintended impacts occurring.

No socioeconomic changes were reported in the TE.

8.5 Adoption of GEF initiatives at scale. Identify any initiatives (e.g. technologies, approaches, financing instruments, implementing bodies, legal frameworks, information systems) that have been mainstreamed, replicated and/or scaled up by government and other stakeholders by project end. Include the extent to which this broader adoption has taken place, e.g. if plans and resources have been established but no actual adoption has taken place, or if market change and large-scale environmental benefits have begun to occur. Indicate how project activities and other contextual factors contributed to these taking place. If broader adoption has not taken place as expected, indicate which factors (both project-related and contextual) have hindered this from happening.

No initiatives at scale were documented by the TE.

## 9. Lessons and recommendations

9.1 Briefly describe the key lessons, good practices, or approaches mentioned in the terminal evaluation report that could have application for other GEF projects.

The TE described the following lessons learned [p. 16, TE]:

- While "fast-track" BOT (Build-Operate-Transfer) projects have proved crucial in alleviating power shortages, the economic efficiency of individual private investments should be improved with due consideration for (a) a cohesive sectoral approach, with special attention to prudent investment planning and management; and, (b) rationalization of prices and risk sharing arrangements within a competitive and transparent framework.
- The high cost of the Independent Power Producer (IPP) Program has been a contributing factor to the failure of the Project to meet its financial objective and has adversely affected the project economics. Such an outcome indicates the need for sufficient risk analysis/management.
- Conventional economic rate of return analysis is poorly suited to an environment where higher-cost, sub-optimal investments are required to eliminate power shortages. In the case of NPC, the transmission investments to bring power from higher-cost plants are likely to be underutilized now that the power crisis is over. The quantification of benefits and the estimation of the economic rate of return is critically dependent on the estimated value of unserved energy.
- The use of a "rate of return on assets" target for financial performance is inappropriate for a company/sector with a very large and lumpy investment program.
- In cases where such obligations as BOT contracts have significant impact on the entities' finances, the legal agreements should made explicit reference to the treatment of such obligations in the definition of financial covenants.
- Quality at entry is a critical success factor for project implementation. In particular, for the resettlement component, resolution of the right-of-way (ROW) issue and completion of compensation payment is one of the pre-conditions prior to project construction.
- In its ICR, NPC noted that as in the case of previous transmission line projects of the Corporation, the perennial Right-of-Way (ROW) problem should be given top priority in terms of adequate policies and guidelines acceptable to affected landowners; adequate and qualified personnel to handle negotiations and expropriation cases; secure full support of other government agencies involved in the processing of ROW documents.

- In its ICR, PNOC-EDC noted that although the BOT scheme ensured the availability of private capital, there is a need to plan for possible funding deficits resulting from imbalance between project revenues and project operating and financing costs.
- The complications associated with two implementation agencies (in different subsectors) under one project should be taken into account in the design of future projects.
- There are no short cuts to a successful complex operation; above-average inputs of Bank resources and broad staff skill mix for project design, appraisal and supervision are required.
- Frequent changes of task manager and team members are not conducive to efficiency and effectiveness of the Bank's inputs. On the other hand, synergies may be achieved by a series of Bank interventions with the same project team.

9.2 Briefly describe the recommendations given in the terminal evaluation.

The TE does not provide recommendations.

## 10. Quality of the Terminal Evaluation Report

A six point rating scale is used for each sub-criteria and overall rating of the terminal evaluation report (Highly Satisfactory to Highly Unsatisfactory)

Criteria	GEF EO comments	Rating
To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?	<i>The report contains a brief assessment of achieved objectives and an adequate evaluation of activities. Only financial impacts were identified.</i>	<b>MS</b>
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	<i>The report is internally consistent but evidence from the activities/outputs needs to be better streamlined into the achievement of objectives. Ratings were well substantiated.</i>	<b>S</b>
To what extent does the report properly assess project sustainability and/or project exit strategy?	<i>The report identifies financial and environmental sustainability but does not take into account sociopolitical and institutional sustainability.</i>	<b>MS</b>
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	<i>Lessons learned appear to be supported by the evidence presented here.</i>	<b>S</b>
Does the report include the actual project costs (total and per activity) and actual co-financing used?	<i>The TE does include actual project costs but it does not include a breakdown for co-financing.</i>	<b>S</b>
Assess the quality of the report's evaluation of project M&E systems:	<i>The TE gives a very limited assessment of the M&amp;E implementation.</i>	<b>MU</b>
<b>Overall TE Rating</b>		<b>MS</b>

**11. Note any additional sources of information used in the preparation of the terminal evaluation report (excluding PIRs, TEs, and PADs).**

*The documents that this TER analyzed were the PD and the TE.*