SOCIAL CARBON REPORT

CONTENT

ATTACHMENTS

1. Identifying the Project

Basic Information	
Indicators	*Indicators for the Hydroelectric Power Plants Version 04, 06/2010*
Project Name	*82 MW Lau Renun Hydro Power Plant, North Sumatra*
Diagnostic	*Community*
Year-Point of Project	*Zero*
Date of diagnostic	*21st of June 2010*
Date of completion of report	*22nd of June 2010*
Expiration Date	*31/12/2011*
Location	*North Sumatra Province, Indonesia*

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2. General description of the reduction of GHG emissions Project activity

2.1. Context and history of the reduction of GHG emissions project

The project activity is a new run-off-river type hydropower plant with a daily regulating pond at the five-hour peak power generation, diverting from the Renun river main stream and eleven (11) tributaries into Lake Toba. The regulating pond has a storage capacity of 500,000 m^3 and a power density of 820 W/m2. The total actual installed capacity of the project is 82 MW, consisting of two 41 MW turbines. The project is owned and developed by PT. PLN (Persero), a state-owned electricity company. The project supplies electricity to the connected Sumatra grid. The electricity currently generated by the grid is relatively carbon intensive. The proposed project will increase the utilization of renewable energy sources, in this case hydro energy, by operating a new hydropower plant.

The project area of the Renun Hydro Power Plant is situated in at northwestern part of Lake Toba in North Sumatra Province, and it is about 100 km south of Medan city as the crow flies. It includes part of the upper-reaches of the Renun River and part of Lake Toba. The principal structures of the Renun project such as the main intake and waterway are situated in the upper-reaches of the Renun River basin and the power station on Lake Toba. The proposed main intake is situated at about 750 m downstream from the public bridge of Sidikalang-Tarutung road on the upstream reach of the Renun river at Pangiringan. The power station is located at foot of the spur of Toba Escarpment about 2 km southeast of Silalahi village. The waterway is about 24 km long, including such structures as several stream intake weirs, surge tank and the penstock line is located between the main intake site and power station.

The regulatory pond is 10 ha in size with a very high power density of 820 W/m^2 and a storage capacity of 500,000 m^3 while the power planed is designed for a flow of 10.1 m^3/s respectively 872'640 m^3/day.

The exact location is 02? 39' 00" N and 98? 24' 34" E

Figure 1: Location of Renun HPP

Figure 2: The Reservoir and Control Room of Renun HPP. There is a Marketing Video available from South Pole Carbon Asset Management Ltd. at http://www.southpolecarbon.com/videopopup354.htm.

Planning and Implementation Stage:

The feasibility study for Renun HPP was undertaken by Japan International Cooperation Agency in cooperation with PLN in 1983-1985, followed by a detailed design completed in December 1988. Three loan agreements were concluded by the Japan Bank for International Cooperation by November 1994 but the project was put on hold again due to the Asian financial crisis. Following the onset of the Asian financial crisis, the Indonesian Rupiah depreciated more than fourfold before stabilizing again. This had an immediate adverse impact on PLN's profitability given that more than 70% of its expenses and all PPAs (Power Purchase Agreement between PLN and Independent Power Producer who built power plant and sell the electricity to PLN) were dollar-denominated while the electricity tariffs are all nominated in Indonesian Rupiah.

The expectation of additional revenue from carbon credits and general improvements in the macroeconomic situation made the project again financially viable so the construction was finally completed in July 2006. The plant started operation in December 2006.

2.2. Activities and methodology used for reduction/capture of GHGs

The project activity is a run-off-river type hydropower plant with a daily regulating pond. The power density of regulating pond is 820 W/m2. Total installed capacity of the project is 82 MW, consisting of two (2) x 41 MW turbines. The 2 x 41 MW installed capacity generates an average of 229,048 emission reduction credits per year, starting on the 01 September 2006. According to the CDM UNFCCC criteria, one approved GHG program by the Voluntary Carbon Standard (VCS) Board, the project is classified as large scale. Further to this, based on Annex A of the Kyoto Protocol it falls under the following types/categories of the Clean Development Mechanism under Kyoto Protocol:

"Consolidated baseline methodology for grid-connected electricity generation from renewable sources"

Reference: Approved consolidated baseline methodology ACM0002 version 10, sectoral scope 01 - Energy Industries (renewable-/non-renewable sources), effect as of EB 47

The specified project is not a part of a grouped project.

The credits will be sold on the voluntary market only.

3. Method of applying Social Carbon Methodology

3.1. Elements considered in the application of the Social Carbon Method for the sector

The application of the SOCIALCARBON methodology was mainly based on existing documents. Stakeholder meetings were conducted during the environmental impact assessment (EIA). Questionnaires were filled out by the Renun HPP staff and two phone interviews were conducted.

The diagnosis is based in the SOCIALCARBON Indicators for power plants enterprises, which evaluate meaningful 39 aspects of the project, considering the previous defined resources. The indicators are described individually, followed by a brief explanation of the present situation, the index obtained and, when necessary, the suggestions of actions that may be executed aiming the improvement of the project's sustainability.

The main objectives of this report are the evaluation of the project's sustainability and its contribution to the local sustainable development, without replacing the Project Design Document-PDD and its respective Validation/Verification Report. Technical specifications about the credits, project's baseline, monitoring plan, employed methodologies, among others aspects will be shown in the PDD and in the reports emitted by the Designated Operational Entity - DOE.

The contributions of the project to the global sustainable development which are not measurable, or that constitutes generic and static contributions, don't demand a periodic evaluation, as it is proposed in the SOCIALCARBON methodology.

3.2. Social, economic and environmental impacts of the enterprise/activity involved in the GHG emission reductions project

- Reservoir
- Changes in Waterflow
- Impact of construction activity
- Employment
- Electricity supply / stability
- Contributions to society (religious, health & education)
- Reforestation activity
- Contributions to agricultural activities

3.3. Method used for obtaining information

The results shown in this report are correspondent to the diagnosis provided by the SOCIALCARBON Methodology, at 21th of June 2010. This was considered the initial mark (Zero Mark) of the social and environmental performance of the project.

Several informal stakeholder interviews were held on the 14th of April 2010
A Questionnaire was filled out by Randy Zulkarnaen on the 28th of April 2010
A phone interview was conducted with Mr. Simanjorang on the 5th of May 2010
Another Questionnaire was filled out by Randy Zulkarnaen on the 21st of June 2010

3.4. Actors involved

Actors from PO & Stakeholder Meetings (Date, Time, Number of Participants)

-A stakeholder meeting was carried out on August 24, 2005 in the village hall of the Pegagan Julu IV village

- Two questionnaires filled out by Randy Zulkarnaen, employee at Renun HEPP at 28th of April 2010 and 21st of June 2010

- Phone interview with Mr. Simanjorang, commitee member of the local church, 25th of May, 2010

- Informal interview with Sintapuan Boru Sagalan, Weaverm Sialahi Village, 14th April 2010

- Informal interview with Drs. Sadiaman Sigiro, Headmaster, Smu Negeri 1 School 14th April 2010

- Informal interview with Josua Simanjuntak, Worker at Renun HEPP14th April 2010

-Informal interview with Fransischa br Sinabutar, Member of church committee of Santa Theresia deri Kanak-kanak Yesus Chruch 14th April 2010

Additional Interviews during validation site visit:

Mr. Roni Siahaan, Mr. Zulkarnain Pulungan, Mr. Randy Zulkarnaen, Mr. Edward Batubara, Mr. Josua Simanjuntak, Mr. Sudin Nadapdap, Mr. Taufik Abdi Nugraha and Mrs. Eka Silawati Firma, all workers at Renun HEPP

Mr. Sadiman Sigiro, Headmaster Junior High School

Mr. Sihotang, Barisan Nauli Headvillage, member of church commitee

Mr. Sidebang, Silalahi I Headvillage

Mrs. Erita Boru Sidebang, Weavern

Mrs. Fransischa Boru Sinabutar, member of church commitee

4. Results

4.1. Social Resources

1. Population displacement and activities

Evaluates the need of people's displacement during the project implantation, just as the adopted procedures in order to avoid negative impacts and maximize the positive ones.

Observations:

Some farmland was used for the construction of roads. The land users were compensated according to governmental standards.

Some more farmland and about 40 community businesses were relocated due to the installation of the regulatory pond. There were some problems, including a court case regarding the compensation, in particular due to unclear land ownership titles. There was one meeting with the local society to discuss land acquisition in 1993, but as construction was delayed, this was not sufficient to avoid later conflicts.

The regulatory pond is very small for a power plant of this magnitude and thus does affect the natural surrounding only minimal. Such is expressed in the power density of 820 W/m^2. CDM project activities are not allowed with a power density of less than 4 W/m^2. For project activities with power densities higher than 10 W/m^2 no project emissions from the reservoir occur. The underlying power density exceeds the 10 W/m^2 almost by two digits.

There was also an impact on downstream irrigation which had not been accounted for in the initial planning stage, as double cropping was introduced in the 1990s only. PLN supported an improvement of the systems to cope with lower water levels. 15 irrigation intakes are directly affected by the project.

Additional Information obtained during validation site visit:

During an interview with Mr. Roni Siahaan as RHPP senior worker, it was evident that compensation was given to several legal owners if farmland in surrounding communities during an earlier stage of the project construction. Compensation was defined as an amount of money given to land owners, and not as relocation of the farmers/families.

The amount of money that was given to land owners was based on comprehensive studies carried out by relevant government institution, e.g. Department of Agriculture, Department of Forestry and the Department of Social. The amount of compensation had been calculated to include the assurance of livelihood reestablishment and living conditions. There were no families without clear legal ownership accepted the compensation.

Index: 3

Perspectives: none

2. Communcication with stakeholders

Evaluates the process for contacting stakeholders in the planning, implementation and operation stages. The indicator also assesses the existence of an integrated approach among the items that will be evaluated next – acceptance, demands and campaigns – with systems for feedback.

Observations:

One stakeholder consultation happened during the Environmental Impact Assessment, and there are regular discussions with the local population. They are held in the form of meetings with discussions. They are institutionalized in the "Das Forum Renun which is Lae", which is a certain organization gathering place of Lae Renun beneficiary stakeholders (such as SEC, District Government of Dairi, Drainage Basin Management Agency of North Sumatera Local Government, public institutions, etc.) formed to solve problems related to Renun Lae Drainage Basin. The establishment of this Forum was initiated by the Institute of Research Center of North Sumatra University (USU). The following organisations are involved:

Participation for People (Petra) NGO, Research Institute of Environmental Monitoring (LSPL), local community, District Government of Dairi, USU (Note: North Sumatra University) academism. The meetings are held at least once in two month.

This forum was created originally since of the problems of sedimentation in the Renun River which eventually accumulate on the Main Intake of Renun HEPP due to sand miners who do not have permission from Dairi District Government. However, the district government itself also refused to give official permission. Therefore SEC proposes to the District Government of Dairi to:

• To discipline the miners

• To relocate the miners to the downstream of Renun HEPP Main Intake

• To conduct profession-transfer to the miner to not interfere with Renun HEPP operational.

However, the proposal was not realized, so that the PLN with the University of North Sumatra as a facilitator took the initiative to construct this Renun Lae watershed forum.

Additional Information obtained during validation site visit:

In an interview with Mr. Roni Siahaan as senior worker of RHPP, it became clear that the forum called "Das Forum Renun" was formed due to environmental issues such as the sedimentation of main intake because of illegal mining activities. In an interview with Mr. Edward Batubara as Sector Manager at Pandan, who is also one of the forum member as representative of Renun HEPP, it became clear that the forum was already established with several member involved in it, i.e. the University of North Sumatera, the Local Government of Dairi, BP DAS (an agency who manages local rivers), PLN / HEPP, and a local NGO. Although the forum had been formed, a decision letter to strengthen the legal status of the forum was still in progress to be approved by the Governor of North Sumatera. The forum currently often held meetings to discuss about their rules and procedures including meeting agendas, and thought to be finished at 2011. In 2010, there were as many as 10 meetings discussing on 3 issues:

1) Socialization on the importance of river area.

2) Prevent any overlapping duty and responsibility between government agencies in the river management.

3) Technical program to relocate illegal miners.

Index: 4

Perspectives: From the interview, it became clear that the forum was still in the stage of establishment and procedure discussion although it had already discussed several public issues. The forum is expected to be developed in the future with relevant studies of public opinion.

3. Acceptance

Evaluates the level of support or acceptance from the neighboring population in regard to the entrepreneur.

Observations:

During the EIA and the regular consultations, there were no negative comments and high acceptance towards the HEPP Some minor issues were identified during the EIA and addressed. Local stakeholders supported this finding.

Additional Information obtained during validation site visit:

The observation holds not only on local communities perspectives during the earlier EIAs, but also for the current perspective. Upon the review on Renun HEPP's social and culture survey of the local communities in the RKL/RPL (for period October 2010) it was evident that local communities have a different perspective regarding the existence of the HEPP. Local communities felt little positive impacts of the existence of the HEPP to their economic and social needs. However, they were not disturbed by operational activities of HEPP. Yet, the survey conducted was not yet appropriate to determine level of support from local communities.

Index: 6

Perspectives: Although level of support was not yet clear, the survey showed that no opposition from local communities regarding the existence if Renun HEPP. It is strongly recommended that Renun HEPP modified the survey method to cover question about level of support from local communities.

4. Social Demands

Social Demands may be understood as institutional or civil society interests: demands made by institutions, agencies, NGOs, municipalities or other institutions which aim to improve the human development and/or the environment near the project. This item evaluates which social demands the entrepreneur addresses.

Observations:

Demands for additional compensation were made by individual land users. Local stakeholders also demand additional maintenance help for the plant seedlings that were distributed for reforestation activity as well as additional information on the purpose of CSR activities.

Additional Information obtained during validation site visit:

During interviews with local communities, it was evident that Renun HEPP had met several demands from local communities such as Silahisabungan Senior High School early construction and drainage piping, Catholic Church at Sihotang Nahornop Village and request form local waver ladies of woven cloth. Several other demands received by Renun HEPP were not yet realized due to the limited budget, but Renun HEPP will continue to put into consideration of all the requested demands. The demands made by surrounding communities were supposed to be in the format of a proposal letter to the office of PLN. Upon receiving the demands, Renun HEPP will prioritize the demands. A social program to fulfill the demands was in place.

Index: 3

Perspectives: The Social Demands discovered during the Social Carbon process will be communicated to PLN. Sales revenue from Carbon Credits will improve the budget of Renun HEPP.

5. Social Programs

Evaluates the quality and results of additional social programs, such as:

- Social and Environmental Communications Program

- Community development / income generation

- Ethnic integration

- Other social areas (please specify).

Continuous campaigns are held with the surrounding community, particularly on forest related issues and public safety. They were conducted on a yearly basis from 2007 onwards. There was an agricultural training program during the construction period regarding the switch from wet field method to dry field method.

Additional Information obtained during validation site visit:

From the social demands received by Renun HEPP, a budgeting was carried out in order to fulfill the demands after determining which demands have priority. All of the social demands and the realization of the social program were reported in Renun HEPP's CSR (corporate social responsibility) report.

Index: 4

Perspectives: none

6. Social benefits

Evaluates the additional benefits to local stakeholders, when these benefits

are measurable or evident. These benefits may include:

· Improvements in health system (new installations, enhanced water

and electricity systems, support for health programs, and others)

· Additional economic activities (industry, commerce, and others)

· Improvements in the infrastructure (roads, energy provision, leisure

spaces, and others)

Observations:

PLN supplies free medical treatment in Silalahi and Parbuluhan VI village.

PLN also contributed to the educational sector by donating laboratory and sport Equipments to a state junior high school of Silalahi Sambungan Sub District and Module Lessons and sport equipments to an Inpres (Presidential Instruction/ free school) Elementary School of Sumbul Sub District. Additionally, the local school was supplied with electricity and a water drainage system improving its capacity to operate smoothly during rainy season. PLN also supported the renovation of the school.

The improved access to electricity was particular beneficial for local women working as weavers and in need for artificial light in the evenings to continue their work. The company (PLN) also supplied them with threat

Donations from PLN also allowed the local church to buy additional benches. This activity was part of a series of donation to the following religious facilities: Cathedral, HKBP, Pentecost church, Methodist church, Mosque of Lae Mbara and Tanjung Beringin Village. They received contributions in the form of construction material and funds.

PLN also improved drinking water availability by procuring drinking water installations on Lae Rias and Pargambiran Villages in Sumbul Sub District.

PLN also distributed tree seedlings and fertilizer among the local population. Local stakeholders mentioned some misunderstandings regarding the trees. This may be due to delays between the communication and the actual distribution of the seeds.

See Annex I for the total CSR Budget of 2009.

Index: 4

Perspectives: Carbon Revenues will increase the efforts to support the local population.

The CSR Budget plan for 2010 is still under discussion, see Annex II. It will probably include assistance to weaver craftsman and plant fertilization.

4.2. Human Resource

7. Human Resource Availability and Capacity Building Initiatives

Implementation: Evaluates the availability of human resources as well as their competence for executing the project, including the research, planning and implementation stages. Uncertainty regarding the availability of human resources may be described as the absence of qualified professionals in the market, reduced numbers in the working team, and need for international support, among other alternatives that may compromise the execution of the project.

Operations and Maintenance: Level of experience and capacity of people involved in the operation and maintenance of the project.

Observations:

Prior to the project commissioning the project developer organized a series of training sessions with the equipment supplier. The training conducted mainly covered the following topics: management of hydropower generation, operation and maintenance of a hydropower plant, operation and maintenance of a turbine, generator and other equipment. The purpose of the training was to enable the local staff to perform regular and safe operation and maintenance.

Not all staff participated in these trainings.

Priority is given to local staff. There are no programs to support female or minority workers. There are 27 direct employees and 40 externally contracted workers.

Additional Information obtained during validation site visit:

During an interview with the Section Head of Human Resource of Renun HEPP (Mr. Zulkarnain Pulungan), it became clear that a standard of competence and also a standard of availability were in place ("Daftar Sebutan Jabatan dan Formasi Tenaga Kerja Sesuai SK. Direksi No: 140.K/Dir/20001", dated April 2010). A competence examination (ind: Uji Kompetensi) was held once every 2 years to ensure the competence of all personnel. A competence certificate from the examination was issued with cooperation between PLN and IATKI (Indonesian Power Engineers Association). Renun HEPP had also proposed trainings to their main office in Medan. More than one training per year were usually approved and carried out.

Renun HEPP is already in the stage of maintenance and operations. All of the personnel involved in the operational and maintenance stages of the HEPP were competent on their basis of competence standard issued by PLN. Certificate of competence were also available issued by PLN in coordination with external parties. More than one training for one month were conducted upon approval by Head Office of PLN.

Index: 6

Perspectives: none

8. Health and Safety

Evaluates Health and Safety Procedures, monitoring of occupational accidents, adherence to labor laws and specific management programs or systems.

Observations:

There was a life-threatening accident at the time of the project due to heavy field conditions. Since end of 2007 Renun HPP uses SMK3, ISO 14001 and ISO 9001 integrated and no further accidents occurred.

Additional Information obtained during validation site visit:

The information about the accident was outdated. There were no working accidents since 2006.

Renun HEPP has an emergency preparedness and response procedure in place (PRO-ENJ-04). A certificate of Indonesian Health and Safety Management System (SMK3) was also available.

Renun HEPP had already received a certificate of occupational health and safety management system called the SMK3, and the audit carried out by independent parties, and the certificate was issued by Decree from Minister of Labour (Surat Keputusan Menteri # kep 26/Men/II/2008), valid until February 2011. A recertification audit was carried out on May 18-19, 2010 and a "Gold Flag" criteria had been given since more than 90% of audit criteria were complied. A new certificate was still in progress of establishment by the certification body.

Index: 6

Perspectives: none

9. Benefits

Evaluates existence of additional benefits (not required by law) to workers regarding the following:

- Education (support for studies)

- Health (medical and hospital assistance)

- Retirement assistance

- Other (leisure, sports, and meal vouchers, among others).

In cases where the services for implementation, operation and maintenance are outsourced, the indicator evaluates the outsourced employees. The indicator also considers the existence of programs to evaluate employee satisfaction in regard to their benefits.

Observations:

Benefits are not available to the outsourced workers. PLN staff gets performance bonus, position support, health support and pension benefit. Sport facilities are available. There is table tennis equipment installed. The direct employees at PLN are satisfied with the benefits.

Additional Information obtained during validation site visit:

During an interview with one of Renun HEPP staff (Mr. Josua Simanjuntak), it became evident that Renun HEPP had provided additional benefits to workers regarding several aspects, such as a routine periodic medical check-up every once a year for all operational staffs, education (operational course), a retirement fund, and an extra afternoon meal. However the compensation / benefits were only given for permanent staffs of Reunu HEPP, and do not include contractors / sub contractors working on behalf of Renun HEPP. According to the interview, those subcontract staffs already receive their own benefit / compensation such as health insurance, etc. from company which employed them.

Index: 2

Perspectives: Some benefit could be given for outsourced workers, e.g. the extra meal or sports equipment.

10. Transfer of New Technology

Evaluates the level of technological innovation and the technologies employed in the project, the origin of the equipment, existence of royalties and technological licenses, and the necessity of international technical assistance. In cases where the technology employed is already known (a common scenario of hydro power plants), it evaluates if there are innovations regarding operational procedures and maintenance, actions for mitigation of impacts, or other aspects that show a break from the common practice of the sector. The existence of research and development projects (R&D) related to the project are also considered in this indicator.

Observations:

The Project will use proven technology in electricity generation and transmission. The essential equipment used in the Project was procured from another country.

Additional Information obtained during validation site visit:

Renun HEPP has several innovation programs, such as a program called “filter cooling water system” to minimize the amount of fish being sucked up by the water intake, and is also planning to implement a program to clean out the regulating pond from existing sediments.

Index: 3

Perspectives: none

11. Involvement of the Employees in the carbon Project

Evaluates internal communication process of the entrepreneur in relation to project emissions reductions.

Observations:

Only specific employees are involved and informed.

Additional Information obtained during validation site visit:

Several employees of Renun HEPP had already participated in a Social Carbon Training given by South Pole Carbon during earlier stage of the project implementation. Not all of employees had participated in the training, but all of the working areas had their representative in the training. Upon an interview with Mr. Purba from Renun HEPP, around 70% of the employees had been informed regarding the implementatinon of the Social Carbon Project since the project was being one of the discussion topics in the monthly meeting.

Since in Renun HEPP not such a large group of employees is working (27 permanent staff and 38 outsourced personnel), it was not difficult to inform all of the employees about the implementation of Social Carbon Project, mostly after all areas have a representative that participated in the Social Carbon Training. Therefore it was evident that information regarding implementation of carbon project was not only received by management and employees directly involved in the carbon project.

Index: 3

Perspectives: More information will be given to employees once carbon revenues were

received. Renun HEPP chould consider establishing a documented policy regarding the implementation of the carbon project (just like Quality Policy and Environmental Policy) and to distribute and/or display the policy within areas of Renun HEPP to have a more assurance that all of employees had been informed.

4.3. Financial Resource

12. Economic Performance

Evaluates if the economic performance of the project met the expectations of the shareholders and directors regarding, for example, goals for energy generation, stated periods for executing jobs, and operational and maintenance costs. It evaluates if the goals were met or if they did not meet the expectations for the given period.

Observations:

The Renun Project is generating Revenues in line with the expectations.

Index: 4

Perspectives: none

13. Market

Evaluates eligibility of credits to CDM Market or to other voluntary markets as well as their attractiveness to potential buyers.

Observations:

All project activities are eligible under the VCS.

Index: 3

Perspectives: none

14. Sale of Credits

Evaluates uncertainties regarding the value of commercialized credits generated by the project.

Observations:

Many buyers exclude large hydro projects due to sustainability concerns. Till today, there was no buyer request for Credits from Renun.

Index: 1

Perspectives: Social Carbon verification will improve the attractiveness to potential buyers. South Pole produced a marketing video on Renun HPP, highlighting the CSR activities.

4.4. Natural Resource

15. Sustainability Principles

Evaluates the existence of specific policies and programs geared toward project sustainability and the applicability of the principles, values and objectives regarding sustainability.

Observations:

Every year, the company plans an Environment Program and CSR with specific budget allocation.

Additional Information obtained during validation site visit:

Renun HEPP has a documented policy regarding environment and quality. The policy was distributed to all sectors of Renun HEPP. Besides the policy, an environment and quality objective was also available to ensure a consistent quality and environmental performance.

The objective, target, and program regarding quality and environmental matters were consistently implemented. A monitoring report of the objective's achievement was available. From the achievement monitoring, it was known that several programs and objectives were not yet achieved due to several different causes.

Index: 4

Perspectives: none

16. Environmental Management

Evaluates environmental management procedures adopted by the project, including organization, coordination of actions, and documentation of impacts identification, monitoring, and periodic emissions reporting, as well as existence of regular certification.

Observations:

SML 14001:2004 has implemented since late 2007 and verified by TUV Rheinland Indonesia.

Index: 6

Perspectives: none

17. Environmental Legislation

Evaluates accordance of the project with environmental laws and norms, including agreements with public authorities, such as environmental licenses, requested authorizations for installation, Terms of Conduct Adjustment, etc.

Observations:

Renun HEPP has approved EIA Decree, No.4667/0115/SJ.R/1991

For this moment, most of the Renun HEPP legal environmental obligation has been fulfilled except for the B3 waste warehouse license. The routine monitoring obligation as mention in the EIA has already been fulfilled.

Additional Information obtained during validation site visit:

Renun HEPP has identified all of environmental regulations that are relevant for compliance and a list of environmental regulation was in place. From the list, Renun HEPP had also evaluated the compliance status to all environmental regulation identified. It was evident that the majority of the regulation had been complied to, and the not complied regulation had been addressed through environmental programs, so full compliance will be achieved. Renun HEPP was in progress to gain a permit regarding environmental matters, i.e. temporary storage of hazardous waste from the Ministry of Environment.

Although Renun HEPP was still in progress to get a permit on temporary storage of hazardous waste from Indonesian Ministry of Environment, the index could be upgraded into 5 (environmental licenses routinely issued, determined obligations are fulfilled). The reason was because the amount of hazardous waste produced by Renun HEPP was insignificant, i.e. used lubricants and dry cells. Beside that, there was no other activity within HEPP operational that needed any license/permit from relevant government agencies, i.e. no waste discharge to soil and/or river, etc. And above all that, Renun HEPP had identified all of the legal environmental regulation relevant to be complied and also had evaluated the compliance level to all of the legal environmental regulation identified.

Index: 5

Perspectives: none

18. Legal Procedures

Evaluates if the project was involved with any lawsuit or administrative sanctions executed by public organs, person or people, aiming the environment and human health protection or repair.

Observations:

There are no legal issues regarding environmental and human health issues.

Additional Information obtained during validation site visit:

Upon interview with Mr. Sudin Nadapdap as Unit Manager of Renun HEPP, it was known that no lawsuit was received regarding environmental matters and human health since the earlier stage of HEPP construction.

Index: 6

Perspectives: PLN will do additional compensation according to the court decision

19. Environmental Impacts

Evaluates magnitude of environmental impacts of the project, existence of environmental impact statements/studies, and maintenance of environmental evaluation procedures.

Observations:

An EIA was conducted and all negative environmental impacts are subject to mitigation measures. The most important impact from HEPP is water puddle in the Main Intake and Tributary Intake.

Additional Information obtained during validation site visit:

Besides the Environmental Impacts Assessment made by Renun HEPP, a periodic evaluation on the significance of environmental impacts is also carried out (on the form: “Daftar Aspek dan Dampak Lingkungan”). Renun HEPP had a list of all environmental aspects occurred from

operational activity and evaluates the impacts that can have any impact on environment or human health. From the list, it was evident that several impacts were categorized as significant impacts and most (>66%) of it was insignificant. Renun HEPP had also determined what action needed to control the impacts. A procedure of identification on environmental aspects and impacts evaluation was also in place.

Index: 5

Perspectives: none

20. Environmental Risk Management

Evaluates the definition, implementation and maintenance of procedures relevant to potential emergencies and accidents related to the project, as well as those relevant to the preparation of answers for such situations, in case of emergency.

Observations:

The company has an Emergency Response System team/organization under ISO 14001 and SMK3. To train this team, every year the company conducts an 'Emergency Response Simulation' like Fire Simulation, Earthquake, riot and oil spills.

Index: 6

Perspectives: none

21. Reservoir and marginal areas management

Valuation about implementation of the Plan for use of the reservoir and surrounding areas, considering its coverage and efficacy for assurance of the planned uses.

Observations:

Reforestation is taking place, but slowly (400 trees / 3 months) on a catchment area of the Tributary Intake and Renun HEPP for an area of ± 4,000 m^2 . The project activity started in 2000. Avocado, Ingul, Mahogany and Mango trees were used.

Additional Information obtained during validation site visit:

During an interview with Mr. Sudin Nadapdap, the Renun HEPP Unit Manager, it was known that community safety is the priority concern to the Renun HEPP management, therefore all activities around the reservoir are prohibited. Renun HEPP had set a perimeter fence and warning signs so that no unauthorized people should enter the reservoir area.

Due to HEPP management policy regarding the restricted area of the reservoir, it was obvious that no invasions or inadequate uses of Renun HEPP's reservoir took place. However, several tributary intakes owned by Renun HEPP were designed to separate the river water flow between the inflow to the HEPP and to citizen's irrigation.

Index: 3

Perspectives: none

22. Erosion, landslides, silting and floods

Evaluate the current stage of erosion and silting of the reservoir and if the operations are a major cause of the problem and the existence of programs to manage these risks, such as

monitoring, and erosive processes control (ex: protection and reforestation programs for reservoir protection zone).

Observations:

PLN, together with local stakeholders, formed a "Das Lae Renun Forum, which discussed issues of silting in relation with illegal sand mining activities in the river.

PLN proposed an offer to relocate the sand miners from upstream to downstream of the Main Intake. This proposal goes to Dairi Regency Local Authorization.

Additional Information obtained during validation site visit:

Renun HEPP has no contribution to erosion or silting in the reservoir and downstream areas. As HEPP, they rely on water debit so they implemented any action to minimize erosion and silting. However, illegal sand mining activity in the upstream area had caused a major problem of silting. This issue had became a discussion topic in the newly establish forum between HEPP and local stakeholders.

Renun HEPP had implemented a program of tide monitoring, reforestation and discussion with local stakeholders regarding the sustainability of Renun River.

Index: 5

Perspectives: none

23. Water Resources

Evaluates consolidation and interpretation of water quality monitoring data and measures of control implemented, aimed at maintenance of quality conditions and downstream uses (ex: sewage treatment station eventually implemented in local communities due to construction of the hydroelectric plant, actions taken for sanitary vigilance, etc).

Observations:

Water Quality monitoring is conducted every three months, along with water biota (plankton & benthos, sediment rate, physical and chemical properties of the sediment and water discharge monitoring. Bapedalda lab, which is part of the Regional Environment Impact Control Agency, are appointed to collect the samples and carry out the analysis. Based on the monitoring result, Renun HEPP water quality is polluted. Corrective action is only cleaning the puddle waste/garbage and sediment dredging because Renun HEPP doesn't pollute and only utilize the water energy. .

Index: 4

Perspectives: none

4.5. Biodiversity Resource

24. APP (Permanent Protected Areas) and Legeal Reservation

Evaluates state of conservation of the areas around the reservoir including Permanent Preservation Areas - APP and legal reserve areas whether owned by the project or not.

Observations:

The project is partially located in a protected area. An underground powerhouse was chosen to minimize impact on the forest. Lots of forests in the Renun area are damaged. During dry season, the water debit is drastically lowered.

Index: 2

Perspectives: Use Carbon Revenue to increase reforestation activities.

25. Recovery of Degraded Areas

Evaluates existence of reforestation projects in marginal areas of the reservoir, procedures for planting, maintenance, control measures and surveillance. It also evaluates extent of actions: limited legal obligations, areas of the company, riparian forest in the incremental basin, and so on.

Observations:

Reforestation has happened on the land belonging to the project. There is some reforestation ongoing outside the area but only slowly (400 trees / 3 month). Legal requirements are fulfilled. The projects have been monitored but there were no surveys regarding public acceptance.

Additional Information obtained during validation site visit:

Renun HEPP had carried out reforestation in several areas. A series of monitoring data on the reforestation is in place, and it was known that reforestation took place since end of 2007 till today. As many as 8700 tree seedlings had been planted since. The planting area was related to keeping up the water availability from tributary Intakes which are owned by HEPP. Community lands such as Barisan Nauli Village, Parbuluan Village and Perjuangan Village which are on either water catchment areas of the tributary intakes or upstream of the intakes were also targeted.

Index: 5

Perspectives: none

26. Biodiversity Conservation

Evaluates actions of biological monitoring developed in surrounding environmental areas and influence of the power plant; assesses specific programs developed for flora and fauna on the banks of the reservoir or in surrounding areas for conservation and research.

Observations:

Local Stakeholders are involved, but the program is limited to the reforestation mentioned at indicator 25.

Index: 3

Perspectives: Increased effort in accordance with local needs

27. Ichthyofauna

Evaluates existence of procedures for monitoring the Ichthyofauna, partnerships for research, and management actions (restocking, culture in ponds, net).

Observations:

The downstream flow is maintained by lower tributaries.

Index: 1

Perspectives: none

4.6. Carbon Resource

28. Additionality

Consists of reduction of greenhouse gas emissions or increase in removal of CO2 beyond what would occur in absence of project activity. This item evaluates tools used for assessing additionality and compliance with national and international standards.

Observations:

Additionality is validated according to an investment analysis.

Index: 6

Perspectives: none

29. Emission Reductions Calculations & Monitoring

Evaluates methodologies used to calculate emissions and monitor compliance with national and international standards.

Observations:

ACM0002/Version 10, Sectoral Scope: 1, EB 47 was used

Index: 6

Perspectives: none

30. Validation & Verification

Evaluates existence of total or partial validation/verification of project by a third party, if third party is accredited by UNFCCC, and compliance procedures for validation/verification with national and international standards.

Observations:

Project was validated by RINA

Index: 6

Perspectives: none

31. Project Performance

Evaluates performance of project, verified by comparison with estimates of emissions reductions under the PDD.

Observations: The project reduced emissions by 196,894 tCO2 from the 1st April 2009 till the 31st of March 2010. The expected annual reduction according to the PDD is 232,931 tCO2.

Index: 5

Perspectives: none

5. Analysis of results

To analyze the situation of the project, it is important to consider what is represented by the score obtained for each of the resources. The indicators are established to express the following relationship between the scores obtained and the situation of the project:

Scores 1 and 2:

Situation: Critical

Characteristics: existence of irregularities; high socio-environmental risk; significant levels of social and environmental degradation; or situation of extreme hardship, which significantly compromises the quality of life of the population.

Scores 3 and 4:

Situation: Transitory

Characteristics: meets all the legal requirements relating to its activities; surpass them through the adoption of good practices and voluntary actions in some cases; or a quality of life that reaches the minimum acceptable standard, but which requires improvement.

Scores 5 and 6:

Situation: Sustainable

Characteristics: exceeds its legal obligations and/or common practice in the market, in many cases adopting the best-possible practices for the sector; or communities have reached a sustainable livelihood, with adequate access to material and social goods, are capable of recovering independently from situations of stress, and are not causing the deterioration of basic environmental resources through their activities.

In order to obtain an analysis of the Resources average, an equal distribution is adopted between the decimal intervals from 1 to 6, expressing the following relationship amongst the indexes obtained and the project performance.

Average index obtained for the Resource	Decimal interval	Situation
Interval from 1 to 2,6	1,7	Critical
Interval from 2,7 to 4,3	1,7	Transitory
Interval from 4,4 to 6	1,7	Sustainable

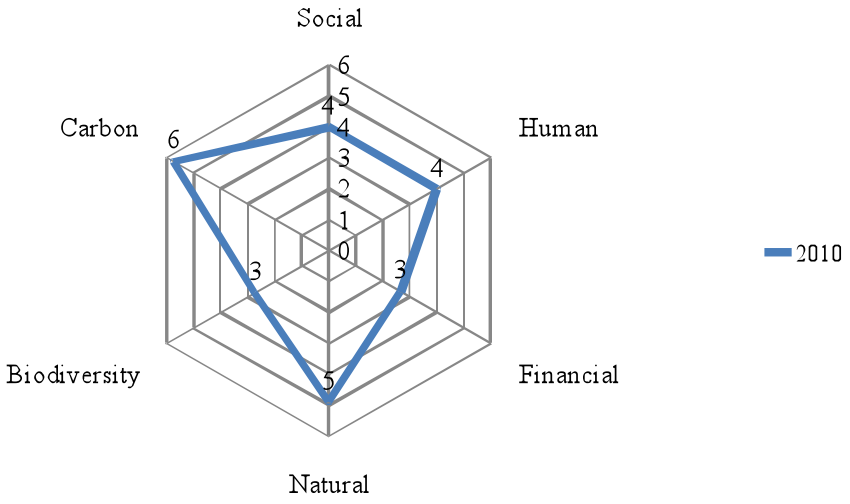
5.1. General performance

Total Average, Spider Diagram, and Comments to exceptional good / bad Indicators

Performance by Resource

Resource	Critical	Satisfactory	Sustainable	Average	General Performance
Social	0.0%	83.3%	16.7%	4.00	Satisfactory
Human	20.0%	40.0%	40.0%	4.00	Satisfactory
Financial	33.3%	66.7%	0.0%	2.67	Critical
Natural	0.0%	22.2%	77.8%	4.89	Sustainable
Biodiversity	50.0%	25.0%	25.0%	2.75	Critical
Carbon	0.0%	0.0%	100.0%	5.75	Sustainable
Total	17%	40%	43%	4.01	Sustainable

Representation of the enterprise performance schematic:



Exceptional Bad Indicators:

14 - Sale of Credits:

Large hydropower projects have a bad reputation – In the official definition, there is no differentiation between run-off-river plants and dam-reservoir type plants. Additionally, there is no differentiation between large (25MW-300MW) and very large (>300MW, up to several thousand MW). Many very large dam-reservoir type plants had strong negative impacts on the regional sustainable development, causing population displacements and flooding of large areas of natural ecosystems. Due to negative media reports on such projects, especially

very large (>1000 MW) Chinese projects, many buyers now exclude all large hydro credits from their portfolio of voluntary emission reduction certificates. Musi HPP did not cause any such negative impacts and uses an innovative underground powerhouse technology that reduces its impact even below conventional run-off-river plants. Still, buyers are very skeptical. Social Carbon can be used as an additional argument to convey these facts. As an independently verified standard, it is more trustworthy to potential buyers than our conventional marketing material.

Exceptional Good Indicators:

17 - Environmental Management

Third party validation of management systems is part of PLN corporate strategy. This way proper and effective environmental management can be guaranteed.

22 - Environmental Risk Management

Third party validation of management systems is part of PLN corporate strategy. This way proper and effective risk management can be guaranteed.

5.2. Performance by resource

5.2.1. Social Resource

The project did not meet any resistance during the EIA and several activities were carried out to support the local population (health center and school support, donation to religious facilities, distribution of fruit tree saplings and others). The stakeholder communication regarding the tree saplings needs some improvements. Revenue from Carbon Credits may increase these efforts, but no concrete commitments were made so far.

5.2.2. Human Resource

The company has a range of programs for the employees, including health and pension benefits as well as regular trainings. Shifting to a more sustainable situation will require more benefits for externally hired workers.

5.2.3. Financial Resource

PLN is in a financially difficult overall situation. The company is state owned and dependent on governmentally fixed electricity tariffs. Carbon Revenue will partially be used for the CSR and Environmental fund. The situation is considered critical, but improvements also depend on the global economic situation.

5.2.4. Natural Resource

The situation is considered sustainable, mainly due to the third party certified environmental management systems. There is some room of improvement for the reforestation activity and cooperation with local stakeholders regarding forest management.

5.2.5. Biodiversity Resource

The forests are still in bad condition. There are some efforts by PLN to improve the situation, but more reforestation could be done.

5.2.6. Carbon Resource

The project has gone through validation for the Voluntary Carbon Standard. PLN has some internal programs regarding climate change but efforts could be increased. The overall situation is considered sustainable.

5.3. Historic performance and comparative analysis

Not applicable

6. Perspectives

4. Social Demands

Perspectives: The Social Demands discovered during the Social Carbon process will be communicated to PLN

6. Social Benefit:

Perspectives: Carbon Revenues will increase the efforts to support the local population.

The CSR Budget plan for 2010 is still under discussion, see Annex II. It will probably include assistance to weaver craftsman and plant fertilization.

7. Human Resource Availability and Capacity Building Initiatives

Perspectives: More Training can be conducted.

8. Health and Safety

Perspectives: The new safety systems are supposed to prevent future accidents.

9. Benefits

Perspectives: Some benefit could be given for outsourced workers? E.g. Health only

11. Involvement of the Employees in the carbon Project

Perspectives: More information will be given to employees once carbon revenues were received.

14. Sale of Credits

Perspectives: Social Carbon verification will improve the attractiveness to potential buyers. South Pole produced a marketing video on Renun HPP, highlighting the CSR activities.

18. Legal Procedures

Observations:

There was a lawsuit regarding compensation. The project was not convicted, but the process is ongoing. This was mainly due to unclear land titles. Land title issues are a common problem in all Indonesia.

Perspectives: PLN will do additional compensation according to the court decision

24. APP (Permanent Protected Areas) and Legeal Reservation

Perspectives: Use Carbon Revenue to increase reforestation activities.

26. Biodiversity Conservation

Perspectives: Increased effort in accordance with local needs

Annex I: Total CSR Budget for 2009

Please note that activities in Sihansihaporas are included, too.

PROGRAM ROUTING REALIZATION OF ENVIRONMENT EMPOWERMENT PARTICIPATION (P3L) 2009

No.	GROUP/TYPE OF ACTIVITY	P3L FUND REALIZATION					
		LOCATION	VOLUME		FUND	1th – 3th QT	4TH QT
			AMOUNT	UNIT			
I	**Community Relation**						
1.	Elucidation on The relation of forest with electricity in Sihansihaporas and Sihaporas Villages, Sihaporas Sub District, Central Tapanuli	Sihansihaporas HEPP	50	people	5,500,000	-	5,500,000
	Sub Total				**5,500,000**	-	**5,500,000**
II	**Community Service**					-	
1.	Contribution to Al-Ikhlas MDA, Sihansihaporas HEPP Base-camp	Sector office	1	unit	2,500,000	-	2,500,000
2.	Contribution to Nurul Istiqonah Mosque, Oswald Siahaan Lor II Street, Aek Tolang Sub District, Central Tapanuli	Sector offiice	1	unit	2,500,000	-	2,500,000
3.	Contribution to Rawdatul Jannah Sihaporas Mosque, PLTA KM 4 Sihaporas, Pandan Sub District, Central Tapanuli	Sihansihaporas HEPP	1	unit	2,500,000	-	2,500,000
4.	Contribution to Sihaporas Resort Sibuluan HKBP, Sihaporas Village, Central Tapanuli	Sihansihaporas HEPP	1	unit	2,500,000	-	2,500,000
5.	Contribution to Al-Ikhlas Parbuluan Mosque, Parbuluan Sub District, Dairi	Renun HEPP	1	unit	2,500,000	-	2,500,000
6.	Contribution to Santa Theresia Cathedral, Parbuluan Sub District, Dairi	Renun HEPP	1	unit	1,750,000	-	1,750,000
7.	Contribution to Immanuel HKBP of Tanjung Beringin in Gloria Sumbul Resort, Sumbul Sub District, Dairi	Renun HEPP	1	unit	1,750,000	-	1,750,000
8.	Contribution to HKBP of Jumala Resort Gloria Sumbul, Sumbul Sub District, Dairi	Renun HEPP	1	unit	1,750,000	-	1,750,000
9.	Contribution to HKBP of Perkembangan Resort Sidikalang III, Batang Beruh, Dairi	Renun HEPP	1	unit	2,500,000	-	2,500,000
10.	Contribution to Pentecost Church (GPdI), Silahisabuibuang Sub District,	Renun HEPP	1	unit	1,750,000	-	1,750,000

	Dairi						
11.	Contribution to HKBP of Sihotang Resort Sigalingging, Resort Sigalingging Parbuluan, Dairi District	Renun HEPP	1	unit	1,750,000	-	1,750,000
12.	Contribution to natural disaster program (large flood)	Renun HEPP	1	unit	2,000,000	-	2,000,000
	Sub Total				**25,750,000**	**-**	**25,750,000**
III	**Community Empowering**						
1.	Contribution of thread to weaving craftsman in Silahisabungan Sub District, Dairi	Renun HEPP	1	unit	15,000,000		15,000,000
	Sub Total				**15,000,000**		**15,000,000**
IV	**Natural Preservation**						
1.	Reforestation program, one man one tree, toward Sihansihaporas HEPP area	Sector office	115	seed	10,015,600	-	10,015,600
2.	Reforestation program, one man one tree, toward Power House road	Renun HEPP	100	seed	8,734,400	-	8,734,400
	Sub Total				**18,750,000**	**-**	**18,750,000**
Total I + II + III + IV					**65,000,000**		**65,000,000**

ANNEX II: Proposed CSR Budget for 2010

PROGRAM SCHEDULE OF P3L (*note: Environment Division*) PT PLN (PERSERO)
PANDAN SECTOR OFFICE 2010

No.	Group/type of activity	Location	Amount
1	Community Relation	Sipansihaporas HEPP	75,000,000
	a. Water wheel Power plant construction in Paraman Village, where electricity is not yet available (± 30 patriarch)		
2	Community Service		
	a. Trash basin construction near Medina Islamic School (oesantren)	Batang Gadis PLTM	10,000,000
	b. Traffic light construction around Raisan 1 & 2 PLTMs	Raisan PLTM	10,000,000
	c. Religious service (buildings), 16 units	Spread PLTM	48,000,000
	d. Religious service (buildings), 3 units	Sipansihaporas HEPP	6,000,000
	e. Religious service (buildings), 6 units	Renun HEPP	18,000,000
	f. Massive circumcision (100 people)	Sector office	18,000,000
3	Community empowering		
	a. Assistance to weaver craftsman	Renun HEPP	15,000,000
	b. Compost making machine purchasing	Kombih 1 PLTM	35,000,000
4	Natural preservation		
	a. Hard plant seed distribution around spread PLTM (9,000 seeds)	Spread PLTM	290,250,000
	b. Enau seed distribution to the society around the catchment area	Sihansihaporas HEPP	16,250,000
	c. Plant fertilizing	Sihansihaporas and Renun HEPPs	20,000,000
	Amount		561,500,000