Innovative Financial scheme for sustainable development of Renewable Energy project in Rural Areas in Vietnam, Philippines and Indonesia (IFRERA) – Project 69

Supported by the ACE through the EC – ASEAN Energy Facility

Newsletter N°2

Editorial

Welcome to the second newsletter of the IFRERA project. This newsletter is supported by the project "Innovative Financial Scheme for sustainable development of Renewable Energy project in Rural Area in Vietnam, Philippines and Indonesia (IFRERA)" co-funded by the EC-ASEAN Energy Facility for the period 2004-2006. IFRERA is a collaborative effort between IED, ETC, ADEME, IoE, and MBA, and the local authorities and investors in the concerned countries. The project has seen a number of development activities since the first activity took place in August 2004.

As consortium leader, Innovation Energie Développement (IED), French Engineering Consulting company, plays a leading role in project management, elaboration of feasibility study methodology and networking with the all partners in the region. ETC – Energies, Netherlands non–governmental foundation (ETC), acting as one of two European partners to IED in the project implementation, provides its valuable expertise in the Environmental and social impact assessments, and in local level integration. ADEME, French Environmental and Energy management agency, offers its capability in economical and financial analysis for the project feasibility study and provides general support to IED in organizing of working meetings. Institute of Energy (IoE), a primary public energy research organization in Vietnam, as the first local partner of the consortium, is involved in the data collection and proposes its know-how on minihydro feasibility studies. MBA, a consulting company based in Philippines, assures the implementation and cooperation of several tasks in Philippines.

The consortium organized regular missions and working sections in Vietnam, in Philippines and in Indonesia to implement the tasks. The next meeting will be held in IED headquarter in Lyon city during 20th and 22th July 2005 to review the project's activities and to plan out next steps of the project up to June 2006.

This second newsletter focuses on four tasks that have dynamically evolved since last time in the framework of IFRERA project :

i) Technical feasibility studies for Minihydro Power plants (MHPP) in region;
ii) Environmental and social impact assessment for MHPP;

iii) Economical and financial conditions for MHP development in the region;
iv) Regulatory, legal and fiscal framework for minihydro power development.

MHPP technical feasibility studies

After a period of pre-selection and desk study, several technical missions have been carried out in Vietnam, Indonesia and Philippines in order to collect technical and economic data.

In Vietnam, the Krong Pa 2 site has been selected. It situates in Gia Lai province, one of the most remote and mountainous province in Vietnam. The Krong Pa 2 site represents following characteristics :

- Installed capacity : 5000 kW

- Estimated production : 23 GWh/y

Krong Pa 2 site – Dam location

The technical feasibility study is on-going in close cooperation with local authority and private developers.

In Indonesia, the review of MHPP feasibility studies for Sambilambo, Ratelimbung and Mikuasi sites at Sulawesi province has been carried out in close cooperation with Indonesia Power company and PLN. Particularly reviews of load forecasting, local grid situation, design optimization and costing have been completed. Three sites have following characteristics :

- Installed capacity : Sambilambo = 3149 kW; Ratelimbung = 1365 kW; Mikuasi = 1838 kW;
- Estimated production : Sambilambo = 23 GWh; Ratelibung = 8 GWh; Mikuasi = 12.5 GWh.

Sambilambo site

Mikuasi site

Actually, the review of MHPP feasibility study for the site Lower Duigui, Catanduanes island in Philippines is underway to complete in May. The feasibility study will be reviewed by IED in collaboration with POC, a local partner, using the same hydrology data as was computed in 2000. This revised F/S report will be provided to POC during the third week of May 2005 to take an initial decision as to whether to pursue the F/S and process of investment preparation.

Environmental and social impact assessment

In parallel to technical feasibility study of the MHPP, environmental and social impact assessments have been actively prepared in close cooperation with local partners and subcontractors.

The Krong Pa 2 site is situated in Dak Rong commune, K Bang district. In the commune – which is composed of 13 villages - the first two villages are since one year connected to the electricity grid. Plans are made to extend the grid to 6 more villages, leaving 5 villages not served. The existing power supply in the district is unstable and often cut, due to its location at the end of the power line. The construction of the Krong Pa 2 power plant in this region will increase the local capacity and help stabilize the existing (and planned) grid. It thus has a real local benefit: not only because it will avoid future power outages, but also because it will make new grid extension possible.

According to the local authorities there are no irrigation or fishery activities in the project area. In relation to this, it was said that if the water channel will be built on the right bank, this could be used for irrigation of water rice fields in the area close to the river, which now lack a good irrigation system. However, these fields are only very few.

None of the direct surroundings of the project have any special ecological status, thus limiting the gravity of reduced water supply from the river in the project area.

The Krong Pa 2 SHP will be run-off-the river, thus not requiring a large reservoir. Combined with the fact that there are no people living near the dam area, resettlement of households or inundation of agricultural land is no issue.

Krong Pa 2 – Surrounding livelihood

Both banks are covered with dense forests which makes construction difficult and which will require the destruction of forest area. However, none of the surroundings has any special ecological status, neither are there any occurrences of rare species.

Actually a detailed SIA survey is conducted for Krong Pa 2, which entails:

- Comparative analysis between a village, which has been connected to the electricity line since 2003 (Kon Lanh I or Kon Lanh II in Dak Rong commune, K Bang District) and a village that will be connected after the construction of the hydro power plant (Kon Trang I or II or Kon Bong I o II);

- Identification of the most likely socio-economic impacts of an SHP in the local context
- Recommendations to relevant stakeholders (commune and district authorities, Gia Lam power company, DoI) on which measures or actions can be taken –as part of the hydro power project development or parallel to it- to enhance the socio-economic impact of the construction of Krong Pa 2. Attention will also be given to the institutional aspects related to electricity delivery services.

Economical and financial conditions for MHP development

Economic and financial conditions for MHP development in three countries are quite different.

For the South-East Sulawesi sites assessment, it was first recognized that the energy demand is different from what was observed in the 1996 study (and in its 1999 update). The IFRERA study therefore includes a new demand forecast, taking into account demand growth and network constraints on the natural demand growth of the demand.

In addition to this, the investment costing that was established in 1996 is shadowed by great uncertainty because it was conducted before the 1997 economic crisis in Indonesia. The same goes for the costing review in 1999, which was just in the wake of the crisis. In addition to this, the high inflation prevailing in Indonesia over the last 5 years gives no visibility on how relevant the 1999 costs are. The IFRERA study therefore presents an entirely new investment costing, based on new unit costs.

The goal of the financial analysis was to see which price PPA price would provide the required level of profitability to the private investor Indonesia Power. The conclusions show that the three identified sites boast generation costs that are competitive with the current diesel-based generation costs in the SE Sulawesi region, and are even lower than the end customer prices. This gives good hope for PPA negotiations with local utility PLN and ultimately for a positive investment decision.

The economic and financial analysis of the Lower Dugui project in the Philippines are now well under way, with the data collection conducted during two field missions at the end of March and mid-April. Early investigations show that the challenge will be to balance the high upfront investment cost required by the projected MHPP with the high running costs of the existing bunker-oil based power plants.

Regulatory, legal and fiscal framework for MHP development

The review and analysis of regulatory, legal and fiscal framework in three countries were carried out, following the outline established during the kick-off meeting.

Vietnam is well endowed with large renewable energy resources, particularly hydropower potential which can be used to generate electricity. Its recent institutional improvements, reforms and incentives lead to major change in the way rural electrification and RE development are carried out with special attention to hydropower development. Therefore,

hydropower development have got a momentum to take off.

The review shows that there were rapid changes in last years in Vietnam regarding the frameworks for RE development, particularly for small hydropower : new decrees and regulations were issued and olds were amended and updated, electricity law is under extensive discussion and adoption, management approach to rural electrification is evolving to accept different options. In brief, a new ground foundation for rural electrification and for hydropower development in particular is laying out, although the mechanisms on how to implement and move forward are yet to be defined.

In Philippines, although the Micro-hydro Law was in existence, the passage of the EPIRA Law provided the framework for the development and utilization of RE in the country. Further, this move laid the grounds for the active participation of the private sector.

Currently, a number of factors are besetting the Philippines such as the financial crisis, the Iraq war that resulted to the worldwide escalation of oil prices, etc. With these concerns, all sectors now are searching for ways and means to tap cheap and alternative source of energy. In line with this, the government is aggressively pursing the utilization of RE in a wider scale in order to attain energy independence. As a result, the RE Policy Framework was formulated and was presented to the recently RE Congress in Bonn, Germany. However, concrete projects need to be implemented. With the present budgetary resources of the country, the participation of the private sector is encouraged to attain the targets set for RE.

Electricity sector in Indonesia is being restructured now. The restructuring has been slowly implemented and delayed due to some reasons. Delays have made important regulations are also delayed. This has made uncertain condition in the level of electricity business players. There will be two kinds of markets: competitive market and non-competitive market. Both markets are not there yet.

Restructuring power sector in Indonesia is basically delayed for unlimited time. The law 20/2002 was annulled and thus resulting in no progress of power sector restructuring. PT.PLN (Persero) is back as the authority of power sector.

The new policies in electricity sector in Indonesia support the development of renewable energy and in favour of renewable energy. The role of government in rural energy supply is still very important although private sector is also encouraged to involve. Due to lack of detail regulations and local financial sources, the involvement of private sector in rural energy supply is not as good as expected.

The support for renewable energy is now only limited. The regulations available are less binding than the Law 20/2002. The government will have more time to structure the detail regulations for renewable energy development. Current sector's condition is still conducive for new investments. PLN already opens new opportunities for private investment. Old regulations can still be applied and future regulations will likely simpler and provide better investment atmosphere.

Calendar of activities

22 – 23 August 2004
Kick–off meeting and consortium workshop, Hanoi, Vietnam.

22 November 2004 - 9 December 2005
Consortium technical meeting in Hanoi, Vietnam. Technical site-selection field visit and mission, Gia Lai Province, Vietnam.

14 – 16 March 2005
Feasibility technical meeting between IED, ETC and IOE in Hanoi, Vietnam.

22 February – 10 March 2005
Meeting and mission in Sulawesi, Indonesia.

1 April 2005
Technical meeting between IED and ADEME on economic and financial issues, Lyon, France.

10 April – 20 April 2005
Meeting and mission in Philippines.

20 – 22 July 2005
Mid-term progress meeting, to be held in Lyon, France.

Contacts

For more information about the IFRERA project, please contact :

- IED France – Innovation Energie Développement at ied@ied-sa.fr, or visit www.ied-sa.fr ; www.ied-asean.com
- ADEME France at ademe@ademe.fr or visit http://www.ademe.fr
- ETC Energy at energy@etcnl.nl or visit http://www.etc-international.org
- Institute of Energy, Vietnam at lienttvnl@hn.vnn.vn, or visit the http://www.ied-asean.com webpage

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