NATIONAL CONSULTATIONS  
PAPUA NEW GUINEA

Anare Matakiviti\textsuperscript{1} & Gerhard Ziero\textsuperscript{2}
\textsuperscript{1}Adviser – Energy
\textsuperscript{2}Project Manager

PIEPSAP Project Report 11

26 November 2004

~ Participating Pacific Islands Countries ~
Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu
National Consultations PIEPSAP – Back to Office Report

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<th>Country</th>
<th>Papua New Guinea</th>
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<td>Consultations held by</td>
<td>Anare Matakiviti and Gerhard Zieroth</td>
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<td>Request for PIEPSAP assistance or consultation</td>
<td>Letter of request signed by the Secretary, Department of Petroleum and Energy Dated 27 August 2004</td>
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<td>Dates of Consultations</td>
<td>22 – 26 November</td>
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**Energy Division**

Mr Joseh Gamut – Secretary for Petroleum and Energy
Mr Vore Veve – Director
Mr Martin Nobou – Deputy Director, Energy Planning
Mr Idau Kopi, Energy Planner
Mr Nelson Tai – Assistant Energy Planner

The Energy Division is one of the divisions in the Department of Petroleum and Energy and is headed by Mr Vore Veve as its Director. The Division is divided into two main strategic areas – the Planning and Policy Section and the Engineering section.

The current work programme for the division includes a rural electrification programme and a renewable energy programme that promotes the use of local energy resources such as solar, hydro, wind, etc.

Recent energy sector activities involving international donor agencies include:

- A World Bank Energy Sector Review
- A review of the energy sector programmes funded by the Australian Government;
- A World Bank project on strategies for rural electrification;
- PNG Power Ltd rural electrification programme;
- Private sector rural electrification programme e.g. Rural Energy Supplies Ltd on renewable projects and the Sustainable Development Programme Ltd on rural power supply

Other issues highlighted by the Energy Division include:

- Oil and Gas issues including policies are handled by the Petroleum Division;
The Energy Division role is being reduced to policy and planning and rural electrification; The regulatory aspects for the power sector is the responsibility of the ICCC of the Ministry of Trade and Industries; The responsibilities for managing the Government ‘C – Centres” power supply systems now lie with the Provisional governments and most are not operating. The Minister appears to be placing emphasis on the oil and gas operations that generate substantial revenue for PNG.

The Energy Division would like to see an energy policy framework in place. In the past energy sector operations were hindered due to the absence of a policy framework. A loan of $8 million negotiated with the Japanese Government was later withdrawn due to the absence of an energy policy framework. The Secretary said that the issue of having in place an energy policy framework had had a bad history. The lack of political will was cited as the main reason. The Energy Division had tried on seven different occasions to table a policy framework to Cabinet but the lack of support received from the Minister stifled their effort.

In a subsequent discussion with the Director, it was established that a rural electrification policy as opposed to an overall energy policy framework was the best way to go, given that a lot of interests have been generated in the area of rural electrification recently. The World Bank programme on rural electrification, the private sector interest in servicing the rural areas and the programme of the recently established Sustainable Development Programme Ltd , provide excellent opportunities for the Energy Division to raise its profile within the government system and a focus on rural electrification policy, planning and implementation would allow the division to contribute to one of PNG’s major problems in the energy sector, the lack of access to power for more than 90 % of the population.
| Department of Petroleum | The Director highlighted that there is a Petroleum and Gas Act governing exploration and production but no policy statements governing the transmission and distribution aspects. He also raised the issue of gas flaring, which he considers as wasteful and not environmentally sound.  

On the establishment of the oil refinery, the Director highlighted that the Petroleum Division, played very minimal role as the matter was dealt with specifically by the Ministry of Finance and the Ministry of Trade and Industry.  

What Mr Rimua would like to see is the development of a policy framework that can govern the downstream aspects of petroleum production especially looking at the distribution and sales and also touching on the environmental aspects. This an urgent matter that his Department will need to look into. |
| Mr Rendle Rimua, Director |

| Department of Treasury | The Treasury Department is keen to see that an energy policy framework is developed and they would be happy to assist in the process. According to the officers, the allocation of resources for energy programmes over the past years has focused mainly on the development of petroleum resources. Resources have also been allocated for supporting PNG Power Ltd and the provincial power supply systems. |
| Mr Mark Slate – Economic Adviser, Structural Policy & Investment.  
Mr Hanson Omega – Senior Economist, Petroleum and Gas. |

| ICCC – Ministry of Trade and Industry | The ICCC was established to regulate state owned enterprises that include PNG Power Ltd. While their roles include both the technical and economic regulations, the latter due to the lack of capacity has been delegated back to PNG Power on an annual basis. This arrangement will continue for sometime time until a “technical division” is set up.  

ICCC recognizing the lack of technical expertise in the area of technical regulations has highlighted the need for capacity building in the area and has explored the possibility for PIEPSAP to provide such assistance.  

The option of ICCC working together with the Energy Division with regards the technical regulations for the energy sector was mooted. The ICCC highlighted that they were not aware of the roles of the Energy Division and also their capacity to undertake such task. |
| Mr Feg Ota  
Mr Wau Guma  
Mr Sam Rovare  
Mr Paulus Ain |

| Utilities and Private Sector |  |
PNG Power Ltd  
Mr Chris Bais – General Manager, Technical Services  
The PNG Power Ltd (PPL) service areas are mostly in the provincial main centers. By statute PPL has a 10km radius exclusive operation area from the point of supply. The extension of the PPL grid to neighbouring areas is dependent upon the economic viability of supplying such areas. However, PPL does carry out grid extension in uneconomic areas in the event capital funds are made available either through government or donor funds.

PPL applies a uniform tariff structure in all its supply areas but tariff rates are different for each customer group. The different tariff rates are as shown below:  
Domestic Credit Tariff – first 30kWh, 24.13 toea per kWh per month. The balance, 39.92 toea per kWh per month. The minimum charge is K7.00 per month.  
Domestic Easipay tariff – all energy, 33.30 toea per kWh. Minimum purchase is K9.00 per receipt.  
General supply Easipay tariff – 50.08 toea per kWh. Minimum purchase, K36.00 per receipt.  
General supply credit tariff – all energy, 51.33 toea per kWh. Minimum charge, K10.00 per month.  
Industrial tariff – all energy 27.96 toea per kWh. Demand charge, K29.97 per kVA per month. Minimum demand, 200 kVA per month. Minimum demand charge, K5,994.00 per month.

PPL also provides maintenance and repair services to C-Centres power supply systems. These services are provided only when Provincial Governments allocate the appropriate funds.

Hanjung Power Ltd  
Mr B. K. Kim – general Manager  
Mr Randy B Atienza – Finance Manager  
Mr J H Ahn – Manager, Project Management Team, O&M Office  
The Hanjung Power Ltd commenced operation as an IPP in January 1999. A Power Purchase Agreement was signed with the then Electricity Company (now PNG Power Ltd) along the Built Operate and Transfer (BOT) principles. The company has a 15-year agreement to supply power to PNG Power. Hanjung Ltd has an installed capacity of 24.6 MW and the BOT concession agreement allows PNG Power the choice to purchase the Hanjung Power Ltd assets or further extend the duration of the contract.

One concern raised by Hanjung Power Ltd with regards the PPA was that there has been some move to change the clause of the agreement given the weakening status of the Kina. According to Hanjung that such a move does not go well with the Board of Directors of Hanjung as they had also in good faith signed on to the agreement knowing all
the risks involved. Apparently, the PPA was
denominated in US dollars. Adding further Hunjung
said that any attempt to change the clause of the
agreement to suit ones circumstances would send
negative signals to potential investors.

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<th>Rural Power Services Ltd</th>
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<td>Mr Len Capon – Technical Management Consultant</td>
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<td>Rural Power Services Ltd has been involved with the design, installation and provision of back-up services (repair and maintenance) for renewable energy projects in PNG. According to Mr Len Capon there is a lot of potential for renewable energy projects in PNG and there is a need for a continuous collection of data on the different types of resources available. Rural Power Services Ltd has been involved with wind data collection and hydro monitoring. The company has built a 350kW hydro plant and a 12V PICO hydro battery charging facility in Bouganiville. Apart from these, the company has also installed PV home systems (2 light systems) in homes of workers on palm oil plantations. The home-owners are charged K6 per week and the company has reached an agreement with the home owners and the palm oil company that the payment be deducted from their payroll. Mr Capon is aware the WB project on solar lantern for rural schoolteachers. However, he said that he was not happy with the way it had been coordinated citing the lack of transparency in the process being followed as the main reason.</td>
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<th>PNG Sustainable Development Programme Ltd</th>
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<td>Mr Sev Maso – Advisor, Power Projects Mr Camillus Midire – General Manager</td>
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<td>The PNG Sustainable Development Ltd is an investment company established under statute to manage the 52% Government share in the Oktedi Mine. The company charter allows the company to invest part of the dividend received in rural development projects. The company has expressed interest to invest in power supply systems in rural areas and has appointed the former CEO of PNG Power (Mr Sev Maso) as adviser for its power development projects. Mr Maso highlighted his concern with regards the provision of the Electricity Commission Act that preclude other players from participating in the power industry. The other concern that was highlighted was the absence of a clear government direction on power sector development. The company has commissioned studies on two potential rural electrification sites for possible financing. The findings will provide the basis for</td>
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deciding what type of rural electrification scheme will be most appropriate for each site. And the company is looking as much as possible at developing renewable energy rural electrification schemes. Specific areas that the company is interested in include hydro, solar and bio-fuels. Citing its interest in bio-fuel the company highlights that copra oil was the main fuel for transportation in Bouganiville for two years during the political crisis of 1996 to 1998. The company will also consider the use of diesel generation where appropriate.
## Donor Agencies

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<td><strong>ADB</strong></td>
<td>Mr Steven H Van Der Tak – Country Director</td>
<td>At present the energy sector is not a focus of the ADB assistance in PNG. However, according to Mr Van Der Tak, there is the possibility of the Bank providing assistance to PNG in this area should there be an interest expressed by the Government. Mr Van Der Tak further highlighted that the Bank's assistance could be linked with other initiatives such as that proposed by the PNG Sustainable Development Programme Ltd. Other private sector initiatives could also provide opportunities for collaboration and cooperation. The possibility of also working with PNG Power is a potential area. The Bank would support the development of the energy policy framework in PNG.</td>
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<td><strong>AusAid</strong></td>
<td>Ms Hannah Birdsey – Third Secretary, Australian Agency for International Development</td>
<td>The AusAid assistance in PNG is not focused on energy programmes. The focal areas for assistance include, education, health and sanitation, law and order and income generation activities for rural communities.</td>
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<td><strong>World Bank</strong></td>
<td>Mr Mahesh Sharma – Country Manager, Mr Grayson C Heffner – Consultant, Asia Alternative Energy Programme, Dr Andrew Mears – Consultant, Majority World Technology Pty Ltd, Mr Ray Holland, Principal Consultant, Intermediate Technology Consultants Ltd</td>
<td>The WB has currently two energy related TA projects in PNG. A GEF funded PDF for a solar lantern project for rural teachers and an ESMAP funded project which looks at the “Innovative Entry Points for Rural Electrification.” The former is a 5 year project that targets the provision of solar lanterns to rural teachers. The latter focuses on the role of energy in delivering essential services such as light, water, heat, etc and also focus on the developing income generating activities where energy is a key component. The ESMAP project has carried out studies in eleven communities 5 of which had received detailed studies. A video on the potential role of energy in addressing social issues such as education, law and order and household issues is also being produced. As part of the raising public awareness on the project, communication leaflets have also been produced. The WB is also planning a “capacity building” exercise with the Department of Petroleum and Energy, the detail of which has yet to be finalized. PIEPSAP will have to co-ordinate its support to the division with the WB in order to avoid duplication or conflicting advise. Dr Andrew Mears highlighted the WB activities in the Solomon islands and these include developing a renewable energy programmes, reviewing the</td>
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regulatory roles of the Solomon Islands Electricity Authority (SIEA) and SIEA grid extension. A GEF MSP project is also being developed that looks at the establishment of a “rural energy funds.” Potential project that has been identified under this proposal include the coconut oil biofuel, community based hydro schemes, promotion of retail centers for renewable energy technologies (credit schemes) and model enterprises e.g. communications, food processing and refrigeration.

General

As highlighted above, the development of a rural electrification policy for PNG is seen to have a lot of merits as opposed to developing an overall energy policy framework. Both donors and private sector investors are targeting the provision of electrical services to rural areas. It is therefore in the best interest of Government that the services are provided within a framework that ensures sustainability, adhere to safety standards, meet the minimum technical standards requirement and one that promotes economic and social development.

PNG has a variety of renewable energy resources including hydro, solar, wind, geothermal, and biomass.

The Government of PNG will need development partners from donor agencies and the private sector to assist in developing the above renewable resources. To develop the partnerships there is a need to develop an appropriate framework, a framework that takes into account the interests of all stakeholders in the partnerships.

Conclusion

We would like to acknowledge the support provided by the staff of the Energy Division who provided the necessary support to ensure that the consultations with relevant stakeholders in PNG progressed smoothly. Without their support it would have been difficult to accomplish the task.

It is worth recording here also our appreciation for the invitation extended to us at the Christmas Party. We enjoyed the occasion and meeting the staff and their family was a great experience.

Note: An Annex is provided for some photos taken during the mission
Annex 1
Solar Demonstration House – Energy Division Compound
A 300W Chinese Wind Turbine – Energy Division Compound
Oil Refinery in Port Moresby (in the background)