

**PNG LNG Quarterly  
Environmental and Social Report  
Fourth Quarter 2010**



**PNG LNG**

*Energy for the World. Opportunity for Papua New Guinea.*

## *One Project, One Team, Focused on the Fundamentals*

### *Wanpela Projek, Wanpela Tim, Lukluk Long As Tingting Bilong Projek*

**“Much has been achieved since the Project was sanctioned in December, 2009, but in the context of the Project’s scope and scale, we are only getting started. By working together as one team, putting our learnings into practice quickly and standardizing our processes we will maintain strong stakeholder relationships and meet the Project’s objectives.”**

**Decie Autin, Project Executive, Esso Highlands Limited**

This is the fourth Papua New Guinea Liquefied Natural Gas (PNG LNG) Project (Project) Quarterly Environmental and Social Report demonstrating how Esso Highlands Limited, as the operator of the Project, is delivering on its commitments in the areas of construction, safety, health, environment and social management.



Esso Highlands Limited, a subsidiary of Exxon Mobil Corporation, is constructing and will operate the Project on behalf of the co-venturers – subsidiaries of Oil Search Limited, National Petroleum Company PNG Limited, Santos Limited, JX Nippon Oil and Gas Exploration Corporation, Mineral Resources Development Company Limited and Eda Oil Limited.

The Project has developed a detailed Environmental and Social Management Plan, supported by a family of component plans, which are published on the Project’s website ([www.pnglng.com/commitment](http://www.pnglng.com/commitment)) and articulates the Project’s commitments and approach to environmental and social management. Working with contractors to finalize their management plans and reporting protocols has been a major achievement for the year.

In addition, the Project has a Safety Management Plan, a Health Management Plan, a Regulatory Compliance Plan and a Security Management Plan. Collectively, these documents demonstrate the priority placed on promoting sustainable economic growth in Papua New Guinea and reflect the global experience of ExxonMobil. These plans provide invaluable resources for creating a best practice culture across the Project as construction work progresses.

This report signifies the end of the Project’s first full year of a four-year construction period, and an opportunity to reflect on what has been achieved so far.

## **PRE-CONSTRUCTION ACTIVITIES**

Securing external funding represented a vote of confidence in the Project and in the ability of Esso Highlands Limited to deliver on commitments, working with its co-venturers. It has required the Project to set a high benchmark for public environmental and social reporting including ongoing disclosure, monitoring and reporting for the Investor/Lender Group and the many stakeholders within Papua New Guinea and internationally.

Papua New Guinea is one of the least explored countries on earth largely due to its rugged, mountainous terrain and dense vegetation. Many of the areas in which the Project's personnel are working remain largely unexplored, even by the indigenous people who have lived in the immediate area all their lives. This environment, as well as the complexity, scale and scope, make it one of the most challenging projects ever undertaken in this industry.

The Project continues to conduct pre-construction surveys to confirm the placement of the pipeline construction corridor and the associated Project footprint. These surveys identify potential impacts of construction activities on community infrastructure as well as environmental and/or social sensitivities. The resulting constraints maps, including advice, mitigation options and recommendations to reduce impacts to communities and the environment, are supporting decision-making across all Project locations. This quarter, the main pre-construction survey effort concentrated on the onshore pipeline with approximately 58 percent of the 292 kilometer (181 mile) main pipeline route surveyed. A major milestone was achieved when the Upstream Infrastructure contractor completed planned pre-construction surveys for all of its worksites, issued its reports to Papua New Guinea's Department of Environment and Conservation and received permission to access all of its worksites.

## CONSTRUCTION

The Project moved into full execution in March, 2010, commencing with early works activities. Clearing work at more than ten sites, scattered over a distance of 300 kilometers (186 miles), creating appropriate road access and linking the required infrastructure has been an enormous task. For example, the contractor at the Komo Airfield had registered in excess of one million work hours by the end of this quarter all without a Lost Time Incident. Efforts also continued on improving and upgrading infrastructure, including road and bridge works, and the installation of construction camps.

This early work provided a foundation for scaling up construction activity late in the year as the Onshore Pipeline contractor and the LNG Plant and Marine Facilities contractor and subcontractors mobilized. A milestone during this quarter was the commencement of rig construction activities, following the finalization of detailed drilling and completion designs.

*Bulk earthworks at the Hides Gas Conditioning Plant continue*



Table 1 provides an overview of construction highlights for this quarter.

*Table 1 – Contracts and main construction activities*

Contract	Contractor	Major Activities During the Fourth Quarter 2010
Upstream Infrastructure (C1)	Clough Curtain Brothers Joint Venture	Mubi River ferry works were completed and the ferry became operational. Kutubu Central Processing Facility Bypass Road work was completed and the Ridge Bypass Road work was nearing completion.
	Telecommunications (EPC1) – TransTel Engineering	Construction began at the first of six mountain top communication sites. Completed installation of satellite communications at one additional construction camp.
LNG Plant Early Works (C2)	Curtain Brothers Papua New Guinea Limited	Upgrade of the Papa Lea Lea Road.

Contract	Contractor	Major Activities During the Fourth Quarter 2010
Offshore Pipeline (EPC2)	Saipem	Completed offshore line pipe weld mechanical testing.
LNG Plant and Marine Facilities (EPC3)	Chiyoda and JGC Corporation	Clearing vegetation areas in preparation for the jetty test piles and for the temporary seawater intake pipeline. Installing the temporary concrete batch plant.
Hides Gas Production Facilities and Hides Wellpads (EPC4)	CBI Clough Joint Venture	Bulk earthworks progressed. Installation of the boundary fence along with foundations for camp accommodation.
Onshore Pipeline (EPC5A)	SpieCapag	First deliveries of line pipe arrived at Kopi Shore Base. Stringing of line pipe commenced along the Right of Way.
Komo Airfield (EPC5B)	McConnell Dowell and Consolidated Contractor Group Offshore	Bulk earthworks were completed in the terminal area. The 173-bed Pioneer Camp was completed, along with installation of foundations, accommodation units and the kitchen in the main camp.
Oil Search Limited Associated Gas Development	Aker Solutions	Fabrication of the replacement offloading buoy commenced. Preparatory civil works commenced at the Kutubu Central Processing Facility.
Drilling (new wells and workovers)	Nabors Drilling International Limited	Rig construction activities commenced.
Port Moresby Construction Training Facility	Eos	Officially opened and began operating.

## SAFETY, HEALTH AND SECURITY

Sustaining long-term relationships within the communities in which the Project works is central to the Security Strategy. Project personnel work with communities, co-venturers, Project contractors, and service providers to build relationships through dialogue and a common understanding of issues. The Royal Papua New Guinea Constabulary performs their duties to maintain law and order in the Project areas.

There are risks associated with any project involving multiple worksites and heavy machinery. The Safety Vision for the Project is *Nobody Gets Hurt*. This is pursued through improved hazard identification, better understanding of risks specific to working in Papua New Guinea and the effective communication of risks and hazards. Safety workshops, health training and education programs have been a key focus throughout the year and continued to be well attended and supported by contractor teams in the fourth quarter.

The Project reviewed and strengthened its Malaria Control Program during this quarter following three serious malaria cases involving Project workers in the second half of 2010. Another important safety initiative was the development of the Project Glove Guideline intended to prevent hand and finger injuries on worksites. This followed the successful launch of the 'Gutpela Lek' (Good Feet) training toolkits that were rolled out across Project worksites earlier this year as well as a worker awareness and monitoring campaign, which was developed in response to a cholera outbreak in Papua New Guinea.

*Distributing T-shirts to commemorate World AIDS Day*

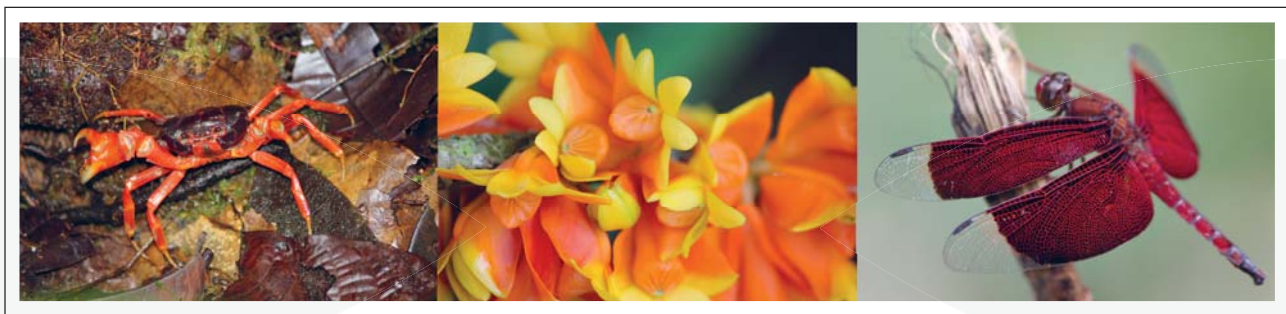


## ENVIRONMENTAL PERFORMANCE

The Project's Environmental Impact Statement is the most comprehensive ever undertaken in Papua New Guinea. In particular, the Project takes care to manage natural resources such as water, timber, quarry materials and soils in recognition of their ongoing environmental, social, economic and cultural value. For example, hydrocarbon spill prevention and reporting has been a specific focus throughout the year for the Project and its contractors. Presentations, toolbox talks and the circulation of Safety, Health and Environment alerts that stress the importance of preventing, minimizing, responding to and reporting spills have taken place at all sites. This was followed up with site leads continuing to highlight the importance of vigilance on spill prevention. The success of these initiatives is evident in recent hydrocarbon spill metrics and trend analysis which shows an overall decrease in spill volume and numbers per 200,000 work hours over the year of 2010.

Preserving Papua New Guinea's biodiversity is a high priority for the Project with numerous initiatives and management measures in place to ensure that biodiversity issues are adequately addressed. The Project's Biodiversity Strategy was finalized and publicly disclosed this quarter, in preparation for an extensive consultation process.

*Biodiversity of Papua New Guinea – Terrestrial crab *Cardisoma hirtipes*, *Dendrobium chrysopterum*, *Camacinia gigantea**



The Project has a wide-ranging environmental monitoring program, which includes sampling freshwater streams, creeks and rivers around the various Project work areas for macro-invertebrates. This type of monitoring, which commenced in this quarter, can help identify any Project impacts as well as contribute to a better understanding of Papua New Guinea's stream ecology.

Managing weeds, pests and plant pathogens and ensuring that areas are restored to a natural state, is an essential component of protecting Papua New Guinea's rich biodiversity. The Project's pre-construction surveys showed some surprising results for weed management. For example, the assumption that all worksites were 'pristine' was not entirely correct. This has meant that the Project's planned focus on preventing weeds from being introduced into an area has changed to managing the spread of weeds and any increase in weed activity.

During this quarter, the Project's contractors continued engaging with Papua New Guinea's National Agriculture Quarantine and Inspection Authority, arranging Port of Origin visits to oversee the loading of coated pipe onto vessels in Indonesia. These visits provide an opportunity for the National Agriculture Quarantine and Inspection Authority to confirm that the integrity of the goods and any associated packaging has not been compromised en route from the manufacturer's premises.

## SOCIAL DEVELOPMENT

The Project is promoting economic growth and creating positive, sustainable impacts in the Project Impact Area in areas such as health, education, agriculture, local economic development, women's economic empowerment, and capacity building of individuals and community institutions through a number of strategic community investments.

In the fourth quarter, a pilot children's book was developed, printed and distributed in the Project Impact Area about the adventures of a boy called 'Toea'. The concept will be extended into a first series of six books on Papua New Guinea and its culture. It will be followed by a second series of five books on Project community interface topics, such as road safety and health.

At the University of Papua New Guinea's School of Medical Sciences, the Project is investing in the design and construction of an Infectious Diseases Diagnostic and Research Laboratory.

In addition, the Project's 'Partnership for Health' agreement with the Papua New Guinea Institute of Medical Research will benefit people who live and work near the Project as well as other parts of Papua New Guinea. An early outcome is a 478,000 Kina (US\$180,900) research program sponsored by the Project to identify the most effective vaccine against pneumonia in Papua New Guinea.

In collaboration with the Papua New Guinea Institute of Medical Research and University of Papua New Guinea, the Project has also fully funded a Health Sciences Scholarship and Fellowship Fund that assists 17 students annually with internships as part of their Honors and Masters studies.

During this quarter, 131,600 Kina (US\$49,800) was provided to Radio FM100 for the purchase and installation of a 300-watt radio transmitter at Mendi. As well as providing a service to surrounding communities, this will be a valuable tool for broadcasting information about Project activities, advising communities of upcoming meetings and promoting employment and business opportunities.

Support programs that help empower women to drive positive economic change in their communities have been another focus throughout the last 12 months. During the fourth quarter, the Project nominated six Papua New Guinean women with leadership roles in non-profit organizations and women's associations to attend a month-long training program in Jakarta, Indonesia, focused on entrepreneurial and leadership skill development. The Enterprise Centre is also playing a key role in mentoring and supporting women who wish to form companies.

Large construction projects can directly lead to an influx of in-migration, of people from both outside and within the Project Impact Area, who perceive that there will be economic and employment opportunities and access to improved community services or family security. The Project conducted a Project Induced In-Migration Survey to improve its understanding of potential migration pathways and migration points as well as key environmental, social and spatial impacts. The Study identified risks of adverse effects, caused by Project Induced In-Migration, at five location-based clusters. A draft Project Induced In-Migration Mitigation and Monitoring Plan has been developed, which includes in-migration strategies and influx management and mitigation measures. This Plan is undergoing a consultative review.

*Distributing 'Toea' books in Port Moresby*



*Business leader Antoinette Corbin-Taylor, wife of the US Ambassador to Papua New Guinea (in blue) giving an inspirational talk to the Directors of the all-women Landowner Company, Porebada Ahine Limited*



## DEVELOPING PAPUA NEW GUINEAN BUSINESSES

The Enterprise Centre, an independent institution located within the premises of the Papua New Guinea Institute of Banking and Business Management in Port Moresby, is delivering against the Project's National Content Plan objectives. The Centre spent more than 2.7 million Kina (US\$1.02 million) during 2010. For the full year, the Centre provided over 1,100 work days of training to the Papua New Guinean business community.

The PNG Supplier Database recorded more than 13,000 page logins during the year, including just over 1,000 registered expressions of interest from Papua New Guinean businesses. Meanwhile, work has commenced on a new, permanent building for the Enterprise Centre, which is expected to be completed in 2011.

Purchasing local goods and services transfers knowledge and skills and increases local suppliers' capability to meet global standards. During this quarter, 628 million Kina (US\$238 million) was committed to Papua New Guinean goods and services. Throughout the year, more than 1.5 billion Kina (US\$567 million) was spent.

**More than  
1.5 billion Kina  
spent with local  
companies in 2010**

## WORKFORCE DEVELOPMENT

**4,500 Papua  
New Guinean  
citizens employed  
representing 80% of  
total construction  
workforce**

More than 4,500 Papua New Guinean citizens were employed on Project activities at the end of December, representing 80 percent of the Project's total construction workforce. More than 4,000 of these workers were sourced through 14 Landowner Companies and engaged in Project activities such as construction labor, catering and camp management, security and transport.

In addition, Papua New Guinean citizens have been employed in a variety of administration, procurement, logistics, ground transport and security roles, primarily located in Port Moresby.

By the end of 2011, the total number of workers engaged on the Project is expected to triple. In anticipation, the Project is addressing a shortage in qualified construction workers in Papua New Guinea and maximizing long-term employment opportunities for Papua New Guinean citizens, by providing training facilities at several in-country locations.

A highlight of 2010 was the official opening of the Port Moresby Construction Training Facility, which will train up to 1,000 Papua New Guinean workers per year during the Project's construction phase. It represents a 150 million Kina (US\$57 million) investment by the Project, and will be handed over to the Papua New Guinean Government to become a permanent and integral part of the Port Moresby Technical College once the workforce training programs conclude.

Meanwhile, the Production Operations Training Centre in Port Moresby, which opened in September, 2010, is training a class of 75 men and women who will be engaged in plant operation and maintenance roles. In early 2011, this group will complete their Foundation Skills Training and move on to Basic Oil and Gas Training. The course will conclude with 12 months of Advanced Skills Training overseas. This will enable the graduates to return to Papua New Guinea to work on the newly constructed facilities.

*Port Moresby Construction Training Facility official opening*



## Graduate Update

Name: Paul M Koli

Member of the Graduate Training Development Program

*After an initial period in Brisbane, Australia working with the Hides Project team, Paul returned to Papua New Guinea in October, transferring to the Esso Highlands Limited Business team. He has been assigned to work with the Project Socioeconomic team in a variety of roles relating to cost control, reporting and management.*



## STAKEHOLDER AND COMMUNITY ENGAGEMENT

To ensure its success, the Project recognizes that it must establish and maintain positive community relations through effective communication, consultation and relationship building across the Project Impact Area. Both the Project and its contractor companies are responsible for engaging and collaborating with communities. Dialogue with communities is underway almost every day in every part of the Project Impact Area. During 2010, over 160 formal stakeholder engagement meetings were attended by more than 17,300 registered participants and a total of 5,371 comments were received.

**Over 160 formal stakeholder meetings with >17,300 registered participants during 2010**

The Project is highly responsive to community issues and has received positive feedback from communities about issue resolution. During this quarter, 122 issues were recorded from 21 communities in the Project Impact Area. Most issues covered social, economic and community affairs. A total of 43 grievances were also recorded, mostly relating to compensation, and business opportunities and strategic community investments. In the fourth quarter, 19 grievances were closed with a 100 percent satisfaction rating for the process used.

Meanwhile, the Government Interface team has worked hard this year establishing effective working relationships with the Papua New Guinean Government and achieving outcomes that support the Project's schedule. For example, procedural changes made by the Government are enabling the Project to more readily mobilize labor requirements and meet schedule commitments. Restricted Entry Visas, Red Job Exemptions, Hub Processing Centers and Institute of Engineers Papua New Guinea registration changes were introduced during this quarter.

In addition to mobilizing workers into Papua New Guinea, successful construction activities rely on the efficient mobilization of materials and equipment into the areas where they are required. The Project is working with Government agencies to facilitate this. Toward the end of 2010, discussions were underway with the National Airports Corporation and Papua New Guinea-based airline operators to develop strategies aimed at efficiently moving Engineering, Procurement and Construction contract laborers during the peak period of construction.

Another priority for 2010 has been ensuring that the Project has a well-defined, transparent land access process in place, including a clear system of compensation payments for Papua New Guinean citizens affected by resettlement.



The Project is committed to minimizing the need for population resettlements as a result of Project activities, and to conducting necessary resettlement activities in accordance with international best practice, as defined by the International Finance Corporation social safeguard policies and the laws of Papua New Guinea. The Project's approach to resettlement is to give physically and economically displaced people the opportunity to, at a minimum, restore their livelihoods and standards of living.

This quarter included a visit by the Lender Group's Independent Environmental and Social Consultant. This presented the Project with an opportunity to discuss progress as well as constraints and to identify methods to address issues that could impact on compliance with Lender Group requirements.

Highlights for the fourth quarter have included the finalization of Resettlement Action Plans for the Komo Access Road, Kopeanda and the Heavy Haul Road. Also by the end of the fourth quarter, all outstanding compensation had been paid to relocated residents at Komo Airfield, all houses had been dismantled and rations deliveries to Komo households had been completed.

Since the Project started, 73 In-Principle Compensation Agreements have been signed by landowner representatives and Project management in relation to damage to food gardens and economic crops, man-made structures (such as fences, drains and dwellings), naturally occurring bush, vegetation, birds, animals or fish, or negative effects on the quality of water resources.

Preparation is underway for compensation payments with regard to land required for the various Project facilities and infrastructure. These payments are scheduled to take place in early 2011. They will consist of one-off payments for initial and surface land damage, as well as one or more installments of yearly deprivation payments.

*Introduction and propagation of new sweet potato Ipomoea batatas varieties, including virus free planting material*



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One Team,  
Focused on the  
Fundamentals**

Looking ahead to 2011, the Project's vision is *Wanpela Projek, Wanpela Tim, Lukluk Long As Tingting Bilong Projek*. The fundamentals always referred to are; safety, security, health, environment and controls. As the Project's workforce and contractor numbers increase, it will aim to work together as one integrated team to ensure the best outcomes for the Project, the people of Papua New Guinea and the many other stakeholders.



**PNG LNG**

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# ExxonMobil

PNG LNG is operated by a subsidiary of  
ExxonMobil in co-venture with:



OIL SEARCH LIMITED



**Santos**  
We have the energy.



JX Nippon Oil & Gas Exploration

