

**Quarterly Environmental  
and Social Report**  
First Quarter 2010



**PNG LNG**

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

Welcome to the first Papua New Guinea Liquefied Natural Gas Project, Environmental and Social Quarterly Report.

In March 2010, we announced that with sales and purchase agreements in place, and financing arrangements completed, this Project was proceeding into full execution.

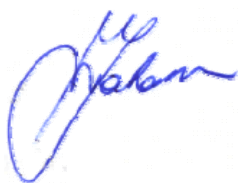
Reaching this milestone represents a vote of confidence in the Project and in ExxonMobil's ability to deliver as the operator working with our co-venturers. It is also a vote of confidence in the Government and people of Papua New Guinea to capitalize on the Project's benefits as a catalyst to position the nation as a major Liquefied Natural Gas producer.

Commencement of the Project's execution, while an historic milestone, is also only the beginning.

A project of the scale we are undertaking in Papua New Guinea requires the application of world class technology and management skills combined with a commitment to safety, environmental and socioeconomic excellence. In Papua New Guinea, the Project gas resources are located in a very challenging environment of rugged terrain, intense rainfall, and sensitive ecosystems. It demands ingenuity and rigorous planning to bring the country's natural gas to the global market in an efficient, timely, and responsible way.

We take on this Project with our co-venturers recognizing that Papua New Guinea is one of the most beautiful and unique places on earth. It is a nation of distinctive cultures and people, closely linked to the incredible natural environment, endowed with many natural resources. Our goal is to develop and operate this Project in a way that protects these national blessings while helping to bring economic success to the country and contributing to the global community by supplying energy to help meet the world's growing demand.

This is the first in an ongoing series of reports providing details on how we are achieving our goal.



**Peter Graham**

Managing Director

Esso Highlands Limited



**Ken Larson**

Project Executive

Papua New Guinea Liquefied Natural Gas

## Executive Summary

The Papua New Guinea Liquefied Natural Gas Project ("the Project") is an integrated development that includes gas production from currently operating fields in the Southern Highlands and Western Provinces of Papua New Guinea and processing facilities (the Hides Gas Conditioning Plant (HGCP)), onshore and offshore pipelines for transport to liquefaction facilities near the capital, Port Moresby. From there the Liquefied Natural Gas (LNG) will be transported in specially built tankers to international customers with first deliveries scheduled to begin in 2014.

Esso Highlands Limited, a subsidiary of ExxonMobil Corporation, is constructing and will operate the Project on behalf of the co-venturers - Oil Search Limited (OSL), Independent Public Business Corporation (Papua New Guinea Government), Santos Limited, Nippon Oil Exploration, Mineral Resources Development Company (Papua New Guinea landowners) and Petromin PNG Holdings Limited.

Safety, security, health, environmental and social aspects of the Project are managed under a series of plans which enable construction to be undertaken in accordance with national legislation, the external financing group's environmental and social requirements, and ExxonMobil standards. This report, covering the period January–March 2010, is the first in a series of Environmental and Social Quarterly Reports that will provide an update on Project construction activities and report on safety, security, health, environment and social performance plus compliance with the above requirements.

**Esso Highlands Limited, Managing Director,  
Peter Graham and Petroleum and  
Energy Minister William Duma**



The Project moved into the full execution phase in March 2010 and is currently at the earliest stages of the four year construction period. As such, the environmental and social verification and monitoring systems, and reporting protocols are also at an early stage of implementation.

Much of the Project activity will occur under six Engineering, Procurement and Construction (EPC) contracts being executed by some of the industry's leading contractors. To date only one of the EPC contractors (for the Komo Airfield) has commenced field construction activity. The other EPC contractors remain in the execution planning phase.

Additional to the EPC contracts, construction contracts were awarded in 2009 for a program of infrastructure upgrades in advance of the main construction activities in the Gulf Province and Southern Highlands Province. The Upstream Infrastructure element of this program incorporates civil works in the areas of Hides and Kutubu, upgrade and construction of new roads and bridges, construction of training facilities and camp construction, extension and refurbishment. Another contract covers early works at the LNG plant site and nearby area. Contracting is in the advanced stages for two new-build drilling rigs to drill and complete the Project wells.

The table overleaf shows the contracts and main construction activities in this first quarter of 2010.

**Table 1: Contractors and activities, first quarter 2010**

Contract	Contractor	Major first quarter 2010 activities
Upstream Infrastructure (C1)	Clough Curtain Brothers Joint Venture	Road and bridge improvements, camp construction and renovation of existing OSL camps. Bulk earthworks for Wellpads and HGCP.
	Red Sea Housing	Camp construction. Construction of Juni Camp and training facility.
	Telecommunications (EPC1) - TransTel Engineering	Execution planning.
LNG Plant Early Works (C2)	Curtain Brothers Papua New Guinea Limited	LNG plant site Bypass Road and upgrade of the Lea-Lea Road. Pioneer Camp construction. Installation of the LNG plant perimeter fence.
Offshore Pipeline (EPC2)	Saipem	Detailed design engineering and long lead procurement.
LNG Plant and Marine Facilities (EPC3)	Chiyoda and JGC Corporation	Detailed design engineering and long lead procurement.
HGCP and Hides Wellpads (EPC4)	CBI Clough Joint Venture	Detailed design engineering and long lead procurement.
Onshore Pipelines and Infrastructure (EPC5a)	SpieCapag	Detailed design engineering and long lead procurement.
Komo Airfield (EPC5b)	McConnell Dowell and Consolidated Contractor Group Offshore	Preliminary earthworks and geotechnical trials for Komo Airfield and construction of Pioneer Camp. Clearing and grubbing for the Heavy Haul access road.
Oil Search Limited Associated Gas Development	Aker Solutions	Detailed engineering, procurement and execution planning
Drilling (new wells and re-completions)	Nabors Drilling International Limited	Contract negotiations with selected contractor.
Port Moresby Construction Training Facility	Eos	

The Project has the potential to transform the economy of Papua New Guinea and, if the benefits from the Project are applied throughout the economy as intended, it has the potential to dramatically improve the quality of life for the Papua New Guinean citizens. This will be achieved by boosting Gross Domestic Product (PNG LNG Economic Impact Study. ACIL Tasman, 2008) and export earnings, providing a major increase in government revenues, making royalty payments to landowners, creating employment, and providing a catalyst to further industry development. Project area landowners will benefit from direct royalty payments as well as improved social and developmental infrastructure.

The recruitment and development of qualified Papua New Guinean citizens is a key component of the Project's National Content Plan (NCP). The strategy is to maximize the number of local employment opportunities, to increase the percentage of national employees over the life span of the Project and to train them in the technical and professional skills necessary for working on existing, and future, projects and operations. To facilitate implementation of this strategy, the Project is building two construction training facilities. The Port Moresby Construction Training Facility (POM Tech) and Juni Construction Training Facility (Juni CTF) represent an investment of approximately 150 million Kina (US\$60 million) to train about 850 students per year starting later in 2010 for the next four years.



The Project's Graduate Training Development Program recruits Papua New Guinea graduates in engineering, safety, accounting and administration to provide training through work experience. Upon successful completion these graduates will be employed by Project contractors. The program began in October 2009 with the recruitment of 22 graduates and continued through the first quarter with on the job training of graduates in the Brisbane Project office.

Contractors may employ Papua New Guinean citizens through the network of Land Owner Companies (Lancos) with a focus on employment for people from areas with the highest Project presence. The Project has assisted with the establishment of representative Lancos and is providing support to them to develop business skills. Project contractors will also be responsible for enhancing the capacity of representative Lancos and their ability to deliver the goods and services required to execute the Project.

Through the purchase of goods and services in Papua New Guinea and by developing long-term supplier relationships, the Project supports the development of the local business economy. Local capacity is promoted by helping suppliers meet Project supplier standards, providing training for entrepreneurs, and creating business opportunities for local small and medium sized enterprises. In March 2010, the Project opened an Enterprise Center, which is responsible for assisting Papua New Guinean suppliers, strengthening their business management skills and providing them with assistance in seeking financing from the Papua New Guinean banks.

An extensive stakeholder mapping process has identified over 120,000 Project stakeholders covering national and provincial governments, local communities, landowners, non-government organizations (NGO), and other interested stakeholders. Following consultation activities undertaken initially in connection with the environmental impact assessment (at 6,000 pages the largest ever undertaken in Papua New Guinea), the Project continues to implement an extensive communications program. A new phase of community engagement began in early December 2009 and continued through the first quarter. Meetings with community groups concentrated on the Mendi area of the Highlands Highway (Northern Logistics Route), the initial focus of the road maintenance and bridge building program. A total of 17 meetings were held this quarter with approximately 1,600 stakeholders.

#### Community consultation



In addition, a team of Land and Community Affairs staff continues daily interactions with individuals and groups on such topics as compensation payments, resettlement, pre-construction surveys and work site activities. The Project has developed a Third Party Grievance Procedure with the objective of receiving, responding to and addressing community concerns and grievances. The existence of such a procedure is considered to be a vital component of facilitating good relations in allowing timely resolution of grievances in a consistent and transparent manner. Training was undertaken for Land and Community Affairs staff during the first quarter to ensure familiarity with the procedure. The procedure will be fully rolled out in the next quarter.

A well-defined, transparent land access process is in place including a clear system of compensation payments. During this first quarter compensation payments were made for works such as land clearing for bridge maintenance activities, surveys to document the boundaries of land ownership and land clearing for road works. Resettlement activities are ongoing with the goal of giving persons physically and economically displaced as a result of Project activities the opportunity to restore their livelihoods and standards of living. Resettlement activities during the first quarter related primarily to: relocation of households in the Komo Airfield area; household identification and relocation planning along the Komo access road; relocation assistance package negotiations for the HGCP and compilation of the Resettlement Action Plan; socioeconomic surveys and data analysis for the Hides Waste Management Area, Heavy Haul Road, and quarries and production of draft Resettlement Action Plans for the latter two and baseline surveys for the Highlands Highway bridges.

During this quarter, the Project completed a preliminary Project Induced In-Migration (PIIM) Study. This study identified variables, drivers, and "hot spots" for population influx. It also identified areas for further study to facilitate the development of management and mitigation measures to address social risks and impacts associated with in-migration in the specific context of the Project and Papua New Guinea.

A 14 month survey is underway in relation to fish catch landings at each of the four villages surrounding the LNG plant site with the aim of establishing baseline catch data (such as number, size, weight and species caught) in order to understand the importance of fisheries for household consumption and for market. Information concerning fisheries resources will be shared with villagers. Village meetings have been held to describe the purpose and method of the survey and to secure approval and support for survey implementation from community leaders. Fisheries species identification workshops have also been completed.

Social assessments were undertaken in the first quarter to establish baseline data for the two primary land Project supply chains: the Highlands Highway and the Southern Logistics Route. Assessments focused on identifying potential social risks or social impacts on communities and identifying the additional management and mitigation measures that may be required. The process to document the baseline condition of existing infrastructure such as roads, bridges and wharfs that will be used during construction was commenced. This information will allow a future evaluation of Project impacts on infrastructure.

#### **Mendi Road Works**

Safety is the Project's first priority. Community road safety is a particular focus area and in the first quarter a number of procedures and activities were put in place to assist with traffic management. These included implementation of road signage ahead of work sites, positioning of traffic controllers near work sites, fencing of sensitive sites, grass cutting at road sides to enhance visibility, community education on traffic and pedestrian safety, random alcohol and drug testing of truck drivers and use of attendance vehicles to warn of approaching convoys.



**Esso Highlands Limited, Managing Director, Peter Graham (left) and Ron Seddom, Chair of Rotarians Against Malaria at the initiation of the collaborative Bed Net Program**



The Project's Community Health Program, to be undertaken in collaboration with a government agency and potentially NGOs, is organized around two fundamental public health concepts: health promotion/education and disease prevention. As part of the ExxonMobil Long Lasting Insecticide Treated Bed Net Education and Distribution Program to fight Malaria, this quarter the Project collaborated with the existing Rotarians Against Malaria Program on logistics planning and bed net distribution. Project sites have been added to the National Malaria Surveillance Program and plans are under development for enhanced Malaria diagnostics at relevant Project community clinics. Over 1,000 community members have been tested for Malaria under the resettlement program and treated if positive.

Tuberculosis is one of the health focus areas and a Tuberculosis prevention and control program is underway. Sexually transmitted infections and Human Immunodeficiency Virus (HIV) are covered under a national surveillance program.

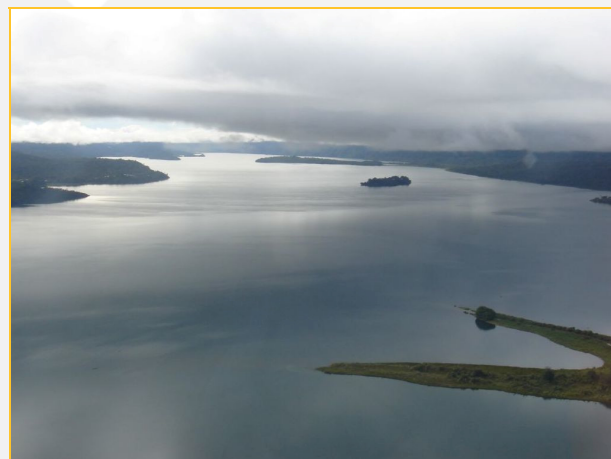
As part of the environmental impact assessment for the Project, archaeologists undertook detailed studies, in consultation with communities, to identify areas and features of cultural and historic significance (archaeological and oral tradition sites). Where avoidance was not possible, a process has been established for the management, recovery and documentation of sites that are authorized by the Papua New Guinean Government Department of Environment and Conservation (DEC) for disturbance. Salvage excavations involving 47 team members were underway in the first quarter at the following sites: HGCP, Kikori River Bridge and the LNG plant site. Following analysis and documentation the material will be transferred to the Papua New Guinea Museum and Art Gallery. The Project efforts relevant to cultural heritage and archaeology will add substantial materials and information to the body of knowledge related to Papua New Guinean cultural heritage. These programs also provide a valuable opportunity for Papua New Guinea based scientists to gain valuable field experience that will enhance Papua New Guinea's capacity into the future. Further pre-construction surveys were undertaken by the Project during the quarter to ensure each worksite is characterized, and appropriate site-specific mitigation and management measures are identified.

In addition to the known cultural heritage sites, construction activities have the potential to disturb or alter as-yet unrecorded archaeological sites within the Project area. Additional archaeological features discovered during construction activities are referred to as "chance finds". A protocol has been developed by the Project and endorsed by the Papua New Guinea Museum and Art Gallery to manage the preservation and appropriate treatment of chance cultural heritage finds. Ground disturbance activities are monitored. During the first quarter no chance finds were made.



## Lake Kutubu

Biodiversity pre-construction surveys were undertaken in the first quarter to identify sensitivities including large habitat trees, bird-of-paradise/bower bird trees/habitat and other ecological “no go” areas. Requirements to avoid or otherwise manage these sensitivities were shared with contractors. Sensitivities identified as “no go” areas have been physically marked out at work sites. Following on from surveys undertaken for the Environmental Impact Statement (EIS), additional studies have been undertaken. One of these covered aquatic biology of the Vaihua river/estuary near the LNG plant site during the wet season. Another was of the marine ecology in Caution Bay in the area of the offshore pipeline, marine facilities, the temporary dredge material storage areas and in the vicinity of the shipping channel.



A draft Biodiversity Strategy was produced in late 2009 and includes a plan for developing post-construction biodiversity monitoring to test predictions made in the Project EIS and aid understanding of residual Project impacts following the implementation of mitigation measures. The Biodiversity Strategy also includes an approach to identifying and undertaking biodiversity management activities to offset residual project impacts. The Biodiversity Strategy was finalized in the first quarter with early implementation activities initiated. Specifically, activities instigated were associated with remote sensing to detect deforestation in the Project area and definition of benchmarks for the field monitoring program to track vegetation regeneration using an experienced forest ecologist with extensive Papua New Guinea experience.

## Rainforest tree



To protect Papua New Guinea’s biodiversity, a quarantine program is under development based on an integration of Papua New Guinea quarantine related laws and regulations. The outcomes of the assessment will include measures and plans in the form of a Project-wide Quarantine Program. Visual inspections have been undertaken at work sites to check for any establishment or spread of weeds, plant pathogens or pests. High risk areas for new weed and pest invasion and *Nothofagus* forest susceptible to fungal disease and dieback were identified as part of pre-construction surveys in the quarter.

In keeping with the Project commitment to make use of existing quarries, eight of the nine quarries utilized in the first quarter were pre-existing. At the one new quarry site that was utilized, comprehensive ecological and cultural heritage pre-construction surveys were undertaken and the Project was able to identify a suitable site with the least sensitivities.



Water abstraction environmental assessments were undertaken for three rivers to assess potential water sustainability and pollution impacts. All assessments concluded that water draw would be less than 10 percent of water flow and would not adversely impact downstream users or habitat. Pollution mitigation measures were identified and implemented such as no vehicle access into the water and ensuring pumps were mounted on platforms away from the rivers. Erosion and sedimentation control devices were installed during the quarter, particularly on stream crossings and at road works. Verification showed that most devices were working well. Contractors will continue monitoring and perform maintenance when required.

Systems of waste management were rolled out to the contractors at the start of construction and during this quarter contractors successfully recorded waste transfers, storage and disposal. The majority of waste generated by the Project was non-restricted domestic and packaging waste. As it is early in the construction phase, use was made of Project approved incinerators and existing municipal facilities for disposal of non-restricted waste. The small amounts of restricted waste generated by the Project were stored in controlled areas until completion of appropriate Project waste management facilities. Some areas for improvement were identified and corrective actions implemented.

Overall, the Project performed well in regards to the volume and number of spills in the first quarter. All spills are reportable to the Project and ExxonMobil Development Company. With over 1.5 million work hours for the quarter, there were only 25 minor spills (with an average of 7 liters per spill). These small events were predominantly localized spills to soils on construction sites, contained and cleaned up appropriately. Performance over the quarter indicated room for improvement in spill prevention and response, and enhanced efforts were made in the quarter to prevent even minor spills. Most of the recorded spills were equipment related. Project teams were reminded that diligent inspection and maintenance of equipment and vehicles is an important priority going forward. A spill awareness training package was presented to the contractors to proactively prevent these minor spills from occurring. Focus on these minor spills and their prevention emphasizes the Project's commitment to environmental protection and reliable construction operations.

Greenhouse gas emissions were documented for the first quarter to provide a baseline for future comparison.

During this first quarter, an environmental verification process was implemented by both the Project and contractors. Non-conformances indicate that a contractor protocol and/or procedure is not being correctly managed and implemented and needs to be corrected. Field observations indicate the potential for a situation to eventually become inconsistent with the correct protocols and/or procedures requiring intervention and resolution by the Project and contractor. Early field observation helps prevent potential future non-conformances. Positive field observations are noted when a mitigation, commitment or situation is being undertaken in compliance with the protocols/procedures. The verification process resulted in 19 minor environmental non-conformance issues, 102 field observations and 10 positive field observations. Corrective actions have been implemented and each non-conformance and field observation will be tracked and closed-out.

The Project recognizes its responsibility to help meet the world's growing energy demands while balancing the components of sustainability, economic growth, social development and environmental protection. While proud of the achievements this quarter, the Project is not complacent and will continue to take its obligations and commitments seriously.

The Project welcomes any feedback on this Quarterly Report (contact details can be found on the back cover).



**PNG LNG**

**[www.pnglng.com](http://www.pnglng.com)**

Port Moresby - Project Headquarters  
Esso Highlands Limited  
Level 5, Credit House, Cuthbertson Street  
GPO Box 118  
Port Moresby NCD  
Papua New Guinea

Email: [miles.j.shaw@exxonmobil.com](mailto:miles.j.shaw@exxonmobil.com)

# ExxonMobil

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



OIL SEARCH LIMITED



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## Santos

We have the energy.



**NIPPON OIL  
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