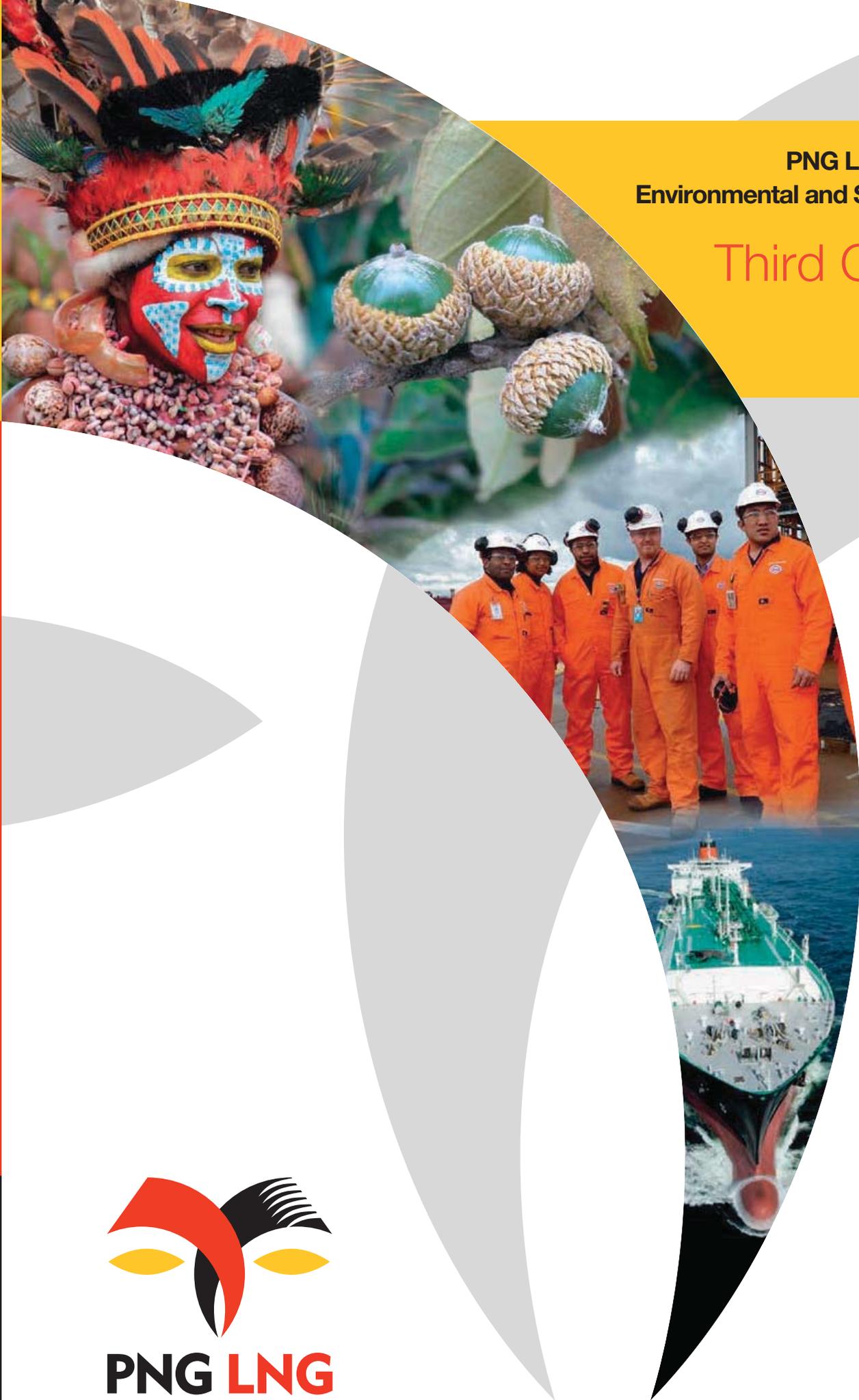


**PNG LNG Quarterly  
Environmental and Social Report**

**Third Quarter**

**2013**



**PNG LNG**

*Energy for the World. Opportunity for Papua New Guinea.  
Eneji Bilong Wol. Luksave Bilong Papua Niugini.*



PROJECT REMAINS ON BUDGET AND ON SCHEDULE

“A disciplined focus on safety and project execution is enabling the PNG LNG Project to remain on budget and on schedule for the first LNG gas deliveries in 2014.”



- Decie Autin, Project Executive, Esso Highlands Limited

A key achievement for the Papua New Guinea Liquefied Natural Gas (PNG LNG) Project (the Project) was reached in September when natural gas from the Kutubu Central Processing Facility was introduced into the LNG Plant for the first time. This is the beginning of commissioning activities for the onshore and offshore pipeline and the LNG Plant site.

The Project is more than 90 percent complete and on schedule for the first delivery of LNG during the second half of 2014. As forecast in 2012, the estimated Project cost remains at US\$19 billion, reflecting disciplined project management in a unique and challenging working environment.

This fifteenth PNG LNG Quarterly Environmental and Social Report provides updates about the Project’s construction, safety, health, security, social and environmental progress. Esso Highlands Limited, a subsidiary of Exxon Mobil Corporation, is responsible for the Project’s construction and operation and is developing the Project with co-venturers:

Oil Search Limited, National Petroleum Company of PNG (Kroton) Limited, Santos Limited, JX Nippon Oil and Gas Exploration Corporation, Mineral Resources Development Company Limited and Petromin PNG Holdings Limited, and their affiliates.

Construction

Two significant construction milestones were achieved in the third quarter. The first was in August when the last of 88 Antonov aircraft deliveries of heavy equipment arrived at Komo Airfield. The second was the introduction of natural gas from the Kutubu Central Processing Facility to the LNG Plant.

The PNG LNG Project is more than 90% complete

Other construction highlights are outlined in Table 1.

Table 1 – Contracts and construction highlights

Contract	Contractor	Major activities during the third quarter 2013
LNG Plant and Marine Facilities (EPC3)	Chiyoda and JGC Joint Venture	Commissioning gas arrived at the LNG Plant. Flare lit for the first time and three utilities generators started-up. Permanent lighting switched on for the common process area, the utilities area and the LNG jetty.
Hides Gas Conditioning Plant and Hides Wellpads (EPC4)	CBI and Clough Joint Venture	Completed transportation of heavy equipment from Komo Airfield to the Hides Gas Conditioning Plant. Foundations poured and pipe spools installed at Wellpad B.
Onshore Pipeline (EPC5A)	SpieCapag	Commissioning gas introduced into the pipeline. Completed welding on 362 kilometres of pipeline, hydrotesting on 286 kilometres of the line and 221 kilometres of Right of Way reinstatement works to date.
Komo Airfield (EPC5B)	McConnell Dowell and Consolidated Contractor Group Joint Venture	Completed the final Antonov delivery. Reinstatement of 57 hectares of land. Reinstatement completed within the perimeter fence.
Associated Gas Development	Various	Gas and condensate metering facilities completed at the Kutubu Central Processing Facility and handed over to the Production organization.
Drilling	Nabors Drilling International Limited	Drilling Rig 702 completed drilling at Wellpad B and relocated to commence work at Wellpad D.
Permanent Facilities Compound	Leighton (PNG) Limited	Continued earthworks, including benching and foundation piling, for the administrative building.



**The Systems Completions and Operations team started-up three of seven generators in the LNG Plant utilities area**

## Environmental performance

As many Project sites near completion, temporary erosion and sediment control measures are being replaced with permanent measures as part of reinstatement works. For example, at the LNG Plant site, permanent erosion and sedimentation control devices are being constructed during reinstatement activities. These permanent measures will be monitored throughout the production phase.

The LNG Plant site's atmospheric air quality is monitored at four on-site locations each quarter. All of these locations remain well below the Project's emissions criteria. With the introduction of commissioning gas in September, additional ambient monitoring was undertaken during the start of commissioning flaring for sulfur dioxide and nitrogen dioxide. All results were well below World Health Organization emissions criteria. Additional noise monitoring was also undertaken as part of commissioning activities, with all results below Project Environment Permit criteria.

Implementation of the Project's Biodiversity Strategy is progressing, along with early implementation of the biodiversity offset program, which is documented in the Biodiversity Offset Delivery Plan. During this quarter, the biodiversity offset program's Enhancing Conservation Capacity component was advanced, with the University of Papua New Guinea recruiting lecturers and support staff for this program.

The Enhancing Conservation Capacity program is based on an agreement announced between the Project and the Mama Graun Conservation Trust Fund in April 2013. It has three key components: a conservation management course, scholarships, and work placements. In September, the University of Papua New Guinea announced it would offer a Diploma in Conservation Management as part of the program.

The Hides Waste Management Facility is increasingly receiving waste for disposal from across Project worksites. As some sites prepare for demobilization, waste that was previously stored is being transported to the Hides Facility for disposal.

For example, the Hides Waste Management Facility received more than 50 tonnes of waste and over 20 tonnes of ash from the Komo Airfield, along with 15 container loads of assorted waste from the Onshore Pipeline contractor.

Waste timber and metal from the Hides Gas Conditioning Plant (HGCP) site is being put to use in local communities with support from the Juni Construction Training Facility, which is using it to build school donations of desks, tables and chairs. Community groups are also using the material in the maintenance of houses, churches and community facilities.

At Komo Airfield, reinstatement was completed on 57 hectares of land this quarter, which included the area north of the taxiway. Reinstatement was also completed within the perimeter fence and for the Tamalia River Borrow Pit, which involved planting some 14,200 trees.



**The Komo Airfield showing reinstated areas along either side of the runway**

Along with other waste management initiatives, the Komo Airfield contractor continues to reuse discarded tires from onshore pipeline activities in land stabilization and reinstatement works. During this quarter, over 1,500 truck tires were recycled and reused in reinstatement works.

## Safety, health and security

Regrettably, there was a fatality on the Project during this quarter. A contractor was working to align two sections of pipe on the onshore pipeline when one section moved unexpectedly causing fatal injuries to the worker. The Project is greatly saddened by this tragic event and expresses its deepest sympathies to the family and friends of the worker involved.

Relevant authorities were notified immediately and an incident investigation was conducted. As a result of the investigation, specific mitigations were implemented to address the identified causes. Key learnings from the investigation were shared across worksites to prevent similar incidents.

The Project continues its focus on fatal risk mitigation and the prevention of higher potential incidents.

From quarterly analyses conducted of higher potential incidents, focus areas are identified to drive continuous performance improvement. The implementation of structured improvement initiatives and increased worker safety awareness has resulted in a decline in higher potential incident rates since the first quarter 2012.

The arrival of commissioning gas at the LNG Plant this quarter brought a new safety focus to the site, as some parts of the facilities are now designated hydrocarbon live areas. Before the introduction of commissioning gas, some 8,000 LNG Plant site construction workers participated in an emergency drill to familiarize them with emergency scenarios involving hydrocarbons. The drill was successfully completed and lessons learned will be applied during the commissioning and production phases. Prior to obtaining entry into hydrocarbon live areas, Project workers also receive training in Esso Highlands Limited's Production Work Management System so they can safely perform construction activities while working in proximity to hydrocarbons.



**Workers mustering during the emergency drill at the LNG Plant site**

The Safety Champions initiative continued this quarter, with 88 workers completing the training. Since its introduction in 2011, the Safety Champions initiative has proven successful with both workers and contractors. By the end of the quarter, more than 1,400 workers had completed the training.

During this quarter, pedestrian and traffic safety was a focus area due to heavy haul operations from Komo Airfield to the HGCP site. All cargo was transported safely as a result of the efforts of Project teams, contractors, and locally engaged traffic controllers who performed a vital service as the interface between local communities and Project traffic.

The Security team also continues to provide an interface between the Project and communities. In preparation for production, the team is managing a comprehensive training and mentoring program for Papua New Guinean security personnel in the field and in administrative support functions. In August, two non-national security positions were nationalized, providing more opportunities for Papua New Guinean personnel to further develop their competencies in security management.

The Health team is also planning the transition of health-related activities to the Production team in preparation for commencement of the production phase. As part of this approach, they are supporting demobilization and transition activities on worksites such as the Komo Airfield.

Improving access to healthcare in Papua New Guinean communities is another focus area for the Project. During this quarter, the Project worked with the Papua New Guinea Tribal Foundation, MediSend International and Maersk Line to deliver more than 130 pieces of medical equipment to hospitals throughout the Project area. The equipment and supplies included bedside monitors, defibrillators, freezers, electric hospital beds, infant incubators, intravenous pumps, examination lights, microscopes, nebulizers, x-ray viewing boxes and ultrasound machinery.

## Social development

As part of the Project's continued support to education in Papua New Guinea, 80 Toea money management games were distributed to schools near the LNG Plant site this quarter. The game, which allows for two to eight players, aims to teach students how to make smarter financial choices in life, and to always consider the impact of spending today compared with saving for the future. The Toea money management game is just one of the many initiatives the Project is leading to support Papua New Guinean schools.

Other initiatives include the ExxonMobil Science Ambassadors Program, which helps high school students learn about the science and petrochemical industry by examining various mineral and chemical samples, even fossils some millions of years old. The Project is also providing extensive infrastructure support to schools, for example, by committing 1.3 million Kina (US\$540,800) for larger-scale infrastructure development for five primary schools in the Project area.

In addition to its own initiatives, the Project is working with community-based organizations to open up more educational opportunities for school students. For example, the Project is providing support for the Port Moresby Nature Park's school excursion program. This program brings students from schools in the National Capital District and Central Province into the Park to give them first-hand experience of environmental science and of Papua New Guinea's unique biodiversity in a single location. To date, more than 4,000 students have participated in these excursions.

Contractors are also providing their own support to schools. For example, a drilling contractor is offering computer training for high school teachers in Hela, and donating physics, chemistry and biology textbooks to students. Another drilling contractor donated 20 boxes of English reading practice books to five elementary and primary schools in the Upstream area during this quarter.



**Students pretend to walk like praying mantises while on excursion at the Port Moresby Nature Park**

The last of four major LNG Plant site village projects was completed during this quarter, with construction of the new boardwalk for Papa Village. The original boardwalk, made from mangrove wood, collapsed approximately ten years ago. Together with volunteers from the Papa community, the Project helped to construct the new boardwalk, which consists of a 150-metre elevated timber walkway that crosses over mudflats and a tidal stream. The new structure will provide access for Papa villagers to traditional inland waterways, fishing habitats, hunting grounds and areas for gardening and collecting firewood. It will save villagers over two hours of travel time on each trip.

Since 2010, the Project has introduced 115 drum ovens and provided training courses across 26 Upstream locations serving 60 active women's groups. The intention is to educate communities about establishing small businesses through food processing of minor commodities such as bread, scones, and roast chickens, as well as household health and hygiene including the nutritional value of different foods. The success of this training led to the introduction of a train-the-trainer course. Graduation ceremonies for both courses were held in August, where 656 trainees were awarded with completion certificates.

To provide a long-term sustainable supply of food crops for resettled households, the Project is working with more than 30 model farmers to rapidly multiply large numbers of sweet potato vines. The Project buys back the vines for distribution to these households. Technical assistance is also provided to farmers regarding the production of seeds for vegetable crops such as carrots and cabbages. During this quarter, resettled households near the Komo Airfield, HGCP, pipeline Right of Way (ROW) and wellpad access roads indicated that the Livelihood Restoration Program was a major influencing factor in their positive perceptions of the Project.

The Project continues to promote opportunities for Papua New Guinean women. During this quarter, seven women from the Central, Southern Highlands, Hela, and Gulf provinces attended a Global Women in Management alumni program in Washington DC through support from the Project. The program, which is part of ExxonMobil's Women's Economic Opportunity Initiative, aims to train and mentor women from developing nations such as Papua New Guinea.



**Train-the-trainer graduate Pemen Pani, leader of the Yakamondo Women's Group**

The Papua New Guinean women who attended the most recent course are Global Women in Management alumni from previous sessions and have the skills and professional ability to advance positive social and economic growth in their communities.

### Workforce development

By the end of the quarter, the total Project workforce was just over 18,500, compared with almost 19,300 workers in the second quarter 2013. Of these, 38 percent are Papua New Guinean citizens. The decline in worker numbers reflects demobilization activities at some worksites.

## 18,500+ people make up the total Project workforce

The focus of worker training has moved from construction-based courses to those that will help Papua New Guinean workers develop skills for opportunities outside of the Project. For example, a three-month computer training course is being offered to LNG Plant and Marine Facilities contractor drivers to help them develop new skills or build on their existing skills.

Contractors continue to focus on safety training to meet Project requirements. During the quarter, over 1,000 workers commenced Working at Heights training and 150 workers participated in Safety Leadership and Supervisor Incident Prevention programs.

Simulator technology is being introduced to support worker training for production operations. For example, the Project has installed two operations training simulators that replicate the activities of the LNG Plant and HGCP control rooms. These simulators are used to build worker knowledge and skills for monitoring and controlling gas production and plant operations from a central location. Production managers are using the simulators to build the skills of Operations and Maintenance trainees and to give them a working knowledge of field systems and procedures, particularly in the process and utilities areas.

At the LNG Plant site, another simulator has been installed to introduce already experienced ship pilots to terminal operations at the LNG jetty.

An appreciation day was held in August to recognize the safety performance of the LNG Plant site and the outstanding camp service provided by one of the Project's Landowner Company (Lanco) contractors. During the day, the Laba Alliance Group was recognized for serving over 30 million meals to workers and for playing its part in raising camp standards through consistently delivering quality in housekeeping and maintenance.

Non-national workers were also 'adopted' by their Papua New Guinean colleagues this quarter as part of the nation's Independence Day celebrations.

As worksites demobilize, the Project and its contractors are supporting workers with the transition from their current work to new non-Project-related opportunities. One example is the transition training program offered at the LNG Plant site. This four-day program was introduced in June 2013 to equip Papua New Guinean workers with the knowledge and skills to help them seek and apply for employment opportunities outside of the Project. To date, more than 950 Papua New Guinean workers have completed the voluntary program.

## Growing Papua New Guinean businesses

Through its various programs, the Enterprise Centre has assisted more than 16,000 Papua New Guinean entrepreneurs to date. In addition, the Centre has provided the equivalent of more than 9,000 training days and 1,200 mentoring days to Papua New Guinean businesses since it commenced activities in 2010. The Enterprise Centre achieved a milestone with its 300<sup>th</sup> business assessment completed this quarter.

The Project continues to invest in the development of Lancos, with more than 2.26 billion Kina (US\$940 million) spent on Lanco services to date. Of this, 173 million Kina (US\$72 million) was spent during this quarter. In addition to Lancos, other Papua New Guinean businesses are used for support services such as camp rental, grass cutting and equipment hire. By the end of the quarter, the Project's in-country spend for both Lanco services and additional services had reached more than 9.71 billion Kina (US\$4 billion).

# 9.71+ billion Kina spent in Papua New Guinea to date

## Stakeholder and community engagement

The newly appointed Papua New Guinean Ambassador to the US, Rupa Mulina, was part of a group of foreign service officers from the Department of Foreign Affairs who visited the LNG Plant site during this quarter. The group was among more than 160 dignitaries from government, foreign missions, the media and international donor agencies who attended 15 advocacy workshops and LNG Plant site visits in the quarter.

The workshops provided attendees with updates about the Project's construction progress, as well as safety, environment, security and national content initiatives.

Papua New Guinean Government authorities continue to introduce new processes that enable Project activities to rapidly progress while complying with national regulations. For example, new National Agriculture Quarantine and Inspection Authority processes for the fumigation of cargo entering Papua New Guinea are helping Project contractors to reduce re-fumigation levels by more than 75 percent.

More than 500 individuals participated in over 200 formal community engagements conducted in 55 communities during this quarter. For the Project-to-date, over 30,000 individuals have been reached through more than 1,400 formal engagements. In addition, over 400 informal engagements were conducted in 41 communities during this quarter. Pedestrian safety education was the emphasis of community engagement activities, particularly near the HGCP site where the Project continued educating local communities about how to safely maintain their traditional access routes to schools and markets given the heavy construction work in this area.



*Pipeline ROW safety engagement session at Kaiam*

Along the onshore pipeline, the Project has donated materials for villages to build 'haus win' meeting areas, where monthly meetings are held with community leaders to allow communities to raise safety concerns. These meetings also enable Project representatives to provide ongoing information about the ROW construction and heavy equipment safety. As part of community safety engagements, workshops are being conducted with women's groups and local schools along the pipeline ROW to educate mothers and schoolchildren about the risks of children playing along the ROW or around heavy equipment.

As construction draws closer to completion, the Project continues to focus on building sustainable capacity for Papua New Guinea. Its investments in supporting schools and tertiary institutions, providing training facilities and building the capabilities of individuals and businesses in Papua New Guinea are designed to leave a lasting legacy of economic growth and development for the nation.





**PNG LNG**

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