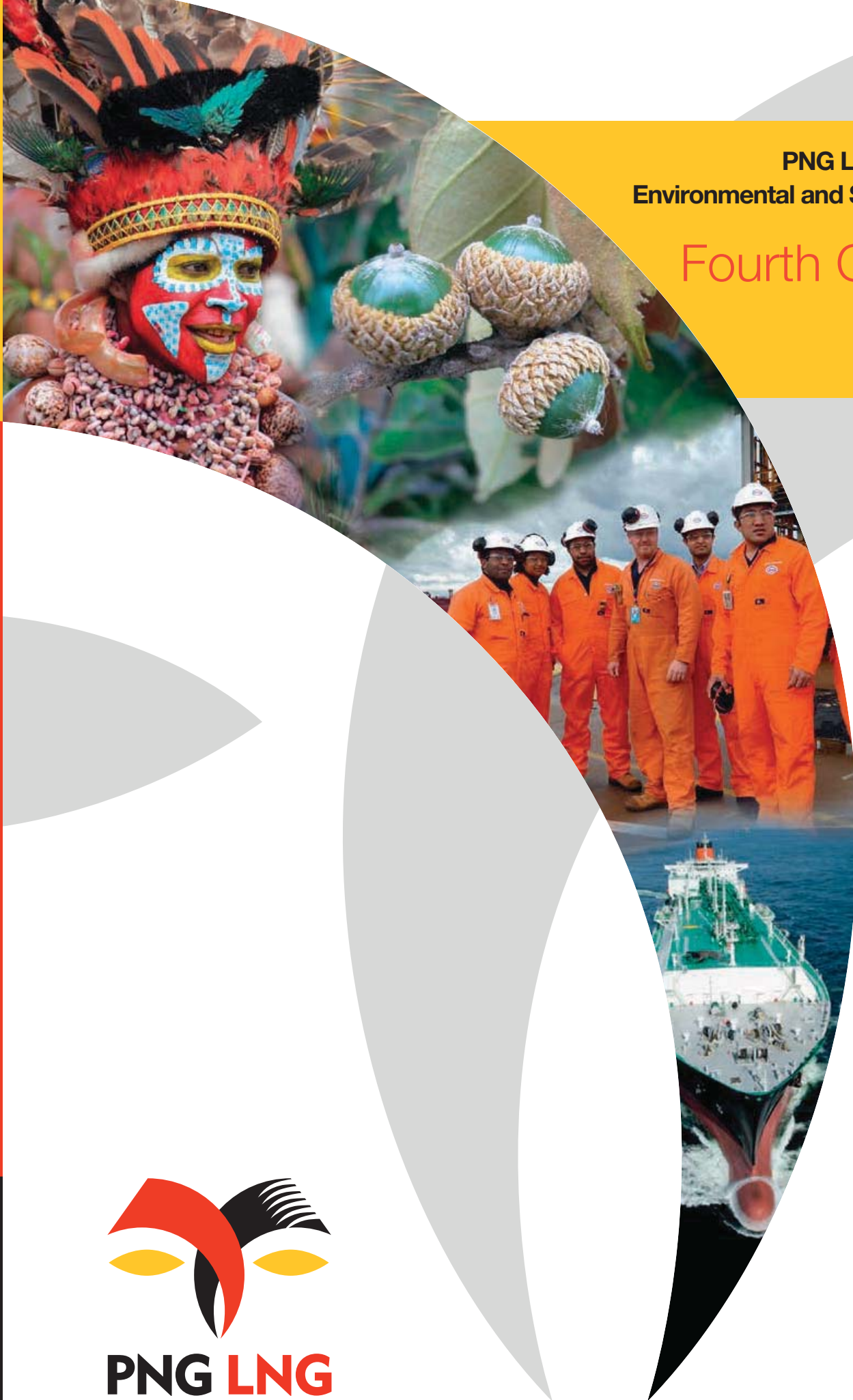


**PNG LNG Quarterly
Environmental and Social Report**

Fourth Quarter

2013



PNG LNG

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



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Prepared by IDP Consulting Pty Ltd.

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About This Report

Recent safety, construction, health, environment and social management activities for the Papua New Guinea Liquefied Natural Gas (PNG LNG) Project (the Project) are reported in this PNG LNG Quarterly Environmental and Social Report – Fourth Quarter 2013.

This Report demonstrates the progress made each quarter and is a commitment by the Project to ensure the citizens of Papua New Guinea, interested non-government organizations and other stakeholders are kept well informed.

This Report is on the Project website, www.pnglng.com. Printed copies are also available.

Contents

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SAFETY IS KEY TO PROJECT PERFORMANCE

“As we draw closer to production, the world will continue to assess our Project’s performance, and safety will remain a critical success factor.”

- Decie Autin, Project Executive, ExxonMobil PNG Limited



The Papua New Guinea Liquefied Natural Gas (PNG LNG) Project (the Project) had its safest quarter to date, achieving 31 million hours without a Lost Time Incident. The Project and its contractors continued to emphasize the importance of safety through the introduction of a ‘Finish Strong’ safety campaign. The campaign aims to remind workers to keep themselves and their colleagues safe during the final stages of construction so that *Nobody Gets Hurt*.

This is the sixteenth PNG LNG Quarterly Environmental and Social Report. It provides progress updates about the Project’s construction, safety, health, security, social and environmental performance during the fourth quarter 2013.

ExxonMobil PNG Limited¹, a subsidiary of Exxon Mobil Corporation, is responsible for the Project’s construction and operation. ExxonMobil PNG Limited 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

The Project achieved many significant construction milestones during this quarter. These included the completion of: Train 1 processing unit and associated facilities at the LNG Plant site; the 22-inch gas pipeline from the Hides Gas Conditioning Plant (HGCP) to Wellpad B; the fifth and final horizontal directional drill on the 293-kilometre main onshore pipeline; drilling for both Wellpad C gas wells; the 8-inch condensate pipeline from the HGCP to the Kutubu Central Processing Facility; and the introduction of natural gas to the HGCP from the Kutubu Central Processing Facility.

LNG Plant Train 1 and associated facilities complete

Other construction highlights are outlined in Table 1.



A ‘Finish Strong’ gathering at the LNG Plant site in December

¹ Formerly known as Esso Highlands Limited (name change effective January 2014).

Table 1 – Contracts and construction highlights

Contract	Contractor	Major activities during the fourth quarter 2013
LNG Plant and Marine Facilities (EPC3)	Chiyoda and JGC Joint Venture	Completed Train 1 and associated facilities, including the LNG jetty, north and south LNG tanks, utilities and permanent buildings. Start-up of the remaining six gas turbine generators. Navigation lights energized in Caution Bay.
Hides Gas Conditioning Plant and Hides Wellpads (EPC4)	CBI and Clough Joint Venture	Commissioning gas arrived at the HGCP and start-up of Gas Turbine Generator A. Warehouse and administration buildings handed over to the Production organization.
Onshore Pipeline (EPC5A)	SpieCapag	Completed the 109-kilometre condensate pipeline from the Kutubu Central Processing Facility to the HGCP. Completed construction, hydrotesting and drying of the 22-inch natural gas pipeline from the HGCP to Wellpad B.
Komo Airfield (EPC5B)	McConnell Dowell and Consolidated Contractor Group Joint Venture	Komo Airfield scope of work completed. Project passenger and light cargo flights continued.
Associated Gas Development	Various	Gas wells commissioned. Triethylene glycol unit and thermal oxidizer commenced operation.
Drilling	Nabors Drilling International Limited	Completed drilling of both wells on Wellpad C. Drilling Rig 703 relocated to Wellpad G.
Permanent Facilities Compound	Leighton (PNG) Limited	Completed substructure civil works for the administration building. Steel erection commenced on the administration and support services buildings.



Completing final walk-through of Train 1 prior to handover to the Production organization

Safety, health and security

Through its ongoing safety focus, the Project achieved a 48 percent reduction in its Total Recordable Incident Rate during 2013 compared to 2012.

With commissioning gas introduced into HGCP work areas, new sections of the pipeline and the LNG Plant, the Project has shifted the focus of safety education from construction-related hazards to working with energized facilities and hydrocarbons. To date, more than 1,700 workers have participated in Hydrocarbon Awareness sessions.

Other safety programs continue with: over 1,500 workers trained through the Safety Champions initiative; over 13,500 workers trained in the LNG Plant site's Incident and Injury Free® program; more than 800 supervisors completed First Line Supervisor training; and over 700 people trained in the Work Management System.

In preparation for the first LNG shipment, a series of community safety engagements began this quarter to raise awareness with Project communities about the presence of shipping vessels in Caution Bay and safety precautions around LNG operations. Drama was used to highlight safety messages to almost 1,200 teachers and students from primary and high schools in Lea Lea, Papa, Boera and Porebada villages.

An emergency response drill was conducted at the HGCP during this quarter to test the effectiveness of communications between departments and to assess emergency response times. Lessons learned will be integrated into the Production organization's emergency response procedures.

In December, the Project announced that it would donate US\$3.1 million for a two-year program to improve maternal health and reduce child mortality rates in Papua New Guinea. The initiative is led by the Houston-based Texas Children's Hospital and its partner, Baylor College of Medicine. It involves supporting Papua New Guinean medical practitioners with specialist training in pediatrics and public health. The Project funding supports the deployment of pediatric and public health specialists to the University of Papua New Guinea School of Medicine and Health Sciences. These doctors will provide teaching support to strengthen the education and training of current and future health care professionals.

The Project-supported National Infectious Disease Diagnostic and Research Laboratory, located in the University of Papua New Guinea's School of Medicine and Health Sciences, became fully operational during the quarter and began analyzing infectious food, water-borne and vector-borne illnesses including norovirus, tuberculosis, shigella, salmonella, malaria and dengue.

The skills of Papua New Guinean citizens are being developed to prepare them for long-term roles with the Production organization's Security team. In December, another two former expatriate security roles were transferred to Papua New Guinean employees, adding to the two allocated in August 2013.

Workforce development

Throughout 2013, the total Project workforce continued to decline, reflecting the completion of construction activities at many worksites and the subsequent demobilization of workers at these locations.

During this quarter, the total Project workforce was just over 14,700. Papua New Guineans comprise 38 percent of the total Project workforce, which remains consistent with 40 percent recorded at the same time last year and 38 percent in the third quarter 2013.

To date, the Project has delivered more than 2.13 million hours of training to workers through 11,550 training courses and activities. During 2013 alone, the Project delivered almost 540,000 hours of training across 4,721 training activities.

2.13+ million hours of worker training completed

The second and final intake of 76 Operations and Maintenance trainees returned to Papua New Guinea in December after completing almost a year of Advanced Skills training in Malaysia. The Project provided a welcome home celebration for the trainees and their families.

While on their overseas placement, the trainees, including 21 women, received hands-on technical training in their choice of either production operations, electrical, maintenance, mechanical or instrumentation disciplines. They will join the first group of 61 Operations and Maintenance trainees as part of the Production team from January 2014.

The Project continues to support construction workers through a voluntary transition training program, which helps develop life skills that will enable these workers to transition to other potential job opportunities once Project construction is complete. The four-day transition training program covers topics such as skills assessment, resume building, job search planning and job interview skills. To date, more than 1,000 workers at the LNG Plant site have completed the training.

Growing Papua New Guinean businesses

Project spending on Landowner Company (Lanco) services continues to grow, with almost 218 million Kina (US\$90 million) spent during this quarter. To date, the Project has spent more than 2.48 billion Kina (US\$1.02 billion) on Lanco services.

In addition to Lancos, other non-Lanco Papua New Guinean businesses provide services to the Project. By the end of the quarter, the Project had spent more than 600 million Kina (US\$248 million) on Lanco services and these additional services. The total in-country spend for the Project-to-date has reached 10.31 billion Kina (US\$4.25 billion).

By the end of 2013, the Enterprise Centre had assisted over 16,700 entrepreneurs through its business support programs. To date, the Centre has provided the equivalent of more than 9,300 training days to Papua New Guinean businesses.

Many one-day workshops were offered to Lancos this quarter. They covered topics such as: conflict management and resolution techniques; negotiation skills; budget and cash flow; bookkeeping and accounting. The Enterprise Centre is also actively providing its services to other corporate clients. For example, a six-month Frontline Management course is being delivered to an international consulting company.

10.31 billion Kina spent in Papua New Guinea to date



Operations and Maintenance training program trainees at their welcome home celebration

Environmental performance

Significant progress was made with reinstatement at the LNG Plant and Marine Facilities site this quarter. Joint site inspections were held by the contractor and Project to agree reinstatement activities for the temporary facilities, including the sedimentation ponds and several laydown areas. Reinstatement using stored topsoil and local plant species was completed at some facilities.

By the end of this quarter, reinstatement activities were completed from Homa to Paua in the Upstream area, while reinstatement preparations began at the HGCP site, with works scheduled to start as construction winds down. The Project is increasingly replacing temporary erosion and sediment control measures with permanent measures as part of reinstatement works.



Erosion control and slope stabilization along the pipeline

The Hides Waste Management Facility is now operating as the primary provider of waste disposal services to the Upstream area. The Facility is taking waste from across Project worksites, including materials that have been stored since the Project began. Extensive waste consolidation and distribution to appropriate disposal sites was undertaken across onshore pipeline construction areas this quarter.

The Project engages external independent consultants, in addition to its own internal reviews, to assess impacts of construction activities. For example, an independent marine survey was conducted to assess the impact of dredging works in the Omati River this quarter. The results of the survey were shared with Project contractors.

Social development

As onshore pipeline construction moves north, the Project is supporting communities with the development of much needed infrastructure. For example, during the quarter the Project assisted with the construction of water shelters and tanks in Angore, and provided solar panels, batteries and lighting to the Benaria medical clinic, maternity ward and women's guesthouse.

The Project also refurbished classrooms and staff housing, and provided water tanks and toilet facilities to Juni, Idauwi, Tugupawi, Mananda and St. Paul's primary schools in the Hides, Angore and Komo areas.

A key infrastructure project completed this quarter was the refurbishment of staff housing at the health center in Hiwanda Village. The center provides support to Angore communities. The new staff housing will provide the ability for medical practitioners to be close to the center at all times.

During the quarter, the Project donated more than 90,000 Kina (US\$37,170) to refurbish the Buk Bilong Pikinini children's library in the Koki market area. The funds were used to replace floorboards, paint the building, provide water tanks, repair doors and windows, and install insect screens to improve the safety and overall functioning of the library. A team of more than 40 Project volunteers from the Operations Technical team conducted the refurbishment works.

Students from Boera, Lea Lea and Papa primary schools, as well as Redscar High School, received a timely present before their annual exams this quarter with the Project's donation of 20 school desks to each of the schools. The new desks provide students with a more comfortable seating arrangement, from three students per desk to two students sharing a desk. To date, 180 desks have been donated to schools in the LNG Plant site villages. In addition, more than 1,300 desks have been donated to schools throughout the Upstream area, with 60 of these delivered during this quarter.

Students from ten primary schools and teachers from 20 elementary schools in Komo, Hides, Angore and Juha also received a boost to education with the donation of approximately 2,500 portable solar lamps. Considering that many students and teachers do not have access to electricity in their homes, the lamps will enable the students to complete homework and reading at night. They will also enable teachers to complete marking of student work in the evening.

In support of building the capacity of women in Papua New Guinea, the Project is an advocate of the Global Women in Management conference. This conference aims to strengthen women's management, leadership and technical skills to enhance opportunities and develop women business leaders and entrepreneurs. The combined support of the Papua New Guinean Government and the Project has resulted in Papua New Guinea hosting the 59th Global Women in Management conference in March and April, 2014. The country-specific conference will bring together 26 women from throughout Papua New Guinea to network and build their managerial skills. It is the first time the global program has been held in Papua New Guinea.

The Project continues to assist Papua New Guinea's Department of Works with emergency repairs to the Highlands Highway.

During this quarter, Project engineering and supervisory support was provided to help repair severe damage caused to the Highway in the Eastern Highlands Province following extensive rain in the area.

As a result of the combined support of the Papua New Guinean Government and the Project, in 2013 the Highlands Highway was open for traffic 95 percent of the year, compared to an historical average of around 70 percent.

Stakeholder and community engagement

A significant milestone in efforts to promote revenue transparency was reached on December 11 when the Department of Treasury, on behalf of the Papua New Guinean Government, formally submitted the country's application for candidacy in the Extractive Industries Transparency Initiative (EITI). This followed the formalization of the Papua New Guinean EITI multi-stakeholder group, and the signing of a Memorandum of Understanding between the group's members on November 1.

The EITI is a voluntary initiative to improve governance in resource-rich countries through disclosure and verification of company payments and government revenues from oil, gas and mining. ExxonMobil PNG Limited is among 21 representative organizations that are members of the Papua New Guinean EITI multi-stakeholder group.

More than 100 dignitaries attended eight advocacy workshops held at the LNG Plant site during the quarter. The advocacy program is proving valuable in enabling the Project to keep government departments and agencies, foreign missions, the media and international donor agencies informed about the progress of commissioning activities. In 2013, almost 1,100 government, media and stakeholder representatives attended workshops and visited the LNG Plant site as part of the program.

The Project is maintaining active engagements with communities. During the quarter, more than 7,700 people participated in over 180 formal engagements conducted in 36 communities. Another 114 informal engagements were conducted this quarter, reaching over 1,700 people across 20 communities. Throughout 2013, 790 formal community engagements were conducted with more than 38,000 individuals from 84 communities, while some 900 informal engagements were held in over 60 communities with almost 20,000 attendees.



A commissioning and pipeline safety awareness session in Koare

As the Project works steadily towards production, it has the potential to make a significant positive impact for Papua New Guinea through a long-term partnership with the Government and the people to build future economic development opportunities for the nation.

38,000+ participants in
790 formal engagements
in 2013



Safety remains paramount in all activities as the Project transitions from construction to production.

In this sixteenth PNG LNG Quarterly Environmental and Social Report, updates are provided about the Project's progress in construction, safety, health, environmental and social management activities during the fourth quarter 2013.

The \$US19 billion Project involves the construction of gas production and processing facilities in Papua New Guinea's Southern Highlands, Hela and Western provinces. It includes liquefaction and storage facilities north-west of Port Moresby on the Gulf of Papua. When construction is complete, these facilities will have a capacity of 6.9 million tonnes per year, with more than 700 kilometres of pipelines connecting the facilities.

More than 250 billion cubic metres of gas are expected to be produced and sold during the life of the Project. This will provide a long-term supply of LNG to customers in the Asia Pacific region, including: the China Petroleum and Chemical

Corporation (Sinopec); The Tokyo Electric Power Company Inc.; Osaka Gas Company Limited; and the Chinese Petroleum Corporation, Taiwan. The location and elements of the Project are shown in Figure 1.1. *Appendix 1* details how the contracts for Phase 1 of the Project are divided.

The complete series of PNG LNG Quarterly Environmental and Social Reports is available on the Project's website.



Read the PNG LNG Quarterly Environmental and Social Report series at
www.pnglng.com

Printed copies and translated summaries of each quarterly report are also made available for Papua New Guinean citizens who may have limited access to the internet.



The first commissioning gas arrived at the HGCP in December marking an important milestone

Aerial view of the Hides Gas Conditioning Plant site

Figure 1.1

Project elements



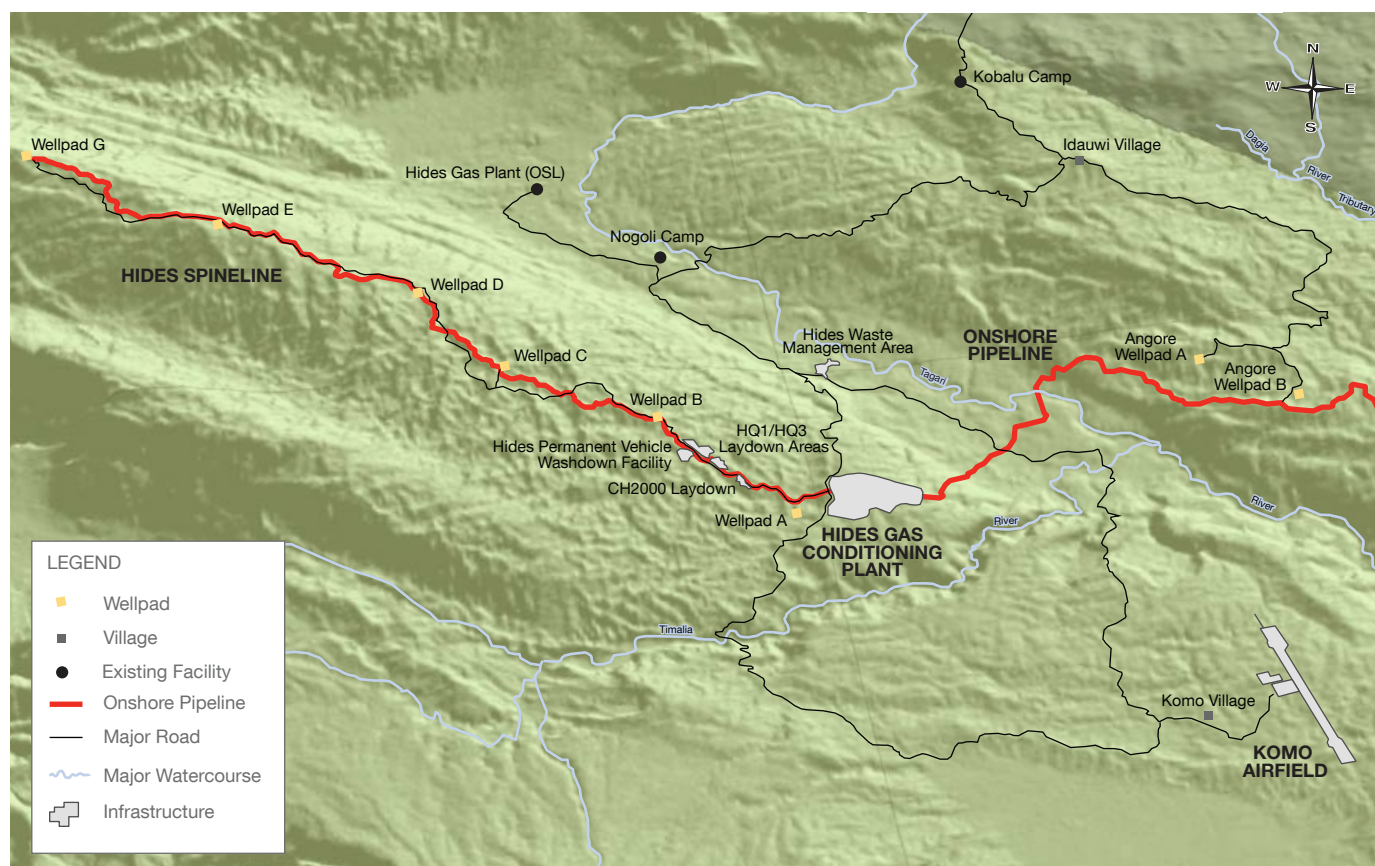
The Project finished the year with a strong fourth quarter performance, achieving many significant construction milestones. These included the completion of: Train 1 and associated facilities at the LNG Plant site; the 22-inch gas pipeline from the HGCP to Wellpad B; the fifth and final

horizontal directional drill on the 293-kilometre main onshore pipeline; drilling for both Wellpad C gas wells; the 8-inch condensate pipeline from the HGCP to the Kutubu Central Processing Facility; and the introduction of natural gas to the HGCP from the Kutubu Central Processing Facility.

2.1 Highlands area

Figure 2.1

Highlands area Project activities



2.1.1 Hides Gas Conditioning Plant and Hides Wellpads

A significant milestone achieved in December was the arrival of commissioning gas at the HGCP. With the introduction of natural gas, Gas Turbine Generator A was started-up to provide power to local equipment rooms. Testing of two back-up diesel generators was also completed.

The warehouse and administration buildings were commissioned and handed over to the Production organization, while other plant commissioning activities progressed.



Preparing for arrival of commissioning gas at the HGCP

At Wellpad B, the installation of surface production facilities was completed and the two wells were perforated to allow the inflow of natural gas. Construction of the concrete foundations for Wellpads C, D and G, and wellsite production facilities also progressed.



Wellpad B showing the newly installed surface production facilities

2.1.2 Komo Airfield

Other than minor reinstatement works, the Komo Airfield scope of work was completed and the construction contractor demobilized. Project passenger and light cargo flights continued at the Airfield this quarter.

2.1.3 Drilling

Drilling Rig 702 continued drilling operations at Wellpad D. Following the completion of both wells on Wellpad C, Drilling Rig 703 was moved to Wellpad G to commence drilling.



Drilling Rig 703 at Wellpad G after rig-up

2.2 Onshore Pipeline

Construction milestones on the onshore pipeline this quarter included the completion of the 109-kilometre condensate pipeline from the Kutubu Central Processing Facility to the HGCP. The first natural gas was transported through this pipeline to the HGCP on December 21. The gas will be used to commission the processing facilities.

The construction, hydrotesting and drying of the 22-inch natural gas pipeline from the HGCP to Wellpad B was also completed. In addition, a fiber optic cable was installed between the HGCP and Wellpad B to enable remote communications, and construction of the pipeline from Wellpad B to Wellpad G progressed.

Construction of the 293-kilometre main onshore pipeline is nearing completion, with automatic welding completed this quarter. The Mainline Welding team completed the last 32-inch automatic pipe weld on December 11. Each team member who worked on the pipeline took the opportunity to sign the pipe to commemorate the last weld.



Automatic welding on the final sections of the main onshore pipeline



Celebrations at the last 32-inch automatic pipe weld for the main onshore pipeline

Hydrotesting, tie-ins, backfilling and reinstatement continued along the onshore pipeline. The fifth and final horizontal directional drill under the Tagari River, and all construction works in the challenging terrain of the Tagari fault crossing, were completed.

2.3 LNG Plant and Marine Facilities

A significant milestone was achieved this quarter with the completion of Train 1 and associated facilities, which include the LNG jetty, the north and south LNG tanks, utilities and permanent buildings.



LNG Plant site

Start-up and testing of the Train 1 mixed refrigerant gas compressors was completed, along with commissioning of the hot oil system. Following start-up of the first gas turbine generator in the third quarter 2013 the remaining six generators were started, tested and became operational. Propane refrigerant was also successfully imported into Papua New Guinea, transported to the LNG Plant site and loaded into the propane refrigerant sphere. To secure the LNG Plant site, installation of perimeter security lighting was also completed.

In preparation for shipping operations, the LNG Plant site commissioning team successfully energized the navigation lights. There are ten navigational beacons (colored red and green) and four leading lights along the shipping channel in the Caution Bay area. The navigational lights will help ships safely enter and exit Caution Bay.



Completed LNG jetty

The LNG Plant and Marine Facilities contractor continued their exemplary safety record, achieving over 66 million work hours without a Lost Time Incident since March 2012.

2.4 Associated Gas Development

Commissioning of the gas metering facility at the Gobe Production Facility continued, while the triethylene glycol unit and thermal oxidizer were successfully commissioned and commenced operation.

2.5 Development support execution, logistics and aviation

Freight movements along the Highlands Highway continue to reduce as construction winds down. To date, over 14,000 freight shipments have been moved from Lae to Tari. Despite a number of landslips along the Highway, the Project was able to maintain delivery targets this quarter.

2.6 Permanent Facilities Compound

Earthworks at the Permanent Facilities Compound continued and substructure civil works for the administration building were completed. During this quarter, steel erection commenced on both the administration building and the support services building.



Construction of the permanent administration building

2.7 Pre-construction surveys

During this quarter, a pre-construction survey was conducted of the pre-existing Segemi Quarry, along the Moro to Poroma Road, with no major environmental sensitivities identified. The site was previously used to source material for the Moro to Poroma Road works.

The Project is committed to protecting the health and safety of its workers, local communities and the environment, through meeting the obligations outlined in its environmental, social, safety and health management plans.

3.1 Approach

The Project's approach to environmental and social management activities is detailed in the Environmental and Social Management Plan (ESMP). The ESMP is supported by discipline-specific plans (as shown in Figure 3.1) developed from the Project's Environmental Impact Statement. These plans are publicly available on the Project website.



Explore the plans at
www.pnglng.com/commitment

The Regulatory Compliance Plan, along with the Project's Security, Health and Safety management plans, complement the ESMP. Together, these documents form a best-practice culture across Project activities to support sustainable economic growth for Papua New Guinea.

3.2 Security

The Project continues to develop the skills of Papua New Guineans for long-term roles with the Production organization's Security team. In December, another two former expatriate security roles were transferred to Papua New Guinean employees, adding to the two allocated in August 2013.

During this quarter, 62 Papua New Guinean security personnel completed the Safety Champions initiative. Almost 400 Papua New Guinean security workers have completed this program to date. In addition, more than 70 Project security workers completed Safe Driver Training in the fourth quarter. By the end of 2013, over 200 security workers had achieved Safe Driver certification.

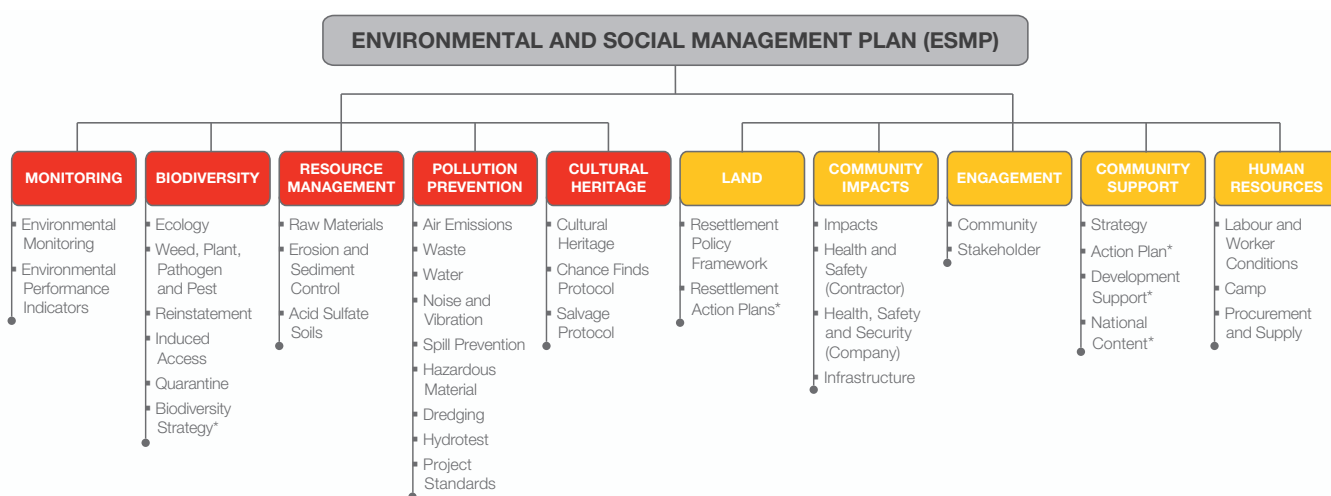
3.3 Revenue management

A significant milestone in efforts to promote revenue transparency was reached on December 11, when the Department of Treasury, on behalf of the Papua New Guinean Government, formally submitted the country's application for candidacy in the EITI. This followed the formalization of the Papua New Guinean EITI multi-stakeholder group, and the signing of a Memorandum of Understanding between the group's members, on November 1. Treasury Secretary Dairi Vele delivered a presentation about the nation's commitment to the EITI at the Papua New Guinean Mining and Petroleum Conference on December 3.

The EITI is a voluntary initiative to improve governance in resource-rich countries through disclosure and verification of company payments and government revenues from oil, gas and mining. ExxonMobil PNG Limited is among 21 representative organizations that are members of the Papua New Guinean EITI multi-stakeholder group. This group includes key Government agencies, as well as: the Business Against Corruption Alliance; the Consultative Implementation and Monitoring Council; the Institute of National Affairs; the Papua New Guinea Council of Churches; Transparency International Papua New Guinea; the Papua New Guinea Mining Watch Group Association; the EcoForestry Forum;

Figure 3.1

Environmental and social management plans



* Milestone Schedule Commitment documents (and not part of the ESMP)



the Papua New Guinean Chamber of Mines and Petroleum; Barrick Niugini Limited; Morobe Mining Joint Ventures; Newcrest Mining Limited; Oil Search Limited; and Talisman Energy Niugini Limited. ExxonMobil, having served continuously on the EITI board since its inception in 2002, has shared lessons from this experience with the multi-stakeholder group.



Members of the Papua New Guinean EITI multi-stakeholder group

This quarter, the Asian Development Bank recognized the Papua New Guinean Government for their focus on key development enablers to address business and investment constraints. The Bank's business survey of the Papua New Guinean Institute of National Affairs identified that Papua New Guinea's increased expenditure on education, law and order, and infrastructure should help to improve the business environment. However, implementation was considered a challenge that could be overcome with well-designed structural reforms to make it easier to do business in Papua New Guinea.

3.4 Management of Change

The Project applies its Management of Change procedure when changes are required to the Project Development Plan. This procedure considers safety, health, security, environmental and social management, operability and maintenance, regulatory and cost, and scheduling requirements before any change is made. Changes are classified, with Class I changes requiring Lender Group review before implementation. Class II changes involve notification in the PNG LNG Quarterly Environmental and Social Report.

There were four Class II Management of Change requests, three of which were related to permanent access to valve stations along the main onshore pipeline. The other was for the transfer of management of the Kikori River Bridge to the Papua New Guinean Government.

While the Project committed to the rehabilitation of all pipeline access roads in the ESMP, for logistical efficiencies some key access tracks and sections of the pipeline will not be rehabilitated to allow vehicle access to the valve stations during the production phase. ExxonMobil PNG Limited will control this access.

The Kikori River Bridge was installed by the Project to facilitate pipeline construction. The Papua New Guinean Government has expressed an interest in the transfer of the bridge to the care and custody of the Government as part of a national development plan. The Government intends to use the Kikori River Bridge to connect the Kopi area to the Highlands Highway.

ExxonMobil PNG Limited is working with the Government to understand the potential environmental and social impacts that could be associated with the transfer of the bridge.

3.5 Environmental and Social Milestone Schedule

The Lender Group's Independent Environmental and Social Consultant (IESC) is reviewing the Biodiversity Monitoring Plan, which aims to meet the requirements of Milestone Schedule 14.

Milestone Schedule 16, Legally Protected Areas, requires ExxonMobil PNG Limited to undertake a program to enhance the conservation aims of the Lake Kutubu Wildlife Management Area (WMA). ExxonMobil PNG Limited is taking forward a Lake Kutubu WMA Enhancement Program as part of the Biodiversity Offset Delivery Plan (Milestone Schedule 15) and, as agreed with the IESC during this quarter, this will meet the requirements of Milestone Schedule 16.

The Project's Business Development team and the Enterprise Centre continue to work with local suppliers to build their capacity.

4.1 Supplier development

Project spending on Lanco services continues to grow with almost 218 million Kina (US\$90 million) spent during the fourth quarter. Lancos provide the Project with key sources of labor supply, particularly across catering, camp maintenance and security. They also supply fresh produce for camp kitchens, heavy equipment rental, construction machinery, vehicle, boat and truck hire, and timber, wooden pallets and spare parts. To date, the Project has spent more than 2.48 billion Kina (US\$1.02 billion) on Lanco services.

In addition to Lancos, other non-Lanco Papua New Guinean businesses provide services such as equipment hire, grass cutting and camp rental to the Project. During the quarter, the Project spent more than 600 million Kina (US\$248 million) on Lanco services and these additional services. The total in-country in-Kina spend for the Project-to-date has reached 10.31 billion Kina (US\$4.25 billion).

4.2 Enterprise Centre

By the end of 2013, the Enterprise Centre had assisted over 16,700 entrepreneurs through its business support programs. To date, the Centre has provided the equivalent of more than 9,300 training days to Papua New Guinean businesses.

4.2.1 Business assessments and training

During this quarter, the Enterprise Centre finalized all outstanding business assessment reports and presentations related to assessments conducted throughout the year. Two Lancos were re-assessed and no new assessments were conducted, as shown in Figure 4.1. This approach resulted in the completion of all outstanding business assessments for the year.

Throughout 2013, the Centre assessed 71 companies, including 30 Lancos. Most of these assessments were conducted in major regional towns, such as Madang, Mt. Hagen and Lae, as well as in Upstream villages. To date, the Centre has completed 317 business assessments for Papua New Guinean businesses. The equivalent of 387.5 training days were delivered to businesses during this quarter, as shown in Figure 4.2. In 2013, more than 2,600 training days were delivered.

Many one-day workshops were offered to Lancos this quarter. They covered topics such as: conflict management and resolution techniques; negotiation skills; budget and cash flow; bookkeeping and accounting. The Enterprise Centre is also actively providing its services to other corporate clients. For example, a six-month Frontline Management course is being delivered to an international consulting company.

Figure 4.1

Number of Enterprise Centre assessments for Lancos and non-Lancos

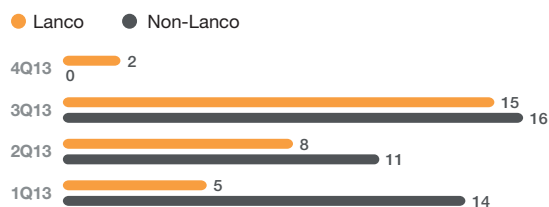
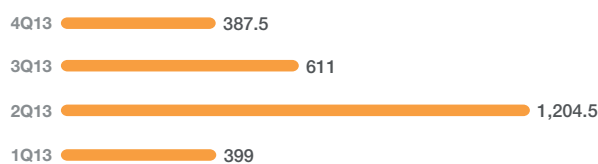


Figure 4.2

Number of capacity building training days



Lanco representatives with their certificates of participation in bookkeeping and accounting training

4.2.2 Communications activities

The new PNG Employment and Supplier Database is being tested and prepared for live publishing in early 2014. The Database will expand on the existing PNG Supplier Database by connecting job seekers with job opportunities, and businesses with business opportunities, from projects outside of the Project. Its services will include automated email notification of job vacancies and business opportunities, the automated generation of resumes, personal and company profiles, and the ability to quickly and easily submit multiple job applications.

4.2.3 PNG Supplier Database management

More than 200 people used the PNG Supplier Database online dashboard during this quarter, a decrease from the 430 people recorded in the third quarter 2013. This decrease was expected, considering the dashboard was closed in early December for the holiday season.

Working with communities and non-government organizations, the Project is helping to deliver long-term community benefits through health, safety and local business initiatives, along with new infrastructure development.

5.1 Structure and relations

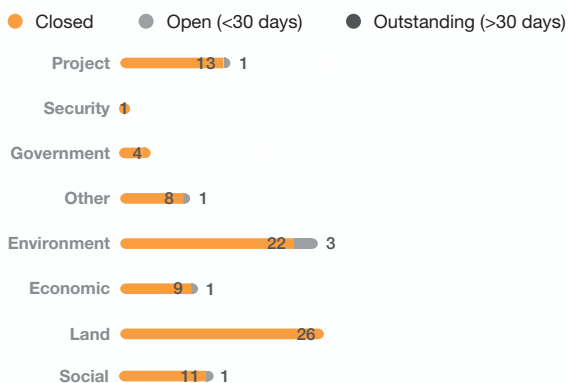
A series of community impact and engagement management plans guides the Project's interaction with communities and the management of potential construction impacts. These plans are outlined in Figure 3.1.

5.1.1 Community grievance management

The Project registered and categorized 101 grievances during the fourth quarter, bringing the total number of grievances registered and categorized for the year to 494. As shown in Figure 5.1, 94 of the grievances registered during this quarter were closed; with 90 of these closed within the 30-day target timeframe. An additional 28 grievances carried forward from the third quarter 2013 were also closed. This brings the total grievances closed during the year to 501 including some carried over from the end of 2012.

Figure 5.1

Number of grievances registered during the fourth quarter by closure status



Land-related grievances continued to be the primary concern for communities this quarter and for 2013. Land concerns accounted for almost 26 percent of grievances registered this quarter and over 32 percent of grievances registered in 2013. These grievances mainly related to the status of compensation agreements during internal clan disputes around land ownership and land assessments.

Environmental grievances represented almost 25 percent of grievances registered this quarter and were largely based on erosion and sediment control, and reinstatement concerns. For the year, most of the 89 environmental grievances captured were about erosion and sediment control, sidecasting into gardens, claims for alternate water sources and disagreement with reinstatement works along the pipeline Right of Way (ROW).

Project-related grievances accounted for almost 14 percent of the total grievances recorded for the quarter and almost 12 percent of the grievances for the year. These grievances were mainly due to concerns that construction activities may have caused some damage to Huli ditches along roads.

Throughout 2013, economic concerns accounted for almost 15 percent of grievances; however they only made up 10 percent of grievances registered for the quarter. The desire for employment opportunities was the main cause for economic grievances.

Social grievances raised this quarter predominantly related to resettlement activities and worker conditions. Other social-related grievances captured earlier in the year mainly related to resettlement claims and concerns about payment for workers, as well as some community health and safety concerns.

The Project's ongoing emphasis on maintaining the timely capture and resolution of grievances resulted in only seven cases remaining open at the end of the year.



Socioeconomic Field Officer with grievants in Benaria Village



Grievants from Benaria Village after close-out of their grievance

5.1.2 Project Induced In-Migration

During this quarter, the Project observed in-migration patterns along the pipeline ROW, as well as in Moro, Komo and Hides. These observations enable comparisons with migration data observed during other construction phases and the coming production phase.

Most of the in-migrant workforce, transient traders and other opportunity seekers were observed to have out-migrated from Project areas, while a few have remained as a result of marriage and other relationships established within local communities.

Anecdotal evidence suggests the Project may have indirectly caused a positive impact by bringing inter-clan enemies together to participate in construction activities and associated business opportunities. Some warring clans advised that they were able to use money earned from the Project, either through wages or spin-off business earnings, to amicably settle clan-related compensation payments. This enabled residents who migrated out of the area during the clan warfare to return, settle and participate in construction-related business opportunities, particularly in Komo.

The Project is integrating data collected from a number of sources, such as empirical data from the Papua New Guinea Institute of Medical Research (IMR) Integrated Health and Demographic Surveillance System (iHDSS), into its in-migration reporting.

5.1.3 Fisheries

Fishing survey data collected during 2013 showed that fish stock levels at Caution Bay and the Omati River were constant when compared with levels from similar surveys in 2012 and 2011. This indicates that the Project has had no detrimental impact on fish stocks to date.

During this quarter, a waterway traffic survey was held for the Omati River, while a mangrove use survey and an in-village vessel inventory survey were conducted in Caution Bay. Fish catch landing surveys continued in both Caution Bay and Omati.

From more than 240 fish catch interviews in Caution Bay, some 1,200 kilograms of fish were recorded. In Omati, 145 interviews were conducted, with around 690 kilograms of fish catch recorded. About 150 people were interviewed for the in-village vessel inventory survey held in Caution Bay, while 102 interviews were conducted for the mangrove use survey.

5.1.4 Social considerations for logistics activities

In meeting its commitments to the Barging Route Waterways Memorandum of Understanding Committee, the Project has progressed infrastructure development projects. By the end of this quarter, the Project had completed 90 percent of the refurbishment work for Ero Hall, which was listed as a priority project by the Committee.



Ero Hall under refurbishment

The construction of 60 school desks for Veraibari Community School was also completed, and scoping began for other identified infrastructure projects in Bisi, Veiru and Veraibari schools.

Also during the quarter, 13 students were awarded Barging Route Waterways Memorandum of Understanding Committee Scholarships to attend tertiary education from 2014.

5.2 Infrastructure, services and resources

Almost 500 copies of *Toea's Milne Bay Adventure* book were distributed to elementary schools in LNG Plant site villages during this quarter, to teach students about the traditions of people from the Milne Bay Province. More than 16,000 Toea books have been distributed to schools throughout the Project area since 2010.



Toea book reading and distribution at Lea Lea Elementary School

As the pipeline construction moves north, the Project continues to support communities with the development of much needed infrastructure. For example, during this quarter the Project assisted with the construction of water shelters and tanks in Angore, and also provided solar panels, batteries and lighting to the Benaria medical clinic, maternity ward and women's guesthouse.

In Juni, construction began on a new community hall for the Arua clan, with seven volunteer laborers from the clan assisting skilled Project workers to build the hall. The local Tamea clan provided gravel for the hall's foundations. When complete, the hall will provide a meeting place for Arua clan members.



A new community water shelter in Angore



Construction begins on the new community hall at Juni

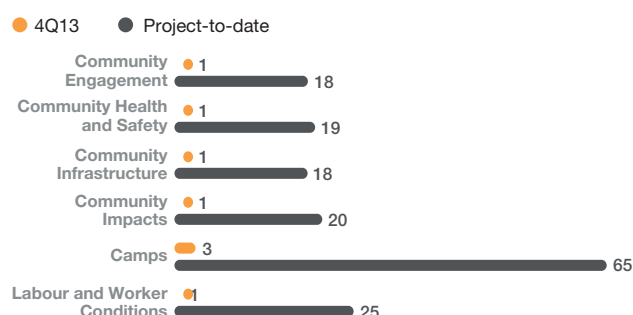
5.3 Verification, monitoring, assessment and audit

Project monitoring activities are based on commitments made in six key social management plans covering: Community Engagement; Community Health and Safety; Community Impacts; Community Infrastructure; Camp; and Labour and Worker Conditions.

During this quarter, eight monitoring events were conducted across the Project, as shown in Figure 5.2. Of the four monitoring events conducted at LNG Plant site camps, three related to camp management while the other verified implementation of the Labour and Worker Conditions Management Plan. The remaining four monitoring events were conducted at the HGCP site, with activities concentrating on each of the four community-based social management plans.

Figure 5.2

Number of monitoring events against relevant social management plans



The Project uses three reporting tools to track conformance with social management plans. These are non-conformances, field observations and positive field observations.

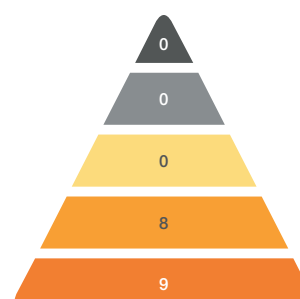
Non-conformances are situations that are not consistent with social management plan commitments and require corrective action. Field observations involve an observation, intervention and/or corrective action that is required to prevent a non-conformance. If not corrected in a timely manner, field observations can escalate to non-conformances. Positive field observations are identified as excellent performance against social management plan commitments.

There were eight field observations and nine positive field observations recorded during this quarter, as shown in Figure 5.3. No new non-conformances were raised in the quarter and there were no outstanding non-conformances from previous quarters.

Figure 5.3

Number of non-conformances and field observations raised during the fourth quarter

● Severity Level III ● Severity Level II ● Severity Level I
● Field Observation ● Positive Field Observation



Of the eight field observations recorded, six were closed, leaving two remaining open at the end of the quarter, as shown in Figure 5.4. The positive field observations reported this quarter related to maintaining high standards of camp recreational facilities, the camp grievances procedure, camp security, content of employment contracts and camp rules and regulations.

Figure 5.4

Closure status of field observations raised during the fourth quarter

● Closed ● Open

Field Observation 6 2

5.4 Community health

The Project works in partnership with organizations such as the IMR and Population Services International (PSI) to mitigate and manage potential Project-related health impacts. The Project's integrated Community Health Impact Mitigation Management Program is the foundation for many health initiatives conducted by the IMR and PSI. These initiatives form part of the Project's commitment to build national capacity through partnerships with local organizations to develop sustainable health services.

The Community Health Impact Mitigation Management Program and its related health initiatives are based on a framework developed by the International Petroleum Industry Environmental Conservation Association (IPIECA). They also align with ExxonMobil's corporate citizenship objectives and comply with the International Finance Corporation's guidance notes on Performance Standard 4 – Community Health, Safety and Security.

5.4.1 Integrated Health and Demographic Surveillance System

The IMR established the iHDSS under the 'Partnership in Health' program with the Project. It involves the collection of population and household-level data from key Project areas in Hiri, near the LNG Plant site, and Hides. The data is compared with two matched control sites at KarKar Island and Asaro Valley. The IMR has collected three years of data to monitor potential Project-related health impacts. This data is also providing researchers and government policy makers with a useful baseline of health indicators within Papua New Guinea.

During this quarter, the latest iHDSS research results were provided to the Papua New Guinean Government and ExxonMobil PNG Limited. After three years of data collection, preliminary findings indicate respiratory infections, such as tuberculosis and pneumonia, are among the leading causes of illness in communities surrounding the Project. The research indicates this situation existed before the Project's construction. Further information about the IMR's research projects and reports is available at www.pngimr.org.pg.

The Project-supported National Infectious Disease Diagnostic and Research Laboratory (also known as the Partnership in Health Laboratory) is fully operational and analyzing infectious food, water-borne and vector-borne illnesses, including tuberculosis, norovirus, shigella, salmonella, malaria and dengue. The Laboratory, located in the University of Papua New Guinea School of Medicine and Health Sciences, is supporting the identification and diagnosis of illnesses for the iHDSS.



Scientific Officer, Prisca Hezeri, measuring height and weight of a participant in the iHDSS non-communicable disease study in Asaro Valley

5.4.2 Tuberculosis

Both passive and active tuberculosis surveillance commenced in the Hiri area this quarter. Passive surveillance involves the collection of sputum samples for analysis when patients are present at medical clinics with tuberculosis-type symptoms. Active surveillance involves health practitioners visiting communities to collect and test sputum samples from community members with tuberculosis-type symptoms. More than 300 samples were collected for testing during this quarter.

Research continues in the Kikori region, with data showing a high prevalence of tuberculosis and the potential for drug-resistant tuberculosis. The research indicates that these were pre-existing conditions before the commencement of Project construction.

5.4.3 Support to non-government organizations

The Project continued its support to PSI, which is delivering health initiatives as part of the Enhanced Community Health Program.

PSI's Water, Sanitation and Hygiene (WASH) Program has proven successful, with more than 1,500 households participating in Community-Led Total Sanitation training in 2013. The training focused on raising awareness about good hygiene practices to prevent diarrheal illness. Throughout 2013, almost 3,000 WASH kits were distributed to villagers identified by 'helti man' (healthy man) and 'helti meri' (healthy woman) ambassadors. Each WASH kit contained water purification tablets, soap, diarrheal treatment, oral rehydration solution, zinc tablets, a 20-litre bucket with tap and hygiene-related information.

Marital Relationship Training and Sexually Transmitted Infection/Human Immunodeficiency Virus (HIV) awareness sessions continue with communities throughout the Project area.



Shipping operations awareness session in Porebada



Learning first aid at Redscar High School

5.5 Community safety

In preparation for the first LNG shipment, a series of community engagements began this quarter to educate communities about the presence of vessels in the shipping channel, and safety during shipping operations. Drama was used to highlight safety messages to almost 1,200 teachers and students from primary and high schools in Lea Lea, Papa, Boera and Porebada villages.

Drama was also used to educate primary and high school students from the LNG Plant site villages about general health and safety practices during the festive season.

Nine schools in LNG Plant site communities participated in basic first aid training during the quarter. The two-day course, conducted by St John Ambulance trainers, was completed by 16 teachers and 16 students from Papa, Lea Lea, Porebada and Boera village schools.

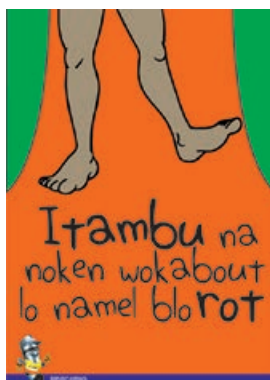
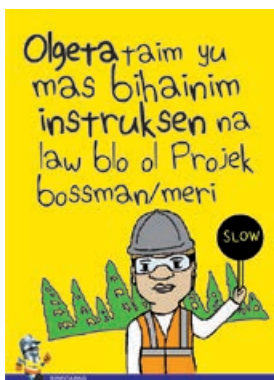
The Project continues to communicate pedestrian and construction safety messages to children in villages near Project roads and onshore pipeline worksites. Project Community Liaison Officers are using culturally appropriate posters to deliver road safety messages. Children in the villages are invited to color-in black and white versions of the posters with crayons provided by the Project.



Porebada Primary School students learning safety awareness for the festive season



Children coloring-in road safety posters



Road safety posters

Community safety messages include: the dangers of playing around worksites; the importance of avoiding construction equipment; being aware of vehicles along the roads; and being visible to all drivers, particularly those of machines with limited visibility. As part of the education program, children are given brightly colored t-shirts to make them more easily visible to drivers and construction workers.

5.6 Community investment

The Project continues to work with individuals and community organizations in a culturally appropriate manner to provide opportunities for sustainable community development.

5.6.1 Community Development Support Plan

The Community Development Support Plan encompasses Strengthening Social Resilience, Local Economic Development, and Community Capacity Building and Partnerships. During this quarter, numerous projects were undertaken to support schools and communities in the Project area.

Strengthening Social Resilience

Students from Boera, Lea Lea and Papa primary schools and Redscar High School, received a timely present before their annual exams this quarter with the donation of 20 desks for each school. The new desks provide students with a more comfortable seating arrangement, from three students per desk to two students sharing a desk.

To date, 180 desks have been donated to schools in the LNG Plant site villages. In addition, more than 1,300 desks have been donated to schools throughout the Upstream area, with 60 of these delivered during this quarter.

Students from ten primary schools (Grades 4 to 8) and teachers from 20 elementary schools (Grades 1 to 3) in Komo, Hides, Angore and Juha also received a boost to education with the donation of approximately 2,500 portable solar lamps. Considering that many students and teachers do not have access to electricity in their homes, the lamps will enable the students to complete homework and reading at night. They will also enable teachers to complete marking of student work in the evening. In addition to the school donations, the lamps are being used as graduation gifts and for academic awards to help students continue to enhance their learning.

The Project distributed 40 school packs to Bogi Literacy School in Lea Lea Village, and also donated prizes for end of year school recognition ceremonies to schools in the LNG Plant site villages and to Koroba Secondary School in the Upstream area.

In Angore and Komo, student learning kits were donated to four primary schools as part of programs initiated in the third quarter 2013 to commemorate National Literacy Week.

The Project also completed infrastructure projects in Hides, Angore and Komo primary schools this quarter. For example, classrooms and staff housing were refurbished, water tanks provided and toilets built at Juni, Idauwi, Tugupawi, Mananda and St. Paul's primary schools.

A key infrastructure project completed this quarter was the refurbishment of staff housing at the health center in Hiwanda Village.



The refurbished staff house at Hiwanda

The center provides support to Angore communities. The new staff housing will provide the ability for medical practitioners to be close to the center at all times.

To support community sports, the Project continues to provide new courts, volleyball sets and basketballs for Hides and Komo communities.

Local Economic Development

Field extension programs, planting and crop monitoring were conducted this quarter as part of the community-led Agricultural Development Plan in the four LNG Plant site villages of Boera, Papa, Lea Lea and Porebada.



Distribution of coconut seeds in Porebada

Work conducted during the quarter included preparing fields and crops for the wet season. Farmers were provided with mentoring to support them with assessing crop survival rates.

The Agricultural Development Plan aims to improve long-term food and cash security for the LNG Plant site villages. During this quarter, over 1,000 African yams, more than 1,300 coconut seeds and over 200 mango seeds were distributed as part of the Plan. To date, 0.7 hectares of African yams, 4.8 hectares of coconuts and 1 hectare of mangroves have been planted.

Community Capacity Building and Partnerships

The Project is involved in the development of community centers to provide meeting and training facilities for community organizations in the Upstream area.

During this quarter, three new centers were built in Hides and Komo. The new Kapote Women's Resource Centre in Hides will benefit over 200 women from four council wards in the region.



Women and children welcome ExxonMobil PNG Limited guests for the opening of the Kapote Women's Resource Centre

The Hibiriwa Baking Centre in Komo will support more than 800 women from eight council wards.



The completed Hibiriwa Baking Centre

The Poro-Hali Community Learning Centre will enable training for community members from eight council wards in the Mananda and Komo areas.

Special deliveries at Kikori Hospital

The Project's donation of new medical equipment to Kikori Hospital supported some special deliveries at the hospital during this quarter.

Among these were Kapea Mage's twin boy and girl, who were delivered on November 3 on one of the new Project-donated delivery beds. Kapea, who lives in Apeava Village – a full day's dinghy ride from Kikori Station – discovered she was having twins during a routine antenatal check. An ultrasound confirmed that her twins would be born breech, so the new delivery bed provided Kapea with the ability to achieve a comfortable position for the birth of her twins.

Kikori Hospital Medical Officer, Dr. Patrick Koliwan, said the new delivery beds were just some of the medical equipment making a positive difference at the hospital.

"Our emergency department has been fitted with a new examination lamp, nebulizer machines for asthmatics, a vitals monitor, a pulse oximeter and an ophthalmoscope and auroscope for examining eyes and ears. More examination lamps have also been put into our labor wards; our theatre has had its vitals monitor installed, as well as the new diathermy or electro-surgical blade, which will reduce the time spent cutting and stitching with a normal surgical blade when we operate.

"In addition, our small laboratory has a new centrifuge machine for samples and new incubators for culturing and identifying bacteria."

Dr. Koliwan said the new equipment has boosted morale at the Hospital because medical teams feel they are able to deliver a better standard of patient care.

"Thank you very much for all your efforts in identifying the vital needs of our Hospital, sourcing the equipment through kind donations and managing the difficult logistics of transporting so much life-saving material into such a remote area as Kikori," he said.



Kapea and her twins

5.6.2 Strategic community investments

The Project continues to invest in empowering Papua New Guinean women. For more information refer to *Case Study One – Papua New Guinea's new entrepreneurs*.

During this quarter, 90 women from Angore, Komo and Kutubu graduated from a three-week sewing course. The course was funded by the Project through the World Bank Women's Self Reliance Program and organized by the Women in Mining and Petroleum group. Training was conducted by local trainers from each area and delivered in local languages. Since the end of 2012, 210 women from throughout the Project area have completed the sewing training.

The Project has donated US\$3.1 million for a two-year program to improve maternal health and reduce child mortality rates in Papua New Guinea. The initiative is led by the Houston-based Texas Children's Hospital and its partner, Baylor College of Medicine. It involves supporting Papua New Guinean medical practitioners with specialist training in pediatrics and public health.



Representatives from the Papua New Guinean Government, the Texas Children's Hospital, Baylor College of Medicine, Port Moresby General Hospital, the University of Papua New Guinea, the Project and co-venture partners launch the new pediatrics and public health initiative

The Project funding supports the deployment of pediatric and public health specialists from both the Texas Children's Hospital and Baylor College of Medicine to the University of Papua New Guinea School of Medicine and Health Sciences. These doctors will provide teaching support to strengthen the education and training of both current and future health care professionals.

5.6.3 Volunteer programs

The Project has donated more than 90,000 Kina (US\$37,170) to refurbish the Buk Bilong Pikinini children's library in the Koki market area. The funds were used to replace floorboards, paint the building, provide water tanks, repair doors and windows, and install insect screens to improve the safety and overall functioning of the library. A team of more than 40 Project volunteers from the Operations Technical team conducted the refurbishment works.

Buk Bilong Pikinini establishes children's libraries throughout Papua New Guinea, and currently operates in 12 locations. The Koki library hosts between 80 and 100 children every day and provides a safe place for young children to learn to read. The library also provides adult literacy classes to improve the literacy of parents so they can support the education of their children at a home.



Library staff with Buk Bilong Pikinini Chief Executive Officer, Joanne Grenenger



Project volunteers painting stools for the Buk Bilong Pikinini children's library

Another team of 45 Project volunteers joined almost 600 community members in a clean-a-thon in Port Moresby to clear rubbish from beaches in Poreporena this quarter.



Project workers volunteer to clean up the Port Moresby coastline

The volunteers and participants from the Poreporena and Port Moresby communities collected more than 6 tonnes of rubbish including soft drink cans, plastic bags and general waste during the event.

The clean-a-thon was conducted by the Papua New Guinean Olympic Committee Athletes Commission, which partnered with New Zealand-based non-government organization Sustainable Coastlines to clean up the coastlines of Port Moresby and educate people about the impact of rubbish on the marine environment.

Breaking the silence of domestic violence

Project workers pledged to become Silence Breakers of Domestic Violence during White Ribbon Day on November 25.

Violence against women – whether it occurs in or beyond the workplace – impacts on the health and safety of women at work and their wellbeing in their communities.

In Papua New Guinea, many working women must ensure that they undertake household duties both before and after work. Failure to do so can, and often does, result in violence, which goes unreported because of the fear of further retribution.

To highlight the impact of domestic violence on the family, and on women in the workplace, a team of Project workers from Hides commemorated White Ribbon Day by writing and performing a play to raise awareness and break the culture of silence.

White Ribbon Day is the world's largest male-led movement to end men's violence against women. Both men and women are encouraged to break the silence of domestic violence by wearing a white ribbon on November 25 each year, which signals the start of 16 days of activism to stop violence against women.



Workers take the pledge to break the silence of domestic violence

Women's groups are emerging as the new entrepreneurs in Papua New Guinea through the support of Project-funded capacity building programs.

One example is Delta Green Field Marketing Limited, which was formed by a group of women from the Kikori region. The Project supported the group with organizational capacity building, agricultural training and the construction of a nursery in the Omati area. The nursery supplies seedlings to more than 500 women across six villages in the Kikori area, so they can gain knowledge and practical experience with new varieties of fruit and vegetables. Delta Green Field Marketing Limited has become a source of local pride as the first group in their community to be recognized by a Lanco through a contract to sell vegetables for supply to Project construction camps.



The completed nursery in the Omati area

Another group of women from Lea Lea Village, near the LNG Plant site, has successfully established their Lea Lea Fish Market with Project support. The women were empowered to act on their idea through assistance from the Project in the form of business-related training sessions and a facilitated women's forum. As a result, the women created a permanent, communal point where fishers could sell their catch, generating an income for the broader community by charging a small fee to those who use their facility.

The Project also continues to educate communities across all work areas about the best methods for food processing, nutrition and hygiene. For example, since 2010, the Project has introduced 118 drum ovens and provided training courses across 26 Upstream locations, serving 60 active women's groups. The intention is to help communities learn about establishing small businesses through food processing of minor commodities such as bread, scones, and roast chickens. The training includes information about household health and hygiene, and the nutritional value of different foods. Through the baking and food processing program alone, some 300 women have built successful businesses selling baked products in local markets, outside Project camps and from their homes.



Local catch for sale at the Lea Lea Fish Market



Juguli Kapiako demonstrating how to make banana cake at Anguale

The Global Women in Management (GWIM) conference is another key program the Project uses to help Papua New Guinean women network and learn from experts in public and private sector organizations. The conference gives Papua New Guinean women the opportunity to assess ideas that can help advance economic opportunities in their country. This includes strengthening skills in project and financial management, proposal writing, leadership and advocacy.

Papua New Guinea to host global women's conference

Papua New Guinea will host the 59th GWIM conference in Port Moresby for three weeks from March 24 to April 14, 2014.

The conference will bring together 26 women from Papua New Guinea to network and build their managerial skills. It will also feature coaches and trainers selected from GWIM program alumni. This will be the first time the global program has been held in Papua New Guinea, and only the second time a country-specific conference has been held.

The Project is a strong supporter of the GWIM program, which aims to strengthen women's management, leadership and technical skills to enhance opportunities and develop women business leaders and entrepreneurs. The GWIM program is also supported by the ExxonMobil Women's Economic Opportunity Initiative, a global effort launched in 2005 to help women in developing countries fulfill their economic potential and serve as drivers of economic and social change in their communities.

To date, the Project has sponsored 17 Papua New Guinean women to attend GWIM conferences. Of these, eight women have received further coaching and two served as coaches at the 58th GWIM conference in Washington DC earlier this year.



Valentina Kaman, Community Investment Adviser, ExxonMobil PNG Limited with Dobi Isaiah from Porebada, participant in the 58th GWIM conference

Women who have completed the GWIM program form an alumni. A core group of seven alumni from the Central, Southern Highlands, Hela, and Gulf provinces attended a GWIM alumni advanced coaching program following the 58th GWIM conference, where they focused on learning to recognize their personal coaching styles, strengthen and practice communication skills, and network effectively to increase the reach and impact of their work. Through applying their skills, and teaching other women, the GWIM alumni members are helping to improve the economies of their communities.

For example, GWIM alumni have inspired the creation of Hela Upstream Limited, which is part of the Trans Wonderland Limited trucking consortium.

Since 2012, 210 women from Project communities have graduated from the World Bank Women's Self Reliance Program. To date, the Project has provided US\$600,000 to the Program, which delivers training and support to women in areas such as basic finance and family life improvement skills. Specifically, the Program teaches women how to generate income through means such as farming, sewing or baking activities. The Program aims to enhance each woman's ability to productively enter the informal employment sector – the largest in Papua New Guinea. The training is conducted within villages, and facilitators work with women's associations and other community membership groups to identify training candidates. The Program aligns with the Women in Mining National Action Plan and is managed through the Women in Mining and Petroleum group.

The Women's Self Reliance Program is part of the broader Women in the Extractive Industries Initiative, which is directly linked to the Global Assessment of the Gender Dimensions of the Oil and Gas sectors, being implemented in six pilot countries, including Papua New Guinea. The combined aim of this work is to develop an action plan for women in petroleum areas to help address development challenges.

First Angore sewing graduates

A group of 30 Angore women has become the first from their region to complete a sewing course as part of the World Bank Women's Self Reliance Program.

The course was conducted this quarter by the United Church Women's group from Tari and managed through the Women in Mining and Petroleum group. It teaches women basic sewing skills, which they can use to help generate income and support their community.

A group of 30 women from Komo and another 30 from Kutubu also completed the sewing training during this quarter.



The first 30 Angore women to graduate from a Project supported sewing course

Compensation is paid to Papua New Guinean households and individuals for physical and economic displacement caused by the Project, in accordance with the *Oil and Gas Act 1998*. Standard of living and livelihood restoration indicators are used to monitor physical and economic displacement impacts and to measure the success of livelihood restoration programs.

6.1 Compensation

During this quarter, Clan Agency Agreements were signed and compensation payments made for land access for the Project's onshore pipeline ROW, wellpads and roads.

Statutory compensation payments for Hides area assets are nearing completion, with eight Clan Agency Agreements signed and compensation paid for three wellpads, a quarry and approximately 14 kilometres of the Hides Wellpad Access Road.

One Clan Agency Agreement was signed for Wellpad A in Angore, while another six were signed and compensation paid for the Tagari Access Road. Along the pipeline ROW, ten Clan Agency Agreements were signed and compensation was paid to the clans. To date, 65 percent of the pipeline ROW has been compensated and work continues with clans along the remaining sections.

6.2 Resettlement

Land access for the pipeline ROW is now complete and resettlement activities are winding down. Final payments and ration deliveries continue to be made for households near Kilometre Points 14 to 20. Livelihood restoration activities also continue for the Angore Wellpads and Access Roads, as well as along the pipeline ROW. The Project is evaluating standard of living indicators for all resettled households as part of its Monitoring and Evaluation Program.

6.2.1 Milestones and progress

The completion of all compensation payments in the area between Kilometre Points 16 to 20 was a key resettlement milestone during this quarter.

The status of resettlement activities is shown in Figure 6.1. Longer-term monitoring, evaluation and livelihood restoration activities are occurring in 21 areas across Upstream locations, which are not included in Figure 6.1.

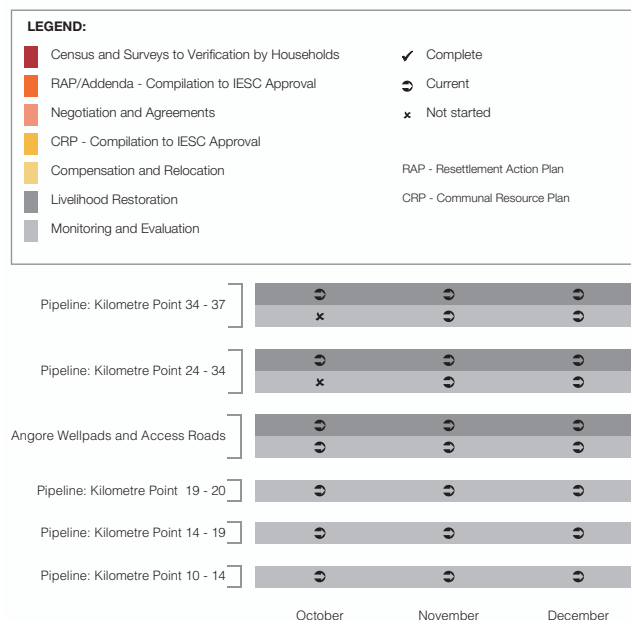
6.2.2 Highlights, achievements and lessons learned

Key activities during this quarter included:

Livelihood restoration: More than 20,000 cuttings of virus-free sweet potato varieties were supplied to over 70

Figure 6.1

Status of key resettlement activities



economically and physically displaced households across 15 Upstream locations, with 60 percent of this going to households in Hides. In addition, 22 kilograms of corn seed were supplied to 27 resettled households, with most distributed to households in the vicinity of the Hides Waste Management Area and quarries.

The Project continues to support some 130 households, mainly from Komo and Hides, with training and outreach services for poultry production. Another 260 resettled households across the Project area have been provided with information and training advice about food and cash crop programs. Topics covered include: growing African yams; caring for young orange and mandarin trees; advice on saving seeds; and growing new crop varieties such as sweet potato, cassava, peanuts and corn. Since mid-2011, the Project has distributed more than 1,600 grafted oranges and mandarins to resettled households in Upstream locations, with young trees now beginning to bear their first crop.

Monitoring of vulnerable individuals: The two outstanding water structures, of the 11 approved for vulnerable households, were built and all vulnerable cases were closed.

Komo and HGCP: Livelihood restoration activities continue with crop distribution and food processing training. During this quarter, assessment of standard of living indicators of resettled households in Komo and Hides was conducted.

Pipeline ROW and wellpad access roads: Standard of living indicators of resettled households were monitored in these areas.

The Project continues to support employment and training opportunities for Papua New Guinean citizens during the demobilization process.

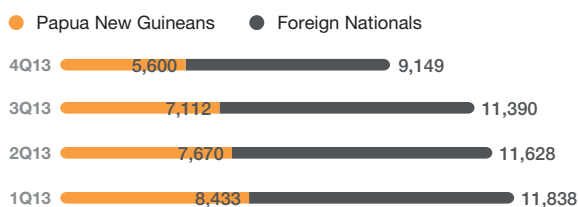
7.1 Development

Throughout 2013, the total Project workforce continued to decline, reflecting the completion of construction activities at many worksites and the subsequent demobilization of workers.

As shown in Figure 7.1, the total Project workforce for the fourth quarter was just over 14,700. Papua New Guineans comprise 38 percent of the total Project workforce, which remains consistent with 40 percent recorded at the same time last year and 38 percent in the third quarter 2013.

Figure 7.1

Project workforce numbers



Most of the construction workforce is concentrated at the HGCP and LNG Plant sites, with these sites representing 72 percent of the total Project workforce.

7.2 Workforce training

As the Project moves towards production it remains committed to delivering training opportunities that help build the skills of Papua New Guineans.

7.2.1 Construction training

With construction training completed at most Project worksites, training emphasis has shifted to building worker skills for testing and commissioning works, along with pipeline completion.

To date, the Project has delivered more than 2.13 million hours of training through some 11,550 training courses and activities. During 2013 alone, the Project delivered almost 540,000 hours of training across 4,721 training activities.

Project-provided training

The Project continues to support workers through a voluntary transition training program, which helps develop life skills that will enable workers to transition to other potential job opportunities once Project construction is complete.

Project inspires safety careers

Working with the Project has inspired new careers in safety for Brenda Tagobe from Tari and John Karipe from the Hela Province.

In October 2011, Brenda began work as a Senior Training Administrator with the Hides Gas Conditioning Plant and Hides Wellpads contractor. She had already completed business accounting studies and gained experience through working with her family's business.

In early 2013, Brenda completed training through the Project's Safety Champion initiative. The training inspired a new career path, prompting Brenda to use her recreation leave throughout the year to undertake workplace occupational health and safety courses at her own expense.

As a result of her commitment, in October this year Brenda was seconded to ExxonMobil PNG Limited as the HGCP Safety Advisor. She is now working toward completing her Certificate Level IV in Occupational Health and Safety.

John began work with the Project as a laborer at the Komo Airfield. He wanted to build his career so he completed Certificate Level I, II and III in Occupational Health and Safety at his own expense. This led to John's appointment as Health, Safety and Environment Assistant with an HGCP subcontractor.

Last year, John was promoted to lead Health, Safety and Environment Assistant. As part of his daily activities, John presents safety toolbox talks in English, Tok Pisin and Huli to more than 170 workers.



Brenda Tagobe and John Karipe

The four-day transition training program covers topics such as skills assessment, resume building, job search planning and job interview skills. To date, more than 1,000 workers at the LNG Plant site have completed the training.

Three trainers who helped train thousands of LNG Plant site workers are taking the experience and skills they gained on the Project to a new classroom.

After nearly four years with the Project, they are joining another project in the Philippines, where they will mentor and assess 120 fellow Papua New Guinean workers who were chosen to undertake a six-month course in trades such as tourism and hospitality, mechanics, metal fabrication and welding.

These trainers were part of the team that was key to the success of the LNG Plant site training program conducted through the purpose-built Port Moresby Construction Training Facility. This team contributed more than 700,000 hours of on-the-job and certification training to develop the skills of the Papua New Guinean workforce.



Trainers (from left) Jack Rex, Andrew Momo and Mondo Maka ready for a new opportunity in the Philippines

An accredited training officer was appointed to the HGCP site this quarter to lead Work Management System training, which concerns working safely with hydrocarbons during commissioning and production. Once they have completed the training, HGCP workers receive unique identification cards that clearly show the level of training completed. The Work Management System consists of three training modules:

- **Module 1 – Fundamentals** is a half-day safety training program completed by all contractor employees who work in restricted areas. To date, more than 800 HGCP workers have completed this module.
- **Module 2 – Permit Holder** is a full-day program designed for ExxonMobil PNG Limited supervisors. To date, over 400 HGCP supervisors have completed this module.
- **Module 3 – Area Authority** is a 1.5-day program completed by ExxonMobil PNG Limited managers who authorize work in their respective areas. To date, 150 HGCP managers have completed this module.

Contractor-provided training

A group of 13 engineering students from the Papua New Guinea University of Technology (UNITECH) had the opportunity this quarter to spend six weeks at the LNG Plant site as part of an industrial placement program.

During their placement, the students gained first-hand experience of subjects including: communication in the

workplace; planning and organizing work; cultural awareness and competence in the workplace; and emergency first aid awareness. Following completion of their six-week placement, the students received certificates of achievement.



UNITECH engineering students gain hands-on experience at the LNG Plant site

In addition to supporting tertiary education in Papua New Guinea, Project contractors are helping to build the skills of workers for future opportunities beyond the Project. For example, more than 30 LNG Plant and Marine Facilities contractor drivers have completed a three-month computer training course to help them develop new skills.



Drivers with their computer training course certificates

Project contractors also continue to offer first aid training to workers. To date, more than 260 workers have completed internationally recognized Level 2 First Aid training certified by the Australian Red Cross.

7.2.2 Contractor workforce training

To help build the technical skills of workers for opportunities outside of the Project, contractors continue to offer internationally accredited apprenticeship training through organizations such as Technical and Further Education (TAFE) Australia. For example, more than 100 Papua New Guineans have completed apprenticeships provided by an LNG Plant and Marine Facilities subcontractor in piping, electrical, safety observer and administration disciplines.



Some of the more than 100 newly accredited apprentices

7.2.3 Graduate programs

The second intake of ExxonMobil PNG Limited graduate engineers has joined the first intake as part of the Operations Technical team based in Port Moresby. Members of both groups of graduates are involved in start-up and commissioning activities in preparation for production. This includes delivering Management of Change and Gas Management System (GMS) training to the Production team. The third intake of graduate engineers has completed six months of training in Australia and will return to Papua New Guinea for start-up.

7.2.4 Operations and Maintenance training

The second and final intake of 76 Operations and Maintenance trainees returned to Papua New Guinea in December, following almost a year of Advanced Skills training in Malaysia. On arrival in Papua New Guinea, the Project provided a welcome home celebration for the trainees and their families.



Operations and Maintenance training program trainees Jeremy Palme and Moses Pilimbs with Neil Bennie, Operations Superintendent, ExxonMobil PNG Limited

While on their overseas placement, the trainees, including 21 women, received hands-on technical training in their choice of either production operations, electrical, maintenance, mechanical or instrumentation disciplines. They will join the first group of 61 Operations and Maintenance trainees as part of the Production team from January 2014.

Graduate becomes first Gas Management System Engineer

Gerard Schulze from New Ireland Province has become ExxonMobil PNG Limited's first GMS Engineer, after returning to Papua New Guinea from his training assignment in Australia. During the past year, Gerard has played a key role in developing the production GMS, culminating with the development of the GMS Manual, which aims to ensure high reliability of gas delivery from the Highlands wellheads to the LNG Plant.

Gerard said his work involved reviewing existing Project reports, commissioning additional engineering studies, consulting with Production organization personnel and engineers, and consolidating the results into an easily understandable manual with flow charts and decision trees. The GMS Manual is intended to help the Production team appropriately respond to varying supply disruption scenarios during production.

"It has been challenging but also very rewarding to be part of the Operations Technical team and the Production organization. The year 2014 is going to be a big year for ExxonMobil PNG Limited, and I look forward to the start of production," Gerard said.

Operations Technical team Supervisor, Niki Ritchie, said the team's work, coordinated by Gerard, was important to helping all personnel understand the technical issues that could impact the production of LNG.

"Their work enables pre-planned responses to be executed rapidly to prevent disruptions to supply and minimize the impact of any such events," Niki said.

"Gerard and the team have developed a quality GMS Manual which will be used daily to ensure gas is reliably delivered to the LNG Plant."



Operations Technical team Supervisor, Niki Ritchie with GMS Engineer, Gerard Schulze

For more information on the Operations and Maintenance training program, and the success of its trainees, refer to *Case Study Two – Ready for production*.



Arthur Washington, Operations and Maintenance Training Coordinator, ExxonMobil PNG Limited (center) with trainees (from left) Fitzgerald Naime, Benjamin Petrus, Andrew Doonar, Casper Kokoani, and Zechariah Frank

7.2.5 Above Field workforce training

A new module was introduced to the Project's Aiming for Excellence training program this quarter. The module *Raising the Bar* involves executive coaching strategies to explore the roles of creativity and critical thinking, collaboration and communication in the workplace. Aiming for Excellence training supports the successful Culture by Design initiative 'Em pasin bilong ExxonMobil long PNG' (The way we work at ExxonMobil in PNG) by focusing on the beliefs, values, behaviors and skills that are essential for building the culture of a high performing organization. For example, the training emphasizes the importance of demonstrating integrity through complying with procedures such as the Project's Management of Change process. To date 76 workers have participated in Aiming for Excellence training. Aiming for Excellence training is helping Project employees comply with procedures such as the Management of Change process.

7.3 Health management

Project health activities during the quarter were focused on the integration of clinical services and demobilization planning. The Project also increased worker awareness about vector-borne illnesses in preparation for the onset of the wet season in November.

Annual health audits were completed, along with monitoring of contractor health programs. Health activities conducted during the quarter are shown in Figure 7.2.

7.3.1 Camp and contractor health support

During this quarter, the Project supported the mobilization of new drilling camps along the Hides Spine with emphasis on food safety, potable water safety and clinical operations.

Health programs continued to meet Project standards as shown in Figure 7.3.

Figure 7.2

Number of planned and completed health activities during the fourth quarter

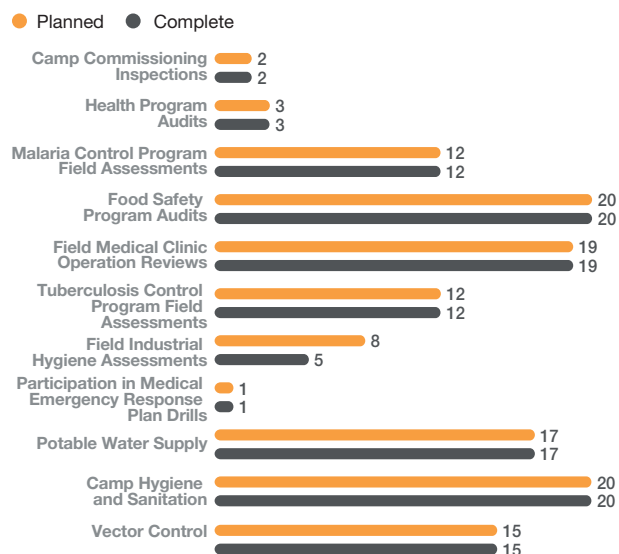
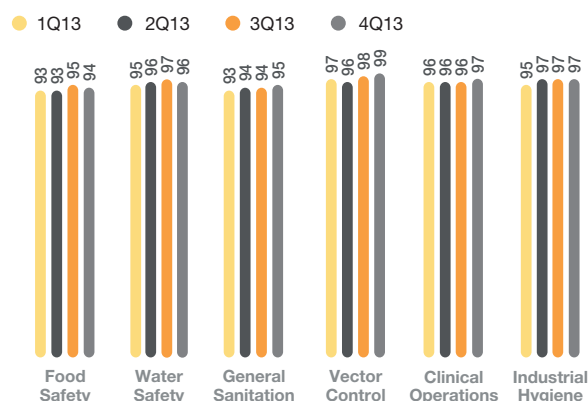


Figure 7.3

Percentage of camp adherence to Project specifications by health category



7.3.2 Leading and lagging indicators

The Project uses leading indicators to monitor its proactive management of worker health – for example, by assessing initiatives such as the Malaria Control Program, which aims to reduce the risk of malaria in the worker population. Lagging indicators track the effectiveness of the Project's health programs by recording actual cases of illness.

Malaria and tuberculosis

No cases of malaria have been contracted by non-immune² Project workers in Papua New Guinea since October 2011.

During this quarter, there were 12 malaria cases involving semi-immune³ personnel; less than half the cases recorded in the third quarter 2013. This decrease can be attributed to increased awareness of vector risks.

² A non-immune individual is a person who was not born and raised (at least to the age of five years) in a location with malaria exposure.

³ A semi-immune individual is a person who was born and raised (at least to the age of five years) in a location with malaria exposure.

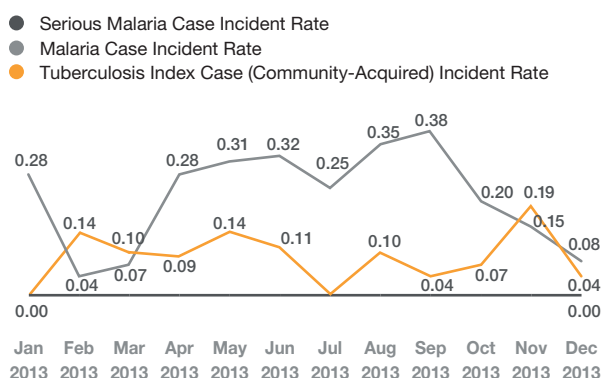
The Project continues its focus on the early detection, isolation, diagnosis and referral off-site for the treatment of identified tuberculosis cases, in accordance with the Tuberculosis Control Program. GeneXpert diagnostic equipment remains key to reducing the risk of tuberculosis transmission in the worker population through early detection of active tuberculosis.

During this quarter, eight Tuberculosis Index Cases (community-acquired) were recorded, which is an increase from four cases reported in the third quarter 2013. Each case was managed with isolation and referral off-site for appropriate treatment to minimize the risk of further transmission. To date, the Project has had no tuberculosis cases transmitted in the work environment.

Figure 7.4 shows the incident trends for both malaria and tuberculosis.

Figure 7.4

Malaria and tuberculosis case incident rates per 200,000 work hours



Malaria

The Project continues to maintain a high level of confidence in malaria diagnosis using the Australian Army Medical Institute for quality assurance.

Compliance with the Malaria Control Program remains high at 94 percent recorded during this quarter.

Tuberculosis

Tuberculosis Control Program compliance continues to improve, reaching 98 percent this quarter, compared to 97 percent during the third quarter 2013.

QuantiFERON testing is being used for annual tuberculosis screening. In remote work areas where QuantiFERON is not available, Tuberculin skin testing is used.

Food and water safety

Food safety compliance was 94 percent compared to 95 percent in the third quarter 2013. The Project continues to provide significant resources to ensure contractors and caterers maintain a high standard of food safety.

Spotlight on zero target

Toolbox talks were among the methods used to communicate the World Acquired Immune Deficiency Syndrome (AIDS) Day message of 'Getting to Zero' with Project teams on December 1.

Across all worksites, teams were educated about the facts and myths regarding HIV/AIDS, which included raising awareness about preventing the spread of the disease to achieve a target of zero AIDS.

This year marked the 25th World AIDS Day, which was introduced as the first global health day in 1988. The Project has commemorated the day with toolbox talks, posters and displays since the start of construction.

World AIDS Day gives people worldwide the opportunity to unite in the fight against HIV/AIDS, show their support for people living with HIV/AIDS and remember those who have died from the disease. In Papua New Guinea, approximately 1 percent of citizens aged between 15 and 49 are living with HIV/AIDS.



Project personnel participating in an awareness session held in support of World AIDS Day

To date, approximately 45 million meals have been served to the workforce, with only one food-borne illness, which was recorded in 2010. Meanwhile, water safety compliance remains high at 96 percent.

Camp hygiene and sanitation

A targeted hand washing campaign was conducted with LNG Plant and HGCP workers during this quarter. Close monitoring of sanitation and hygiene standards across Project camps has resulted in 95 percent compliance; an increase from 94 percent recorded in the third quarter 2013.

Vector control

With the beginning of the wet season in November, vector-borne illness communications increased in the form of toolbox talks and newsletters to raise worker awareness about the risks and precautions related to the mosquito-borne dengue and chikungunya illnesses.

Vector surveillance and control program compliance continued to improve, reaching 99 percent this quarter.

Clinical operations

Clinical operations are maintaining a high level of performance, with compliance at 97 percent this quarter.

Assessments continued in all clinics regarding the management of controlled substances during the quarter. Results of the assessment indicate that the medical provider continues to operate at a high standard.

To enhance safety awareness among medical staff, 20 HGCP clinic workers completed the Project's Safety Champions initiative. Clinic workers also completed training on the management of burn injuries.

An emergency response drill was conducted at the HGCP to simulate an electrical fire in a production control room. The drill was used to test the effectiveness of communications between departments and to assess emergency response times. Lessons learned will be integrated into the Production organization's emergency response procedures.

At Komo Airfield, a mass casualty emergency drill was conducted to simulate multiple patient injuries as a result of a light plane crash. Lessons learned will be integrated into the Komo Airfield Emergency Response Plan.

Industrial hygiene

With the introduction of commissioning gas, greater emphasis is being placed on risk assessments and training on the potential health risks of working with hydrocarbon and inert gases. The Project continues to maintain industrial hygiene compliance at 97 percent.

Additional assessments were conducted this quarter to monitor consistency with radiation, blasting, welding and personal protective equipment procedures across Project worksites.

General illness events

Two dengue cases were reported during this quarter. Both cases were determined to have been community-acquired.

Also this quarter, 63 workers contracted norovirus at the Hides Main Camp. Norovirus is an infectious virus that can cause nausea, diarrhea and low grade fevers. Third party laboratory testing indicated the norovirus source was not food- or water-borne. The Project implemented immediate control measures, which contained the virus to four days with no further exposure to Project workers.

Medevacs and medical transfers

Sixteen medevacs were completed during the quarter. All were for personal health conditions not related to work on the Project. Of the 102 medical transfers during this quarter two were due to work-related injuries. The remaining transfers were for personal health concerns.

7.3.3 Other strategic initiatives

The Health team is preparing transition plans to support contractors through the transition from construction to the production phase during 2014.

7.4 Safety management

The Project had its safest quarter to date, achieving 31 million hours without a Lost Time Incident.

During 2013, the Project achieved a 48 percent reduction in its Total Recordable Incident Rate compared to 2012. The Project and its contractors continued to emphasize the importance of safety with the introduction of a 'Finish Strong' safety campaign during this quarter. The campaign aims to remind workers to keep themselves and their colleagues safe during the final stages of construction.

Finishing strong with safety

Across Project worksites, workers are wearing fluorescent wristbands as a daily reminder to focus on safe behaviors at work.

The wristbands are part of a 'Finish Strong' safety campaign, which focuses workers on keeping themselves and their colleagues safe as construction is completed and the Project transitions to production.

While the wristbands are a key visual reminder of the campaign, 'Finish Strong' also encompasses toolbox talks about safe operations with hydrocarbons, safety awareness posters, worker bulletins and safety pledge banners signed by workers.

Individual worksites have developed their own site-specific programs around the 'Finish Strong' theme to ensure high levels of engagement from the workforce. This includes recognition programs for workers who demonstrate safe behaviors on-site.



Fluorescent wristbands serve as a daily reminder to focus on safety

Safety training also continues across Project worksites. During this quarter, new training modules were introduced to educate workers about safety precautions during the commissioning and production phases.

Other safety training programs include:

- The LNG Plant site's Incident and Injury Free program with over 13,500 workers trained to date.
- Hydrocarbon Awareness sessions with over 1,700 workers trained to date.
- The Safety Champions initiative in which more than 1,500 workers have been trained to date.
- First Line Supervisor training with more than 800 supervisors trained to date.
- Work Management System training with over 700 trained to date.



A Safety Champions monthly meeting at the HGCP



An Incident and Injury Free Driver Awareness Training program session

With commissioning gas introduced into HGCP work areas, new sections of the pipeline and the LNG Plant, the Project has shifted the focus of safety education from construction-related hazards to working with energized facilities and hydrocarbons.

Driver safety training remains a priority and as such, the LNG Plant site launched an Incident and Injury Free Driver Awareness Training program. These training sessions encourage safe driving behaviors, with training participants making a commitment to have the courage to approach others and correct unsafe driving behaviors. This reinforces the duty of all workers to look out and care for their colleagues so that *Nobody Gets Hurt*.

Driver campaign saves lives

The Project's work area spans some 1,250 kilometres of roadways stretching across the Highlands and throughout Papua New Guinea. Most of these roads are unsealed, generally in poor condition, with steep gradients and tight turns, and often drivers must negotiate difficult weather conditions. With no footpaths and no street lighting, the roadways are also shared with pedestrians who use them as a walking track to reach community facilities. Therefore, to reduce the potential for transport-related incidents, the Project implemented a targeted driver safety program which includes:

- Driver training that involves driving simulators and off-road 4 Wheel Drive training.
- Journey management processes.
- The use of convoys and escorts to keep trucks and vehicles together, regulate speed, respond to mechanical problems and alert pedestrians/other traffic of the convoy's arrival.
- Alcohol testing of drivers, the use of speed guns to reduce speeding, and processes to prevent unauthorized passengers in vehicles.
- Monitored vehicle tracking systems, duress alarms and two-way radio systems to enable real-time communication between monitoring stations and convoys.
- A seatbelt awareness campaign entitled "Click it before you close it".
- The ability to respond to on-road incidents in the Hides region through Medical Emergency Response planning.

The driver safety program is proving successful with significantly decreasing the rate of higher potential transport-related incidents from 0.15 in 2010 down to 0.02 in 2013.



Driver training using a Project driving simulator

7.4.1 Leading indicators

The Project's performance for core safety processes, such as Job Safety Analysis and Observation and Interaction, remains strong with participation levels shown in Figures 7.5 and 7.6 respectively.

To date, over 2.1 million Job Safety Analyses and more than 1.9 million Observations and Interactions have been conducted, which has exceeded target participation levels.

Figure 7.5

Number of Job Safety Analyses conducted by quarter

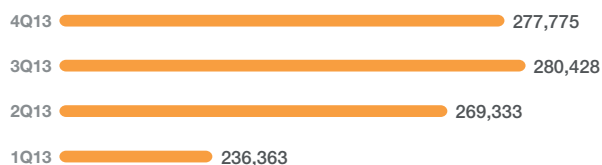


Figure 7.6

Number of Observations and Interactions conducted by quarter



7.4.2 Lagging indicators

Project incident trends continue to improve, as shown in Figure 7.7. To date, more than 183 million work hours have been spent on the Project. However, with the demobilization of worksites, Project work hours are now beginning to decline each quarter, as illustrated in Figure 7.8.

Figure 7.7

Project incident rates by quarter

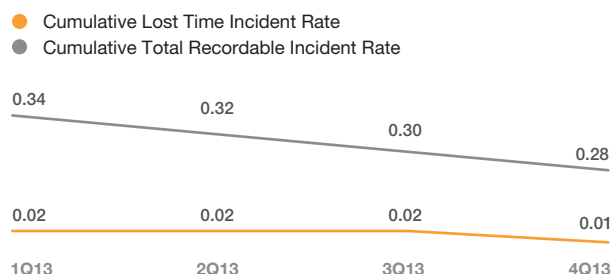
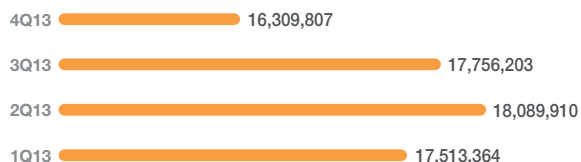


Figure 7.8

Project work hours by quarter



NOTE: Project-to-date work hours totalled 183,281,051.

7.5 Worker welfare and conditions

The Project is maintaining high standards of worker welfare and conditions by meeting commitments made under the Labour and Worker Conditions Management Plan and the Camp Management Plan.

7.5.1 Camps

With the Project entering the final stage of construction, worker camps are preparing for demobilization and/or handover to the Production organization. During this process, the camps continue to maintain high standards of cleanliness and are complying with the requirements of the Camp Management Plan.

7.5.2 Labor and worker conditions

Tours of the LNG Plant site continue for workers so they can develop a sense of pride in their contribution to the Project. To date, more than 650 workers have attended over 40 site tours.

The Project and its contractors also continue to engage with and support workers throughout the demobilization process.



One of the LNG Plant site tours conducted for workers

The Project has an energetic team of newly trained workers who are ready to undertake production roles.

More than 130 trainees have completed the first two phases of the Project's Operations and Maintenance training program, which was conducted through two intakes spanning from 2010 to the end of 2013.

Both groups of trainees completed at least one year of the Basic Skills Training Program in Port Moresby before being sent for Advanced Skills training assignments overseas.

The first group of 61 trainees, including 17 women, began training in Port Moresby in 2010. They completed their overseas placement at the end of 2012 through LearnCorp International in Canada. During this time they gained theoretical and practical skills across disciplines such as: hydrocarbon processing; LNG liquefaction and storage; gas compression; safety systems; fire-fighting systems; hand and power tools; analytical troubleshooting; transformers and power distribution; high voltage equipment and maintenance; electrical safety; and industrial and hazardous area wiring. In January 2013, the trainees began the final phase of the Operations and Maintenance training program. This phase involves on-the-job training and mentoring from experienced Operations and Maintenance personnel at the LNG Plant site, or in some cases, the Upstream facilities.



Trainees from the second intake undergoing Advanced Skills training in Malaysia

Trainee Moale Bae said the training in Malaysia gave him not only theoretical and practical oil and gas production skills, but also the opportunity to learn about the Malaysian people and their culture. "Being part of one of the biggest projects in the world is really a blessing and an opportunity that I know my family and friends are very proud of," he said.

Yvette Kuma said that being the first among her siblings to gain an overseas education was a proud moment for her family.

"While being overseas, I was exposed to different cultures and people whom I may not have come to experience had I not been a part of this training, which I really appreciate," Yvette said. "With this training, I was able to interact with very experienced and knowledgeable people in the oil and gas industry. I feel very privileged to work for the PNG LNG Project. As a national, it gives me an opportunity to be part of a project that will hopefully bring benefits and opportunities for my country and my people," she said.



Trainees from the first intake on-the-job at the LNG Plant site with their mentor and an Operations Technician

For the second intake of 76 trainees, including 21 women, their training began in Port Moresby in 2012. The group commenced their overseas placement with the Institut Teknologi Petroleum PETRONAS (INSTEP) in Malaysia in early 2013. They completed the same training curriculum as the previous intake and returned to Papua New Guinea in December, ready to begin on-the-job training from January 2014.

The overseas placements gave both groups of trainees the opportunity to experience other cultures as part of their training.



Operations and Maintenance trainee technicians Moale Bae and Yvette Kuma

A combination of verification, monitoring, assessments and audits is used to ensure Project activities conform to environmental commitments outlined in the ESMP, refer to *Case Study Three – Keeping the Project on track*.

8.1 Verification

As construction on most worksites nears completion, the direction of verification efforts has shifted to waste management, reinstatement and continuous improvement on spill prevention, water quality and wastewater management.

An additional Field Environmental Advisor was employed during the fourth quarter to support verification efforts for drilling activities on the Hides Ridge.

8.2 Monitoring

The Project and its contractors continue to monitor construction activities to ensure compliance with the ESMP. Results of monitoring efforts undertaken this quarter are outlined in the following sections.

8.3 Assessments and audits

The Project engages external independent consultants to assess impacts of construction activities. This is in addition to the assessments conducted by the Project Field Environmental team. For example, during this quarter, an independent external audit was completed for reinstatement and weed management activities. In addition, an independent marine survey was conducted to assess the impact of dredging works in the Omati River. Findings and recommendations from both these audits were shared with contractors.

Project contractors also continue their own assessments and audits. During this quarter, the LNG Plant and Marine Facilities contractor conducted its fifth environmental compliance audit. The audit was conducted across all subcontractors, with three observations recorded. Recommendations were addressed by the contractor and the Project.

Meanwhile, the Onshore Pipeline contractor conducted a gap analysis from which lessons learned will be presented at a workshop as part of Project closure activities.

The IESC completed their tenth site visit in October. A report from the IESC's previous visit in July 2013 is publicly available on the Project website.



Visit the Project website at
www.pnglng.com

8.4 Incidents, non-conformances and corrective action

8.4.1 Incident summary

The Project classifies incidents by severity as shown in Figure 8.1. During this quarter, 59 environmental incidents were recorded, with 54 of these classified as Severity Level <0. Five near misses were also recorded. All of these incidents related to hydrocarbon or chemical spills. There were no environmental incidents equal to or greater than Severity Level 0 reported; and as such, the Project was not required to notify the IESC or the Papua New Guinean Department of Environment and Conservation.

Project investigations were conducted to identify and correct the causes of all incidents and near misses recorded. The causal factors for incidents recorded this quarter are outlined in Figure 8.2.

Figure 8.1

Number of environmental incidents during the fourth quarter by Severity Level

- Severity Level 3
- Severity Level 2
- Severity Level 1
- Severity Level 0
- Severity Level <0
- Near Miss

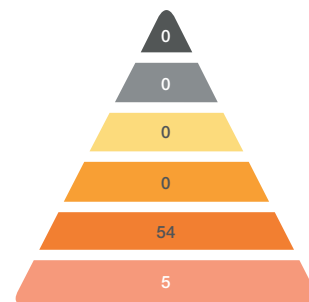
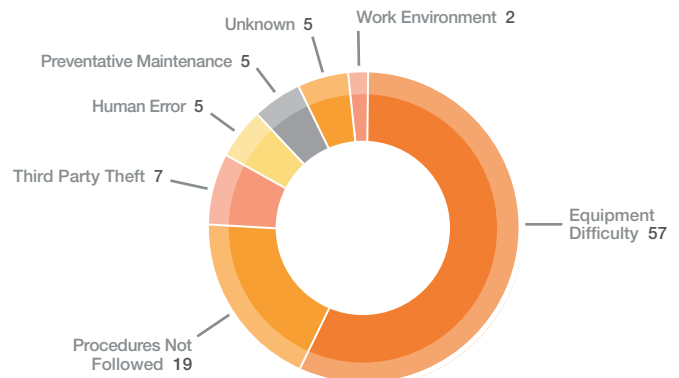


Figure 8.2

Percentage of environmental incidents during the fourth quarter by causal factor



8.4.2 Non-conformance and field observation performance

The Project uses non-conformances and field observations to verify its environmental performance. Field observations require intervention and/or corrective actions to prevent them from becoming non-conformances. A non-conformance is a situation inconsistent with ESMP requirements. Examples of good environmental practices are recorded as positive field observations.

During this quarter 52 positive field observations were recorded. Most positive field observations related to the application of waste management and erosion and sediment control plans.

The Project raised 91 field observations, with most related to waste management and spill prevention and response. Of these, more than 80 percent were promptly closed through the application of corrective actions by Project contractors. There were no non-conformances raised in the quarter.

Figure 8.3 shows the field observations recorded during this quarter. The closure status of these field observations is shown in Figure 8.4.

Figure 8.3

Number of environmental non-conformances and field observations during the fourth quarter by Severity Level

- Severity Level III
- Severity Level II
- Severity Level I
- Field Observation
- Positive Field Observation

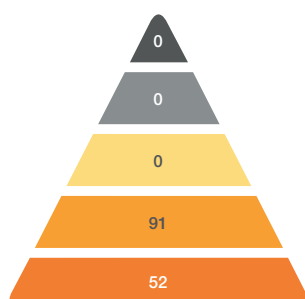


Figure 8.4

Number of environmental field observations during the fourth quarter by closure status

- Closed
- Open



CASE STUDY THREE

KEEPING THE PROJECT ON TRACK

The Project is strongly committed to conforming to environmental and social management requirements outlined in the Project's ESMP and has set high standards for each step along the way.

The ESMP consists of a set of 19 Environmental Management Plans and 11 Social Management Plans (shown in Figure 3.1). Each plan contains specific requirements that the Project aims to meet in all its activities. Other documents have been developed to complement the ESMP; with all of these documents driving a best practice culture across the Project.

Internal system requirements are used to monitor construction activities in accordance with the Project's environmental and social management commitments. In addition, regular independent reviews are conducted on behalf of the Lender Group, which is responsible for the approval of Project funding. These reviews are vital to providing independent assurance to all stakeholders that the Project is adhering to its environmental and social management responsibilities. Reviews are conducted by D'Appolonia S.p.A, the Lender Group's Independent Environmental and Social Consultant (IESC). D'Appolonia S.p.A also acted as the Lender Group's IESC during the pre-finance due diligence phase.

Scott Critchfield, Technical Manager, ExxonMobil PNG Limited said the Project recognized and respected the important role of the IESC.

"The IESC's role as external monitor is to provide an independent, impartial and transparent record of our compliance with the Project's environmental and social obligations. The independent team compares observations made during their visits with the commitments outlined in the Project's ESMP," he said.

"The Project plans and coordinates monitoring visits with the IESC, and we appreciate their overview role. They provide the essential independent test to verify that our processes are effective."

The IESC has conducted reviews of the Project an average of three times each year during the construction phase. These reviews will continue, but with less frequency, during the production phase.

The IESC's monitoring visits involve interviews with: key Project personnel; non-government organizations; Papua New Guinean Governmental officials; local leaders and authorities; local communities and civil society groups; and any other relevant groups or individuals. The IESC also reviews relevant documents and records.

During a monitoring visit, the IESC typically checks to ensure that:

- Commitments contained in the ESMP are complied with by the Project and its contractors.

- The Project readily adapts to change.
- Effective Project systems are in place to recognize and report non-conformances and incidents, as well as apply corrective actions where necessary.
- Sufficiently trained resources are in place to manage all commitments.

The findings of each IESC monitoring visit are compiled, reviewed and reported to the Lender Group. These findings are also made available to the public and published on the Project website, as well as mentioned in PNG LNG Quarterly Environmental and Social Reports.

"The stringent monitoring that the Project places on its activities, as well as that implemented by the Lender Group, ensures high standards of performance across all work areas," Scott said.



Scott Critchfield, Technical Manager, ExxonMobil PNG Limited enroute to highlands worksites during one of the IESC visits

Pollution prevention and abatement is a key commitment of the Project. Proactive measures are taken to prevent and/or minimize pollution at every worksite.

9.1 Air emissions

Dust from exposed earthworks and roads is one source of air emissions across Project worksites. Other emissions include exhaust from incinerators and construction equipment, greenhouse gas emissions from combustion engines, and fugitive plant emissions.

Local weather conditions strongly impact the potential for dust generation. Because the wet season began during this quarter dust across the LNG Plant site was minimal. Additionally, permanent roads for the LNG Plant site are being progressively paved, which has minimized dust generated by vehicle movements around the site.

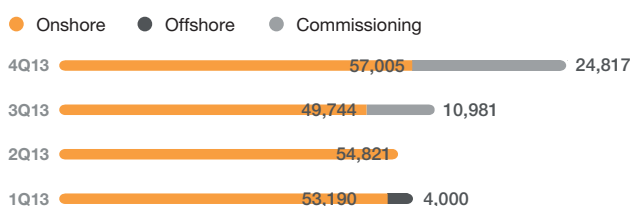
At the Hides Waste Management Facility, the permanent incinerator vendor's representatives undertook a reliability review this quarter. Key recommendations from the review addressed the supply of critical spare parts, modifications to improve operating performance, and troubleshooting of an electrical problem at the main control room. Initial preparations for stack testing also started this quarter. These included investigating potential independent laboratory service providers. Temporary construction incinerators have been re-bricked and are maintained as a contingency measure for HGCP incineration requirements.

The Project calculates greenhouse gas emissions based on direct fuel use. Indirect sources, such as purchased electricity, are not included. During this quarter, onshore and aviation fuel use equated to a greenhouse gas emissions value of 57,005 tonnes of carbon dioxide equivalent. Greenhouse gas emissions attributable to commissioning flaring during the quarter were 24,817 tonnes of carbon dioxide equivalent.

Figure 9.1 shows the Project's direct greenhouse gas emissions.

Figure 9.1

Greenhouse gas emissions (tonnes of carbon dioxide equivalent) per quarter



NOTE: Emissions calculations are based on the Australian Government Department of Climate Change and Energy Efficiency, National Greenhouse Accounts Factors, July, 2013.

Quarterly air quality monitoring continues at four locations within the LNG Plant site. Monitoring results for these locations remain well below the Project's emissions criteria. Monitoring is also undertaken during hydrocarbon flaring to detect levels of sulfur dioxide and nitrogen dioxide. All results are well below World Health Organization emissions criteria.

9.2 Noise and vibration

The Project Environment Permit criteria for noise monitoring are applicable to permanent facilities and not temporary construction facilities.

At the LNG Plant site, in addition to usual quarterly noise monitoring surrounding the site, fortnightly ambient noise monitoring of hydrocarbon venting from the flare was undertaken at night to determine noise levels at the site boundary. All results were below the Project's environmental criteria.

No unresolved noise grievances were recorded at worksites by the end of the quarter.

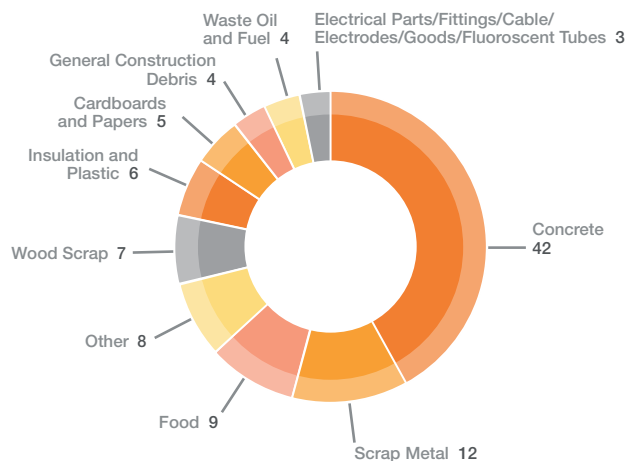
9.3 Waste management

Waste disposal for all worksites is managed through the Project's two operational landfills and multiple recycling programs. Disposal of waste is tracked by type, volume and disposal method, and the data is collated to monitor trends both quarterly and annually.

During this quarter, the predominant wastes generated continue to be concrete wastes and scrap metal as illustrated in Figure 9.2.

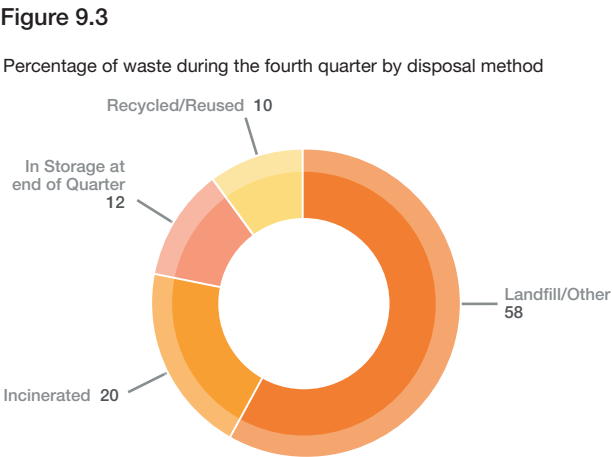
Figure 9.2

Percentage of solid waste during the fourth quarter by type



NOTE: Waste types with values of 2% and under have been combined in the category of 'Other'.

Solid waste disposal methods used by the Project are shown in Figure 9.3. This reflects the current phase of construction, whereby waste is being moved from storage areas to Project facilities for recycling or disposal.



The Hides Waste Management Facility is now operating as the primary provider of waste disposal services to the Upstream area. The Facility is taking waste from across Project worksites, including materials that may have been stored since the Project began.

Extensive waste consolidation and distribution to appropriate disposal sites was undertaken across onshore pipeline construction areas this quarter. For example, hazardous wastes stored at worksites since the Project began were packed and transferred to Kopi Wharf for shipment to Port Moresby before being transferred to Australia for processing. Waste oil in bulk containers was packed in a double skin plastic-lined 6-metre shipping container before transportation off-site to Lae for reuse. Recyclable non-hazardous wastes, such as pipe end caps that were stockpiled and stored at Kopi Wharf, were sent to Port Moresby for recycling. Most of the processed non-hazardous wastes were transported to the Hides landfill or the Hides Waste Management Facility.



A segmented bund used to store waste before transfer to off-site disposal facilities



Shipping container prepared with liner for shipping waste oil

The types of waste generated are changing as construction nears completion. At the LNG Plant site, a reduction in timber packaging meant there was no distribution of waste timber to the community during December. Other wastes from the LNG Plant site are processed and either disposed of at the site landfill or sent away for recycling or reuse. For example, oily filters and rags are exported to Australia for recycling, chemical containers are reused by a local enterprise, and metal scrap and used lead acid batteries are recycled by a Papua New Guinea-based recycling enterprise. All disposal methods have been assessed and approved as meeting Project standards.

9.3.1 Wastewater

Wastewater treatment plant monitoring continues across Project worksites. If monitoring detects fluctuations in performance, immediate corrective actions are taken. During this quarter, a specialist process engineer monitored the performance of wastewater treatment plants at the HGCP site and found they performed well under maximum capacity conditions.

Variations in camp numbers as Project requirements rise and fall mean that wastewater treatment plant units are brought on and off line according to current requirements. For example, at Awatangi Quarry Camp 7 one of three wastewater treatment plants was having technical difficulties and was decommissioned because the remaining two units were sufficient to service the reduced camp population.

9.4 Hazardous materials

During this quarter, no hazardous materials were reported on Project worksites. The Project's policy is to avoid the use of hazardous materials wherever possible. Materials that are subject to international bans or phase-outs are avoided and reported if found on any Project site.

9.5 Spill prevention and response

Recognizing the challenging terrain and equipment difficulty experienced during the third quarter 2013, the Project targeted its efforts this quarter on spill prevention from vehicles. Although there was a reduction in the number of spill incidents, there was an increase in the volume of some spills, including some security and theft-related incidents that caused average spill volumes to increase.

In a continued effort to minimize spills, the Onshore Pipeline contractor conducted specialized training on refueling procedures. The training was provided to workers who handle fuels, including fuel truck drivers, lube truck drivers and fuel station workers. It covered equipment inspections to minimize spills, appropriate environmental protection measures, reporting requirements of spills and spill prevention during the construction of river crossings.

Spill response drills continue, with the Onshore Pipeline contractor conducting a desktop drill during this quarter, while the LNG Plant site undertook a simulated spill drill.

9.6 Dredging and offshore trenching

Fieldwork for a post-dredging marine survey of the Omati River was undertaken late in the quarter to assess the impact of the Project's dredging activities, which were completed in the first quarter 2013. Results of the marine survey are expected during 2014.

The Project undertakes a wide range of activities to protect and manage the unique biodiversity throughout the Project area, in cooperation with stakeholders including the Papua New Guinean Government.

10.1 Ecological management

Reinstatement and permanent erosion control began at the Lake Kutubu WMA after completion of onshore pipeline activities this quarter.

Environmental requirements for the Hides Wellpad Access Road were communicated to nearly 100 members of the mainline welding and coating crew, who moved to this area. Information provided highlighted the ecological sensitivities of Hides Ridge, and emphasized the washdown requirement for vehicles and work boots to prevent the spread of weeds or pathogens. Other measures covered included the ban on hunting and harvesting along the ROW, the ban on decorating vehicles with plants, and the importance of staying within the construction footprint. Environmental training was also given at a supervisors' safety forum to ensure the message was reinforced by supervisors.



An environmental awareness session for the pipe transport crew at Wellpad E

No trapped animals were found during onshore pipeline trench monitoring. There were also no notable fauna sightings on onshore pipeline worksites during the quarter. An unknown species of Tree Python was bought from a local resident by two Onshore Pipeline contractor workers and released by the Field Environmental team at the Hides Waste Management Area.

During this quarter, an Onshore Pipeline subcontractor conducted an environmental awareness-raising session with students from Waru Elementary School.

Three Short-beaked Dolphins *Delphinus delphis* were seen in November near the LNG jetty. With the completion of jetty construction in December, marine mammal and turtle monitoring ceased this quarter.

A lesson on the environment

In November, an Onshore Pipeline subcontractor visited Waru Elementary School to present ecological and waste management information to teachers and students. Topics covered included: general environmental awareness; ecology; waste management; health and hygiene; and road safety.

The subcontractor also provided students with pictures of flora and fauna from the Hides area, posters about waste management, road safety and hygiene, and colored pencils and paper.



Workers presenting environmental information at Waru Elementary School

10.2 Quarantine management

Contractors continue to successfully implement the modified fumigation procedures agreed with the National Agriculture Quarantine and Inspection Authority. The new measures are helping to reduce the level of re-fumigations required on cargo entering Papua New Guinea.

During 2013, 1,780 Project consignments entered Papua New Guinea, with 50 percent inspected and 8 percent requiring re-fumigation. This is a significant improvement in inspections from 2011, when 70 percent of consignments were inspected, and 2012, when 81 percent were re-fumigated.

The Project is continuing to provide the National Agriculture Quarantine and Inspection Authority with data to support improved risk analysis of imports and clearance processes.

10.3 Weed, plant pathogen and pest management

During this quarter, the final annual weed survey report was released for the LNG Plant site. The survey was conducted in August 2013 as part of a four-year program to compare weed distribution in 2013 with pre-construction levels and intermediate survey results from 2011 and 2012. Most of the previously surveyed area was developed as part of site construction. The survey recorded 70 weed species, including a number of Priority 1 species. Weed management generally curtails the growth and spread of weeds, and some of the primary colonizer weeds are giving way to more stable, longer-term plant communities. The survey noted that two *Mimosa* sp. plants were able to grow due to the protection of the site from fire.

The LNG Plant and Marine Facilities contractor undertook weed management activities in preparation for handing the site over to the Production organization. For example, a weed survey was completed at locations across the site to identify management needs before handover. Many weeds were cleared manually, such as the Priority 1 weed Bitter Vine *Mikania micrantha*, Forest Blue Grass *Bothriochloa ewartiana*, Kangaroo Grass *Themeda triandra*, Cloncurry Buffel *Cenchrus pennisetiformis* and Purple Top *Chloris Chloris barbata*.



Before and after control of *Leucaena leucocephala* at the southern side of the maintenance workshop

Control of the Priority 1 weeds Elephant Grass *Cenchrus purpureum*, Singapore Daisy *Tithonia diversifolia* and Giant Cane *Arundo donax*, and Priority 2 weeds Fountain Grass *Cenchrus macrostachyum* and Thick-head *Crassocephalum crepidioides*, was undertaken by the Hides Gas Conditioning Plant and Hides Wellpads contractor by cutting or applying herbicide. Meanwhile, the Onshore Pipeline contractor manually controlled the Priority 1 weed Anglestem Willow Primrose *Ludwigia leptocarpa* around Awatangi Quarry Camp 7. Foot patrols were undertaken to monitor the species. Other weed management activities included monthly weed inspections at locations such as the crane yard, the Angore Wellpad Access Road and Angore Wellpad laydowns. Control measures were implemented for Bitter Vine and Elephant Grass at Awatangi Quarry Camp 7 and weeds along the Homa Ridge Access Road.



Hand pulling of weeds along the Homa Ridge Access Road



Elephant Grass on the reinstated ROW at Kilometre Point 103

Following observations of weeds in reinstated areas in Moro, a full inspection of facilities sites and the ROW was undertaken from Awatangi Quarry Camp 7 to Moro. Control measures were implemented where Priority 1 weeds were observed.

The fleet wash station at Homa Quarry 2 was dismantled during this quarter as part of demobilization activities.



Decommissioning of the fleet wash station at Homa Quarry 2



Final ROW reinstatement completed at Kilometre Point 69

Another wash station was established at the Kopi Wharf for washing equipment before movement north or shipment to Port Moresby.

10.4 Induced access

The Onshore Pipeline contractor constructed no new roads during this quarter. Security checkpoints continue to be maintained at the Kikori River Bridge, Mubi River Bridge, Homa Ridge Access Road, the start of the Angore Wellpad Access Road extension, and at road junctions where public roads intersect with the ROW. Worker inductions and site identification cards are used to control access to the Hides Wellpad Access Road.

During this quarter, the Production organization completed an assessment of permanent access needs in the Upstream area. A Management of Change for induced access is being internally reviewed as a result of this assessment.

10.5 Reinstatement

Significant progress was made this quarter with reinstatement at the LNG Plant site. Joint site inspections by LNG Plant and Marine Facilities contractor and Project personnel were held to agree reinstatement activities for the temporary facilities, including the sedimentation ponds, site clinic, offices and several laydown areas. Reinstatement using stored topsoil and local plant species was completed at some facilities. Just over 2,000 square metres remained for reinstatement at the end of the quarter.

Reinstatement preparations began at the HGCP site and works will begin as construction winds down.

By the end of the quarter, reinstatement activities were completed across the Homa to Paua area, and ROW reinstatement was being undertaken on seven work fronts concentrated between Kilometre Points 2 to 52.

The erosion and sediment control crew installs jute mats on berms, along with other permanent manual erosion control measures, and supports all final reinstatement crews.

Enhancing the Lake Kutubu Wildlife Management Area

The Lake Kutubu WMA Enhancement Program is part of the Project's biodiversity offset program, which is documented in the Biodiversity Offset Delivery Plan.

The aim of the Program is to promote and enhance conservation in the Lake Kutubu WMA. The Project is working with the Lake Kutubu WMA Committee and other key stakeholders, such as the communities of Lake Kutubu and the Papua New Guinean Department of Environment and Conservation, to develop a Lake Kutubu WMA Management Plan and build the capacity of the Committee so they can implement the Plan.

The Program involves three distinct workstreams that reflect separate, but complementary, aspects:

- Workstream 1 – Development of the Lake Kutubu WMA Management Plan.
- Workstream 2 – Building and enhancing the organizational capacity of the Lake Kutubu WMA Committee so that it can effectively manage the protected area.
- Workstream 3 – Achieving recognition of the Lake Kutubu WMA by local and provincial governments, and the insertion of the Lake Kutubu WMA Management Plan in relevant development plans as part of wider land and resource use provisions.



Lake Kutubu

Partial reinstatement activities took place at some sections, leaving a running track for testing and flow control system activities. At these sites, work consisted of subsoil and topsoil reinstatement in areas off the running track, and permanent erosion control.

During this quarter, reinstatement was undertaken at several off-ROW worksites including Tamadigi Camp 4, quarries, some laydown sites, and pipe and spoil storage areas. The Project and Onshore Pipeline contractor continue joint assessments of reinstatement activities and clean up works.

10.6 Biodiversity Strategy

Implementation of the Project's Biodiversity Strategy progressed, along with early implementation of the biodiversity offset program, which is part of the Biodiversity Offset Delivery Plan. Further development of the Biodiversity Monitoring Plan continues.

In December, the Project conducted a one-day workshop with representatives from Conservation International, the Wildlife Conservation Society and The Nature Conservancy to develop the biodiversity offset program's scope of work for Protected Area Planning in the Kikori River Basin.

In line with Component 4 of the biodiversity offset program, which plans to enhance and strengthen existing protected areas, a meeting with stakeholders was held in November to review and agree on the scope of the Lake Kutubu WMA Enhancement Program. The Project is implementing a number of early projects that will build towards the overall enhancement program for the Lake Kutubu WMA. Discussions with stakeholders continue on other components of the biodiversity offset program.

Additional input was provided for the Biodiversity Monitoring Plan this quarter, including further development of protocols and procedures to support the Plan's implementation. Programmed Monitoring Activity 1 involves using remote sensing to determine the extent to which broad-scale direct and indirect residual impacts eventuate as a result of the Project. During this quarter, the monitoring report for 2011 was completed and photographic image collection was completed for 2013 monitoring.

The Project is committed to the sustainable management of natural resources – such as quarry materials, timber, water and soils – in support of their ongoing social, economic and cultural value to the people of Papua New Guinea.

11.1 Water management

11.1.1 Usage

The Project uses water in construction-related activities, such as dust suppression and vehicle washdowns, and also for domestic use in worker camps. This quarter, approximately 173,200 kilolitres of freshwater was extracted from ground and surface water sources across Project worksites. Another 567,845 kilolitres of seawater was extracted at the LNG Plant site to supply the desalination plant, which generates freshwater for the site.

During this quarter, one new extraction point was established at Wellpad G, with extraction commencing in December to support drilling activities. The Project is maintaining water extraction volumes within permitted limits.

Figure 11.1 shows water volumes from each extraction source, while Figure 11.2 illustrates water use by type.

11.1.2 Quality

Water quality monitoring continued on ground, sea and surface waters across the Project to detect any changes that could result in environmental impacts.

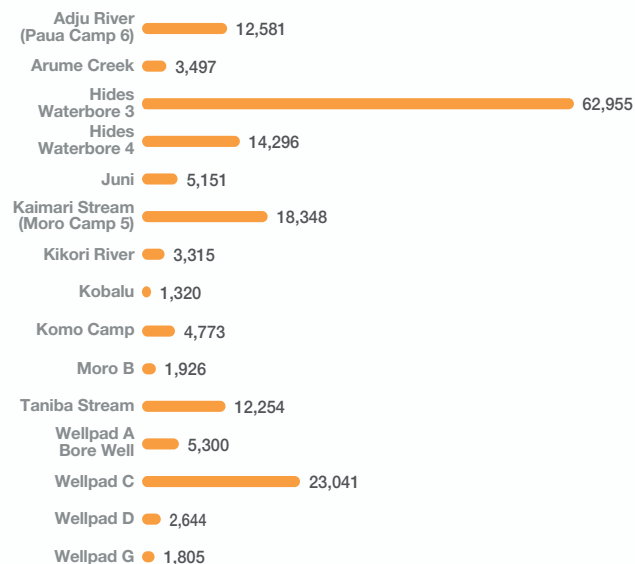
A survey was undertaken late in the quarter to determine post-dredging impacts in the Omati River. An external consultant tested for water quality and conducted benthic sampling. The results, and the consultant's report, are expected in 2014. An independent survey was also conducted on freshwater quality and ecology around Project worksites in the Upstream area. Water samples were taken, and invertebrates preserved in vials of ethanol, for laboratory analysis. The survey results will be collated into a report during 2014.

Surface water monitoring was conducted at worksites along the onshore pipeline, including major crossings of the Dagia River Tributary and Wota River, as well as smaller works such as the installation of culverts. As expected, turbidity rose temporarily during works and the water returned to baseline levels within a short timeframe.

One horizontal directional drilling mud release point was noticed on the south bank of the Tagari River. However, the Onshore Pipeline contractor contained the release, enabling drilling mud to be collected and recycled into the horizontal directional drilling process.

Figure 11.1

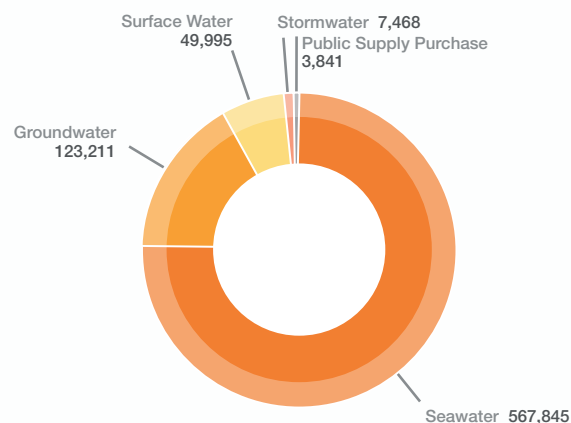
Volume (kilolitres) of water used during the fourth quarter by extraction source



NOTE: Seawater, stormwater and purchased water are not included in this Figure. Water use for the LNG Plant site is not shown in this Figure as the site's water usage is from desalinated seawater.

Figure 11.2

Volume (kilolitres) of water used during the fourth quarter by type



At the HGCP site, contractors performed regular monthly surface water sampling and testing. There were no issues reported during the quarter.

Surface water management at the LNG Plant site is transitioning in preparation for the production phase. Backfilling and reinstatement of a construction sedimentation pond took place during the quarter. A discharge of brine and reject water from the desalination plant, as well as stormwater runoff, was received at the permanent retention pond.

Brine and reject water are mixed with stormwater runoff in the retention pond and the comingled water is discharged within the Project's lease area.



Water monitoring at Japalia Creek in Angore



Collecting macroinvertebrates from water samples of the Ai'io River

Electrical conductivity in the retention pond in mid-December was slightly higher than seawater levels due to the discharge of the brine and reject water. This elevated conductivity was expected because it was a period of low rainfall, so a higher percentage of brine was present. The discharge is further diluted as it flows through the Project's lease area before it reaches the sea.

The LNG Plant and Marine Facilities contractor also submitted their Twelfth Quarterly Report for Monitoring of Potable Water, Desalination Plant Water and Treated Wastewater Discharge, to Water PNG this quarter.

Hydrotesting progressed in accordance with the Project's Hydrotesting Management Plan, with discharge samples sent for laboratory analysis. Hydrotesting was completed using raw water sources with no chemical additives. Results showed final parameters were within Project criteria.

At the HGCP site, hydrotesting was conducted on piping systems of equipment such as generators and compressors.

Hydrotesting also continued on pipelines, with more than 245 kilometres of the 293-kilometre main onshore pipeline tested. Testing of the condensate pipeline was completed during the quarter, with the last 59 kilometres tested of the total 109 kilometres. Testing of the Hides Spine progressed, with 20 percent completed by the end of the quarter.



Collecting samples of hydrotest water at a discharge point

11.2 Raw materials

Wherever possible, the Project prefers to use existing (either operating or previously abandoned) third party quarries to source materials for construction, rather than opening new quarries. Project-approved local suppliers source timber materials and other reputable external timber sources are used when required.

An Onshore Pipeline subcontractor undertaking works in Angore completed an internal environmental review of their raw materials management procedure to check works were being undertaken in accordance with the planned procedure. The review found that all material for Angore works was sourced from approved cuts along the Hides Spine ROW and Angore Wellpads.

All material for the Project was sourced from pre-existing quarries, with no new quarries opened this quarter. The volume of quarry material extracted this quarter is presented in Table 11.1.

Table 11.1 – Quarries in use and extracted volumes during the fourth quarter

Area/quarry name	Volumes extracted (cubic metres)
LNG Plant site	60,737
Onshore Pipeline	83,094

Project-approved sources provided less than 100 cubic metres of timber during this quarter. For example, at the Homo Benaria Ridge, raw timber was sourced from material cleared on the ROW and milled by Lanco groups for use by the Project.

11.3 Erosion and sediment control

The Project is increasingly replacing temporary erosion and sediment control measures with permanent measures as part of reinstatement works, as discussed in *Section 10.5 Reinstatement*. However, monitoring and maintenance of temporary structures remains a priority, particularly in the wet season.

As part of ongoing maintenance and reinstatement works at the HGCP site this quarter, the erosion and sediment control crew cleared drains, removed silt and mud, and planted trees and grasses.

Along the onshore pipeline, environmental specialists and teams skilled in field erosion control and engineering conducted joint walk-through inspections to assess the adequacy of erosion control measures and to design modifications to permanent control measures where required.

Drainage upgrades, from temporary construction structures to permanent installations, continued at the LNG Plant site during this quarter. Temporary drainage is repaired or altered to improve catchment flows and minimize the use of sumps, which require ongoing vector control. The temporary structures, such as simple earthen drains or lined ditch drains, are replaced with permanent structures such as concrete drains and graded earthen slopes covered with stored topsoil and local grass seeds. These slopes channel rainwater to the lowest point, where rocks are placed to trap sediments, while the water flows into the concrete drainage system.



Reinstatement and permanent drainage works at the LNG Plant site

11.4 Acid sulfate soils

No monitoring of acid sulfate soils was required during this quarter.

Protection of cultural heritage continues to be a priority for the remaining Project worksites. This is reinforced through awareness raising activities. For example, the LNG Plant and Marine Facilities contractor continues to include cultural heritage chance finds procedures in training provided to workers before the start of work on-site. The Onshore Pipeline contractor also covers these procedures in daily toolbox talks and other training activities.

12.1 Pre-construction surveys

The Project undertakes pre-construction surveys before construction activities commence to identify potential cultural heritage sites that may require preservation, or mitigation measures developed in partnership with local landowners. With construction activities winding down, no cultural heritage sites were identified in the limited number of surveys conducted this quarter.

12.2 Salvage excavations

There were no salvage excavations conducted this quarter.

12.3 Incidents of disturbance to known cultural heritage sites

No incidents of Project-related disturbance to known cultural heritage sites were recorded during this quarter.

12.4 Chance finds

The Project conducts inspections to identify the presence of chance finds before ground disturbance activities commence.

Two chance finds were discovered during onshore pipeline construction activities at Angore this quarter, as shown in Table 12.1.

Table 12.1 – Chance finds during the fourth quarter

Location of find	Type of find
Onshore Pipeline	Stone artifact, mortar 'Ni-tangi'.
	Huli ditch ('Gana').

The first, found on the Angore Wellpad Access Road extension, was a stone mortar with a painted lip. The Huli refer to these mortars as 'Ni tangi' (which means hat of the sun). They were kept at sacred places, known as 'liruanda', away from community life. The bowls were used in rituals, such as ceremonies for supernatural deities, and often decorated with red clay and oil.

The second artifact was found at an Angore spoil storage area. It consisted of three sections of a Huli ditch or 'Gana', which was used to protect a former food garden from animals.

There was no evidence of other significant features present, so the site was considered to be of low archaeological significance. However, ground disturbance activities continue to be closely monitored for potential chance finds in this area.



Stone mortar 'Ni tangi' found on the Angore Wellpad Access Road extension



The three sections of the Huli ditch ('Gana') at the Angore spoil storage area

As the Project moves toward production, proactive engagements with Papua New Guineans and communities continue to keep stakeholders informed of Project activities.

13.1 Government

The Project is maintaining targeted engagement activities across all levels of government.

13.1.1 People processes

The Papua New Guinean Government is maintaining timely processing of work permits and visas for non-national Project workers. The Immigration and Citizenship Services Authority also continues to rapidly process Restricted Employment Facility visas in recognition of the current need for workers with specialized technical skills that are unable to be found in-country. Restricted Employment Facility visas permit these people to work in Papua New Guinea for up to 30 days.

13.1.2 Materials and tax

Ongoing Papua New Guinea Customs Service audits are finding that the Project is complying with the country's import duty requirements. These audits are conducted without causing delay to the clearance of Project cargo into Papua New Guinea.

13.1.3 Infrastructure and Government support

The Project continues to assist Papua New Guinea's Department of Works with emergency repairs to the Highlands Highway. During this quarter, Project engineering and supervisory support was provided to help repair severe damage caused to the Highway in the Eastern Highlands Province following extensive rain in the area. As a result of the combined support of the Papua New Guinean Government and the Project, in 2013 the Highlands Highway was open for traffic 95 percent of the year, compared to an historical average of around 70 percent.

The Project is also supporting the Department of Works with engineering design and construction supervision of the new Benaria Station access road in the Hela Province, which is in close proximity to the onshore pipeline.

13.1.4 Advocacy

More than 100 dignitaries attended eight advocacy workshops held at the LNG Plant site during the quarter.

The advocacy program is proving valuable in enabling the Project to keep government departments and agencies, foreign missions, the media and international donor agencies informed about the progress of commissioning activities. In 2013, almost 1,100 government, media and stakeholder representatives attended workshops and visited the LNG Plant site as part of the program.



Visiting International Labour Organization Assistant Director-General, Yoshiteru Uramoto accompanied by the Papua New Guinean State Solicitor and officials from the Department of Labour during a visit to the LNG Plant site

13.1.5 Benefits assurance delivery

Papua New Guinean Department of Petroleum and Energy officials continue to address Government-related issues with landowners in the Project area. This is proving successful with minimizing potential work stoppages caused by landowner disputes over outstanding Government commitments.

The Papua New Guinean Government has passed the National Budget provisions for outstanding Government commitments to be implemented in 2014. The funding includes provision for various commitments relating to Infrastructure Development Grants, High Impact Infrastructure Projects, Incorporated Land Groups (clan vetting project) and others as stipulated in the Umbrella Benefit Sharing Agreement and the various License Benefits Sharing Agreements.

During this quarter, the Project provided administrative and logistical support to the Department of Petroleum and Energy who deployed various teams covering the entire Project footprint conducting clan vetting as a pre-requisite for Ministerial Determinations recognizing Project beneficiaries entitled to receive legislated cash benefits (royalty and equity dividends). Scheduled fieldwork for the clan vetting activities have now been completed and reports are being written to support Ministerial Determinations on beneficiary clans.

13.2 Communities

The Project continues to keep communities engaged and informed of its activities as work begins to transition from construction to production.

13.2.1 Engagement activities

More than 7,700 people participated in over 180 formal engagements conducted in 36 communities this quarter. An additional 114 informal engagements were conducted, reaching over 1,700 people across 20 communities. Throughout 2013, 790 formal community engagements were conducted, with more than 38,000 individuals in 84 communities, while some 900 informal engagements were held in over 60 communities, with almost 20,000 attendees.

Safety was the emphasis of engagement activities this quarter, with topics covering: safety during commissioning activities; safety in the holiday season; traffic and pedestrian safety; and shipping operations awareness.

In preparation for commissioning of the pipeline to the HGCP, engagement activities in Hides, Komo and along the pipeline ROW concentrated on providing information about pipeline purging and early gas arrivals.



Commissioning and pipeline safety awareness session at Koare

In Hides, clan chiefs participated in a Project workshop at the HGCP site during this quarter. The workshop provided a forum to discuss emergency preparedness and communicate restricted activities within the pipeline ROW, particularly when gas enters the pipeline.



Clan chiefs from the Hides region attending a workshop at the HGCP



Project representatives with clan chiefs from the Hides region during a HGCP site tour

In preparation for the first LNG shipment, a series of community engagements began this quarter to educate communities about the presence of vessels in the shipping channel and safety during shipping operations. Drama was also used to further highlight these messages.



Porebada Primary School students during a shipping operations awareness session



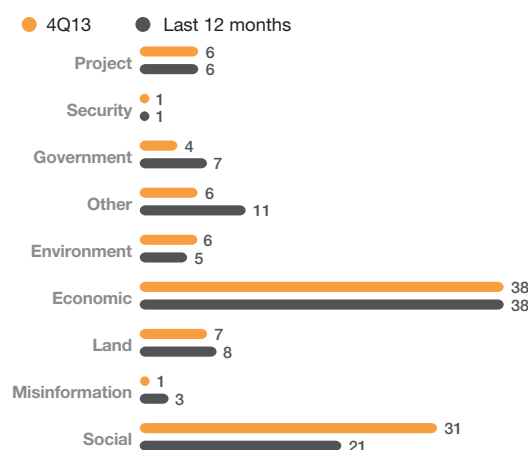
A shipping operations awareness session with Redscar High School

Issues identification

Economic concerns represent 38 percent of issues registered during the quarter, and remained the most common issue category for 2013, as shown in Figure 13.1. Economic issues raised related primarily to demobilization activities and communities seeking additional community development support.

Figure 13.1

Percentage of issues received by issue category



Social issues accounted for 31 percent of total issues registered for the quarter, and 21 percent of issues registered for 2013. During this quarter, the number of social issues rose from 18 percent in the third quarter 2013 due to increased levels of community safety engagements in preparation for commissioning activities and the first LNG shipment. Many social issues raised were requests for engagement activities, requests for information about community health and safety, and worker queries about workers compensation arrangements.

13.2.2 Media

During this quarter, Project Executive Decie Autin presented an update on the Project's progress at the Papua New Guinean Mining and Petroleum Conference in Port Moresby. LNG Plant Senior Project Manager, Yow-Yeen Lee, also delivered a presentation about the energy outlook for the coming decades.

To close-out the year's media workshops, the Project hosted a Christmas function for journalists where highlights from 2013 and plans for 2014 were presented.

Peter Graham, Managing Director of ExxonMobil PNG Limited, spoke about the Project's programs to empower women in Papua New Guinea and also discussed Project highlights in his final monthly newspaper column for 2013. Peter Graham's column is published in Tok Pisin in the *Wantok Nius* and in English in the *Post Courier* and *The National*.



Peter Graham, Managing Director; Decie Autin, Project Executive; and Ken Freeman, Public and Government Affairs Manager from ExxonMobil PNG Limited in front of the Project's booth at the Mining and Petroleum Conference

The latest edition of the *PNG LNG Toktok*, a four-page supplement inserted into local newspapers and distributed to stakeholders, provided educational material for readers about the gas producing process in Papua New Guinea.

The fifteenth PNG LNG Quarterly Environmental and Social Report, covering the third quarter 2013, was published on the Project's website. Hard copy versions of the Report were made available to Project stakeholders.



Read the Quarterly Environmental and Social Report series at www.pnglng.com

The Report's Executive Summary was published in the *Post Courier*, *The National*, and the *Sunday Chronicle* in English, as well as in Tok Pisin in the *Wantok Nius*.

AIDS	Acquired Immune Deficiency Syndrome
EITI	Extractive Industries Transparency Initiative
ESMP	Environmental and Social Management Plan
GMS	Gas Management System
GWIM	Global Women in Management
HGCP	Hides Gas Conditioning Plant
HIV	Human Immunodeficiency Virus
IESC	Lender Group's Independent Environmental and Social Consultant
iHDSS	Integrated Health and Demographic Surveillance System
IMR	Papua New Guinea Institute of Medical Research
Lanco(s)	Landowner Company (Companies)
LNG	Liquefied Natural Gas
PNG	Papua New Guinea
PSI	Population Services International
ROW	Right of Way
WASH	Water, Sanitation and Hygiene
WMA	Wildlife Management Area

APPENDIX 1 – PROJECT CONTRACTORS AND WORK SCOPES

Table A1.1 – Summary of contractors and work scopes

Contract	Description of work scope
Upstream Infrastructure Clough and Curtain Brothers Joint Venture	<ul style="list-style-type: none"> Infrastructure upgrades supporting main construction activities in the Gulf Province and Southern Highlands Province. Camps for ExxonMobil PNG and to support construction activities. Construction of a landfill site at Hides. Bulk earthworks for the HGCP and Hides Wellpads.
LNG Plant Early Works Curtain Brothers Papua New Guinea Limited	<ul style="list-style-type: none"> Upgrade of existing road from Motukea Island to LNG Plant site. New Bypass Road (re-routing of existing public road, which transects with the LNG Plant site).
Telecommunications TransTel Engineering	<ul style="list-style-type: none"> Installation of a telecommunications system to support construction and production.
Offshore Pipeline Saipem	<ul style="list-style-type: none"> Construction and installation of the offshore pipeline from Omati River landfall to LNG Plant landfall site. Pipeline tie-in at Omati River landfall and shore crossing at the LNG Plant landfall site. Installation of near-shore Fiber Optic Cable in the Omati area.
Offshore Fiber Optic Cable Alcatel-Lucent Submarine Networks	<ul style="list-style-type: none"> Installation of the offshore Fiber Optic Cable from the Omati delta to the LNG Plant landfall.
LNG Plant and Marine Facilities Chiyoda and JGC Joint Venture	<ul style="list-style-type: none"> LNG facility engineering and construction, including LNG process trains, condensate storage tanks, LNG storage tanks, utilities, permanent accommodations, heliport, and telecommunications. Marine facilities including the jetty and LNG/condensate export berths.
Hides Gas Conditioning Plant and Hides Wellpads CBI and Clough Joint Venture	<ul style="list-style-type: none"> Engineering and construction of the HGCP processing facilities and associated wellpads, including permanent accommodation and maintenance facilities.
Onshore Pipeline SpieCapag	<ul style="list-style-type: none"> Installation of the onshore gas and condensate pipelines, and associated valve and metering stations. Installation of the pipelines for the Hides gathering system including flowlines, spinline, utility lines, and associated power and telecommunications cables.
Komo Airfield McConnell Dowell and Consolidated Contractor Group Joint Venture	<ul style="list-style-type: none"> Airfield and supporting infrastructure.
Associated Gas Development Various	<ul style="list-style-type: none"> Upgrades and modifications to Kutubu Central Processing Facility and Gobe Production Facility including gas dehydration, metering, and condensate handling.
Nabors Drilling International Limited	<ul style="list-style-type: none"> Drill and complete 11 new wells.
Permanent Facilities Compound Leighton (PNG) Limited	<ul style="list-style-type: none"> Construction of offices and associated service facilities.

ExxonMobil PNG Limited acknowledges the aforementioned contractors for their respective contributions in developing this sixteenth PNG LNG Quarterly Environmental and Social Report.



PNG LNG

www.pnglng.com

Port Moresby - Project Headquarters
ExxonMobil PNG Limited
Lawes Road, Munidubu Street
GPO Box 118
Konedobu, Port Moresby
Papua New Guinea

Email: pnglngproject@exxonmobil.com

ExxonMobil

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