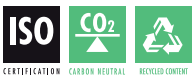
PNG LNG Quarterly Environmental and Social Report

Second Quarter

2014

PNG LNG

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



Printed on 100% post-consumer recycled paper.

Prepared by IDP Consulting Pty Ltd.

While this Report uses US English; document titles, institutions and legislation use exact titles, which may include variations of English, depending on the country of origin. Units of measure published in this Report are metric units, unless otherwise stated.

Data adjustments may be reported after publication and as such, data may be revised in future Reports.

For the purposes of this Report, the currency conversion rate used, between Papua New Guinea Kina (Kina) and United States Dollars (US$) is 0.4120 [1 Kina = US$0.4120]. This rate is as published by the Bank of Papua New Guinea at June 30, 2014.

PNG LNG

About This Report

Construction phase safety, construction, health, environment and social management activities for the Papua New Guinea Liquefied Natural Gas Project are reported in this final PNG LNG Quarterly Environmental and Social Report – Second Quarter 2014.

This Report has demonstrated the progress made each quarter during the construction phase and is a commitment by the Project to ensure the Government and 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

ES EXECUTIVE SUMMARY

FIRST LNG CARGO

"The first cargo of LNG is a proud and historic moment for Papua New Guinea. This resource-rich nation, with its talented and dedicated people, is uniquely placed to deliver natural gas to meet the growing demands of Asia Pacific markets for many years to come."

- Peter Graham, Managing Director, ExxonMobil PNG Limited

At 11:00am local time on May 25, the first cargo of LNG produced at the completed ExxonMobil PNG Limited facilities departed Caution Bay on the *Spirit of Hela* for delivery to The Tokyo Electric Power Company Inc. in Japan. The first delivery arrived on June 2.

The departure of the first cargo was an historic moment for Papua New Guinea and for the tens of thousands of people who contributed to the development of the US$18.8 billion Papua New Guinea Liquefied Natural Gas (PNG LNG) Project (the Project).

Over its estimated 30 years of operation, the Project is expected to produce 250 billion cubic metres of gas for customers throughout the Asia Pacific region.

This is the eighteenth and final PNG LNG Quarterly Environmental and Social Report and provides updates on the Project's construction phase for the second quarter 2014. During the production phase, reporting will continue on a bi-annual basis until mid-2015 and then move to annual reporting.

Construction and operation of the Project is managed by ExxonMobil PNG Limited, a subsidiary of Exxon Mobil Corporation. The Project was developed with co-venture partners: 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.

The Spirit of Hela completed ExxonMobil PNG Limited's first LNG cargo delivery on June 2

Workforce development

The Project is providing ongoing demobilization support to the construction workforce while, at the same time, delivering training and transition support to the incoming Production team.

Project workforce numbers declined this quarter as construction contractors continued to demobilize. By the end of the quarter, the total workforce was just over 2,250 compared to almost 7,800 in the previous quarter. Papua New Guineans comprise 58 percent of the current workforce, compared to 44 percent recorded in the first quarter 2014.

55,000 WORKERS

helped build the PNG LNG Project

Since the start of construction, the Project has employed over 55,000 workers, which peaked at 21,220 in 2012.

"I am proud that this is my Project. I am Papua New Guinean, and I feel very proud to be part of this team."
- Jenny Pisimi, Drilling Engineer, ExxonMobil PNG Limited

To date, the Project has also delivered more than 2.17 million hours of worker training in approximately 13,000 training programs. As part of the Project's commitment to training, two purpose-built facilities were established to meet the training needs of construction workers. These facilities are the Juni Construction Training Facility in the Upstream area, and the Port Moresby Construction Training Facility.

In May, the Juni Construction Training Facility was officially transferred to the Hela Provincial Government to provide ongoing vocational training opportunities for Papua New Guinean citizens. During construction, this Facility was used to train Project workers in areas such as carpentry, civil construction and concreting.

The Port Moresby Construction Training Facility, which provided internationally accredited training in construction-related trades, will be handed to the Papua New Guinean Government in July 2014.

Construction

On April 23, the Project started LNG production ahead of schedule. With the start of production, the Project's construction phase has ended. During this quarter, all completed facilities were handed to the Production organization.

Construction highlights are outlined in Table 1.

Table 1 – Contracts and construction highlights

Contract	Contractor	Major activities during the second quarter 2014
LNG Plant and Marine Facilities (EPC3)	Chiyoda and JGC Joint Venture	First LNG production and shipment to Japan.
Hides Gas Conditioning Plant and Hides Wellpads (EPC4)	CBI and Clough Joint Venture	Completed final construction works and transferred all permanent facilities to the Production organization.
Onshore Pipeline (EPC5A)	SpieCapag	Remaining minor works completed.
Associated Gas Development	Various	Construction completed at the Gobe Production Facility and Kutubu Central Processing Facility.
Drilling	Nabors Drilling International Limited	Six production wells at Hides completed.
Permanent Facilities Compound	Leighton (PNG) Limited	Administration building and support services building structure near completion.

Safety, health and security

The impressive Project safety record continues, with 47 million hours worked without a Lost Time Incident since July 2013.

~200 MILLION HOURS

of work expended on the Project's construction

Teams across all Project sites are concentrating on the safe completion of their scopes of work and demobilization activities. During this process, the Project continues to focus on best practice safety performance.

In April, 59 health professionals from Papua New Guinean and international organizations, along with ExxonMobil PNG Limited representatives, participated in a one-day National Department of Health workshop to review health initiatives in Papua New Guinea.

During the workshop, attendees discussed results from the Integrated Health and Demographic Surveillance System, along with the Papua New Guinea Institute of Medical Research's tuberculosis study and maternal and child health study. Government representatives determined that this research would be used to help drive actions in health policy in Papua New Guinea. Workshop attendees agreed that ongoing health education was needed in schools, churches and the media on topics such as tuberculosis and sexual health awareness.

In recognition of World Malaria Day on April 25, the Project held a series of presentations and distributed mosquito bed nets to raise worker awareness about the prevention of vector-borne illnesses. Since 2011, 4,300 bed nets have been distributed to Project workers.

As part of the Project's partnership with Texas Children's Hospital, two Baylor College of Medicine doctors provided training on pediatric care to 25 Tari Hospital health care workers this quarter. More than 45 medical students at the University of Papua New Guinea School of Medicine and Health Sciences also received practical clinical instruction in general pediatrics, critical care, malnutrition, tuberculosis, Human Immunodeficiency Virus and inpatient and outpatient pediatrics.

Operations and Maintenance trainees Esther Kila and Isabella Mogia at the LNG Plant site ready for working at heights activities

The two-year Texas Children's Hospital program, conducted in collaboration with its partner the Baylor College of Medicine, is the result of US$3.1 million (7.5 million Kina) Project funding. This program aims to improve maternal health and reduce child mortality rates in Papua New Guinea.

A Baylor College of Medicine pediatrician continues to support the Port Moresby General Hospital, with more than 100 pediatric patient visits each week as part of this commitment.

Since the start of construction, the Project has supported non-government organizations, such as Population Services International (PSI), in their delivery of health programs in Project communities. During this quarter, PSI completed health education with communities in the Hiri and Hides areas as part of the Enhanced Community Health Program. This was the final scope of work for the Project-supported Program, which included initiatives such as the Water, Sanitation and Hygiene (WASH) Program, the Marital Relationships Training course and the Sexually Transmitted Infection prevention initiative *`Seif Draiva'* (Safe Driver). The partnership between the Project and PSI has delivered wide-ranging health benefits for communities within the Project area, with flow-on effects for the general Papua New Guinean population.

Environmental performance

To commemorate World Environment Day on June 5, a Piku turtle (Pig-Nosed Turtle *Carettochelys insculpta*) display was opened at the Port Moresby Nature Park. The Project continues to support the Park, with 670,000 Kina (US$276,040) donated to date for education and biodiversity programs.

The Project has also been working with Kikori communities and marine conservation experts since 2012 to protect the Pig-Nosed Turtle. Project funding contributes to ongoing research and conservation of the turtle, in particular the appointment of Papua New Guinean research Masters student, Yolarnie Amepou, who will lead the research on a full-time basis.

The Project is progressing implementation of its Biodiversity Strategy. During this quarter, construction began on a resource center for the use of the Lake Kutubu Wildlife Management Area Committee and local communities. The Committee previously identified a need for the resource center to support its operations in protecting the Lake Kutubu Wildlife Management Area.

Lake Kutubu Wildlife Management Area Committee members following signing of the resource center agreement

A post-construction survey was undertaken in Caution Bay to assess the Project's impact on water quality and ecology, and measure the effectiveness of mitigation initiatives in the area. Based on a preliminary assessment of the 2014 results, the nature of the reef and marine ecology is consistent with findings of the Project Environmental Impact Statement and pre-construction surveys, which means Project construction has caused minimal impact to the area.

A weed identification training package for Upstream area workers was provided to drivers this quarter. The training aims to raise worker awareness of the Project's Weed Management Strategy and help train field officers in the monitoring of Priority 1 weeds. The Project's fifth weed audit was completed in May and included an assessment of weeds at the Permanent Facilities Compound in Port Moresby. The audit showed that the overall abundance and diversity of weeds across the Project area remained stable. All weeds found in the Project area were known to occur in Papua New Guinea prior to construction.

The Project's fifth reinstatement audit was also completed, with 76 sites assessed across a range of environments. The audit found that Project reinstatement works were completed to a high standard, with few sites requiring any form of remediation, and that reinstatement practices are delivering expected results.

The Hides Waste Management Facility incinerator reached steady state operating conditions during this quarter, with stack emissions testing completed. The high temperature incinerator is working to design specifications and has been transferred to the Production organization.

Monitoring of reinstatement structures along the Right of Way continues

Growing Papua New Guinean businesses

Throughout construction, the Enterprise Centre and the Project's Business Development team have enabled businesses to capitalize on opportunities both within and outside of the Project.

Landowner companies (Lancos) have provided the Project with services such as labor supply, light vehicle maintenance, heavy equipment rental, hire services and spare parts supply. To date, the Project's total Lanco spend has grown to more than 2.72 billion Kina (US$1.12 billion).

Non-Lanco Papua New Guinean businesses have also provided services to the Project in the form of training services, equipment hire and camp rental services. By the start of production, the Project had spent nearly 11 billion Kina (US$4.53 billion) on combined Lanco and non-Lanco services.

~11 BILLION KINA

spent in Papua New Guinea to date

The Enterprise Centre has assisted more than 17,000 Papua New Guinean entrepreneurs since it was established in April 2010. The Centre is a joint venture between ExxonMobil PNG Limited and the Papua New Guinea Institute of Banking and Business Management. By the start of production it had also delivered the equivalent of more than 10,000 training days and completed 322 business assessments for Papua New Guinean businesses.

Social development

Since 2010, the Project has supported communities through more than 240 completed community development support projects and another 21 that are still in progress. In this quarter alone, classroom infrastructure upgrades were completed at: Juni Primary School in Hides; Bisi, Veiru and Veraibari schools in the Kikori region; and LNG Plant site village primary schools in Boera, Papa, Lea Lea and Porebada.

As part of its commitment to schools, the Project distributed 2,400 portable solar lights to students from Redscar High School, and Boera, Papa, Lea Lea and Porebada Primary Schools in the LNG Plant site villages. This is in addition to 2,500 solar lights provided to elementary school students and teachers from ten schools in the Upstream area in the first quarter 2014. The lights enable students who live in areas without access to electricity to read and complete their homework in the evenings.

Redscar High School students receive their solar lights

In addition to donations made during this quarter, the Project has provided more than 1,400 desks to schools throughout the Upstream area and 60,000 books and activity packs from the Toea children's book series to more than 100 schools in the Project area. The Toea series is based on the adventures of fictional character Toea as he travels through different areas of Papua New Guinea. The series has helped deliver important safety, health and cultural messages to school-aged children while encouraging literacy.

Another Project-led literacy initiative resulted in the official launch of a book written by Papua New Guinean primary school children this quarter. The book, titled *Kastom Stori Sene Gori* (traditional stories), is a collection of handwritten stories and illustrations by students that reflect traditional stories from local villages. It was launched at the Buk Bilong Pikinini children's library in June and is being distributed to schools throughout the Project area.

At the end of this quarter, the Project hosted an event in Kikori to signify the closing of the Barging Route Waterways Memorandum of Understanding between ExxonMobil PNG Limited and eight tribes from villages along the Kikori River.

The Project donated eight 7-metre banana boats with motors and fishing equipment to representatives from each of the eight tribes. The boats will be used for fishing and transportation activities.

Launch of the Kastom Stori Sene Gori book in Moro

Since the start of construction, the Project has conducted quarterly fish catch landing surveys with communities surrounding Caution Bay and the Omati River to determine the impact of construction activities on fishing in these areas. The results of these surveys indicate that Project construction has not significantly impacted fishing in these communities.

Stakeholder and community engagement

A total 245 formal engagements and 290 informal engagements were conducted with over 14,200 individuals from 101 communities in the Project area this quarter. To date, the Project has completed over 4,500 community engagements involving more than 165,000 participants.

165,000+ ATTENDEES

in community engagements to date

Players from Papua New Guinea's premiere rugby league team, the Kumuls, helped the Project deliver messages to schools about the importance of navigation aids and safety at sea. More than 1,300 students and teachers from five primary and high schools in the LNG Plant site villages participated in navigation and safety at sea awareness sessions. Another 600 residents from LNG Plant site villages, as well as members of women's groups, fishing groups and other community organizations, were informed about the Project's LNG shipping operations.

The Project also conducted 12 advocacy workshops to usher in production this quarter. Since early 2010, the Project has held over 360 advocacy workshops and hosted visits to the Hides Gas Conditioning Plant and LNG Plant for some 6,000 dignitaries from various government departments, representative stakeholder organizations, schools and community groups.

"There are so many things to be proud of with this Project. The key to its success is the fact that everyone has come together as one team, with one clear goal and a shared commitment to achieving a positive result for the Project and for Papua New Guinea."
- Decie Autin, Project Executive, ExxonMobil PNG Limited

The Project's construction phase has been an extraordinary journey of highs and lows, challenges and triumphs. More importantly, for many, it was an unforgettable experience in which new work skills were developed and lifelong friendships forged. The start of production now begins a new era for the Project and its people.

01 INTRODUCTION

The PNG LNG Project has started production, with the first LNG shipment leaving Papua New Guinea this quarter and delivered to Japan.

This is the eighteenth and final PNG LNG Quarterly Environmental and Social Report that provides progress updates for the Project's construction phase. With the Project in production, reporting will continue on a bi-annual basis until mid-2015 and then move to annual reporting in accordance with commitments made in the Production Environmental and Social Management Plan (ESMP).

The US$18.8 billion Project is an integrated development that includes gas production and processing facilities in the Southern Highlands, Hela, Western, Gulf and Central provinces of Papua New Guinea. More than 800 kilometres of pipeline connect the facilities, which include a gas conditioning plant in Hides, and liquefaction and storage facilities near Port Moresby. These facilities have the capacity to produce 6.9 million tonnes of LNG per year.

Some 250 billion cubic metres of gas are planned to be produced and sold during the life of the Project. This will provide a long-term supply of LNG to Asia Pacific region customers, including: the China Petroleum and Chemical Corporation (Sinopec); The Tokyo Electric Power Company Inc.; Osaka Gas Company Limited; and CPC Corporation, Taiwan. The location and elements of the Project are shown in Figure 1.1. *Appendix 1* details how the contracts for the construction phase were divided.

Previous PNG LNG Quarterly Environmental and Social Reports are available on the Project's website. Printed copies and translated summaries of the reports are also provided for Papua New Guinean citizens who may have limited access to the internet.

READ THE REPORT SERIES AT
www.pnglng.com

The Spirit of Hela being loaded with the first LNG cargo

FIGURE 1.1

PROJECT ELEMENTS

02 CONSTRUCTION OVERVIEW

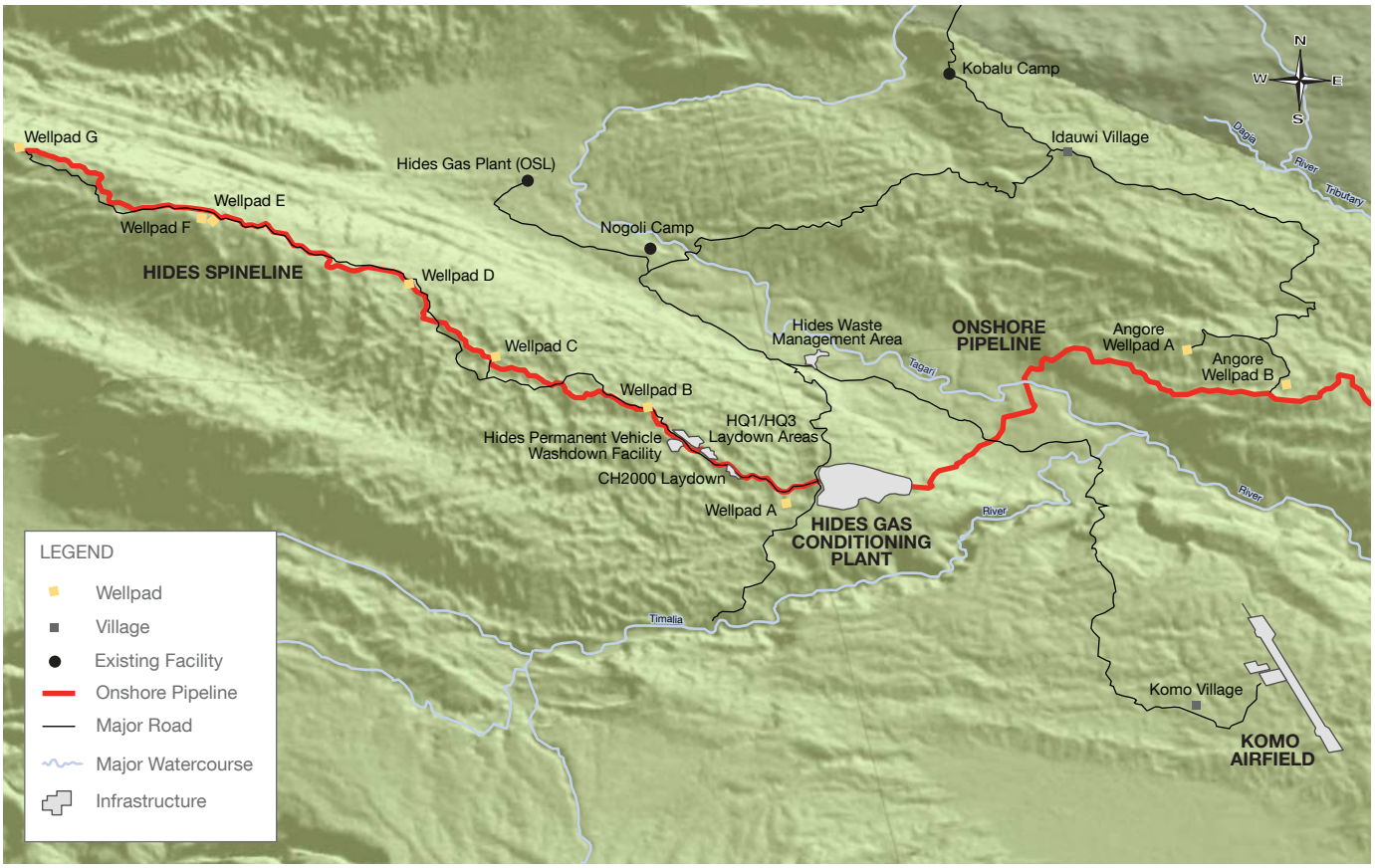
The Project's construction phase ended this quarter, with all completed facilities handed to the Production organization by June 30.

A summary of the Project's development is presented in *Appendix 2*.

2.1 Highlands area

FIGURE 2.1

HIGHLANDS AREA PROJECT ACTIVITIES



2.1.1 Hides Gas Conditioning Plant and Hides Wellpads

The Hides Gas Conditioning Plant and Hides Wellpads contractor completed final construction works early this quarter, following successful start-up activities in March 2014. Permanent Hides Gas Conditioning Plant (HGCP) site facilities have been transferred to the Production organization.

With the exception of some minor equipment at Wellpad G and the produced water disposal wellpad, construction of wellpad surface facilities was completed and handed-over to the Production organization.

The Hides Gas Conditioning Plant and Hides Wellpads contractor continued demobilization activities, with only 750 construction workers remaining on-site at the end of the quarter.

The completed HGCP

Drilling Rig 703 at Wellpad G

2.1.2 Komo Airfield

The Komo Airfield was completed, and accepted the landing of the first Antonov cargo of heavy equipment, in May 2013. The Airfield continues to be used for Project passenger and cargo flights into the Upstream area.

To date, more than 4,800 aircraft movements have been completed at the Airfield. Of these, over 3,200 were fixed-wing aircraft movements and 1,600 were helicopter take-offs and landings.

2.1.3 Drilling

By the end of this quarter, six of the production wells at Hides were completed. Drilling Rig 702 continues drilling at the produced water disposal wellpad, and Drilling Rig 703 continues drilling on Wellpad G.

2.2 Onshore Pipeline

Following completion of pipeline construction and reinstatement of the main onshore pipeline Right of Way (ROW) in the first quarter 2014, all remaining minor works were completed this quarter and the contractor continues demobilization from the Project.

2.3 LNG Plant and Marine Facilities

The first LNG production commenced from Train 1 in early May and from Train 2 by the end of May.

On May 25, the first LNG shipment departed on the *Spirit of Hela*. The shipment arrived in Japan on June 2.

Train 1 lit-up at night

The completed Train 1 at the LNG Plant

Up close:

Hela Province honored in the *Spirit of Hela*

On its maiden journey, the *Spirit of Hela* made history this quarter as the first ship to transport LNG cargo from the newly completed ExxonMobil PNG Limited production facilities.

The *Spirit of Hela* was officially named on April 28 in Singapore in honor of the Hela Province, which is home to the well that produced gas for the first LNG cargo. The ship made its first journey from the LNG Plant Marine Terminal on May 25 to deliver the first LNG cargo to Japan.

The LNG carrier is almost 300 metres long, the equivalent of 12 storeys high and has the capacity to carry 174,500 cubic metres of LNG, which can supply up to a year's worth of electricity for 75,000 homes. It has a double-hulled design that provides significant protection to the LNG cargo. The ship also has gas detectors and safety alarms fitted around cargo tanks to continuously monitor for cargo leaks.

The *Spirit of Hela* is one of six specially designed ships that will be used to transport the LNG, with a ship leaving every four to six days with deliveries for Asia Pacific customers. More than 90 cargoes are planned to depart from the LNG Plant Marine Terminal each year.

Naming of the Spirit of Hela in Singapore before she left for Papua New Guinea

2.4 Associated Gas Development

All construction at the Gobe Production Facility and Kutubu Central Processing Facility was completed this quarter.

2.5 Development support execution, logistics and aviation

During this quarter, there were 460 freight movements along the Highlands Highway to transport materials from Lae to Hides. The majority of these were to support drilling activities.

2.6 Permanent Facilities Compound

Construction work continues at the Permanent Facilities Compound, with the administration building and support services building structure nearing completion and the start of interior works. Steel structural works began on the community center building this quarter.

03 SAFETY, SECURITY, HEALTH, ENVIRONMENT AND SOCIAL MANAGEMENT

The Project has a set of environmental, social, safety and health management plans that outline its commitment to protecting the health and safety of workers, local communities and the environment surrounding Project facilities.

3.1 Approach

Throughout the Project's development, the Construction ESMP provided an overview of potential environmental and social impacts associated with construction activities, and outlined mitigation actions and monitoring requirements. The Construction ESMP was supported by discipline-specific plans developed from the Project's Environmental Impact Statement.

This year, the Project adopted the approved Production ESMP, which details ExxonMobil PNG Limited's approach during the production phase.

Potential impacts associated with production were initially identified and evaluated as part of the Environmental Impact Statement for the Project, which was submitted to the Papua New Guinean Department of Environment and Conservation in January 2009. The original impacts and mitigation strategies were reviewed and augmented to take account of Project experience during the construction phase.

The Project used Exxon Mobil Corporation's Operations Integrity Management System requirements, and the International Finance Corporation Performance Standards, as guides to the development of the Production ESMP.

To consolidate the number of social and environmental plans needed for effective implementation, the Production ESMP structure is based on two Environmental Management Plans and seven Social Management Plans, as shown in Figure 3.1. The Environmental Management Plans align geographically to production facilities, while the Social Management Plans cover key social themes.

The Production ESMP, and its supporting management plans, apply to normal operating conditions, start-up, shutdown, and reasonably foreseeable abnormal operating conditions or emergency situations. Achievement of the ESMP objectives will be stewarded through key performance indicators. Compliance with the ESMP will be monitored throughout production.

In collaboration with Project stakeholders, and in accordance with a best practice approach, the Production ESMP will be updated periodically to meet the ongoing operational needs of ExxonMobil PNG Limited and of Papua New Guinea's environment.

The Production and Construction ESMPs are publicly available on the Project website at www.pnglng.com.

EXPLORE THE PLANS AT
www.pnglng.com/commitment

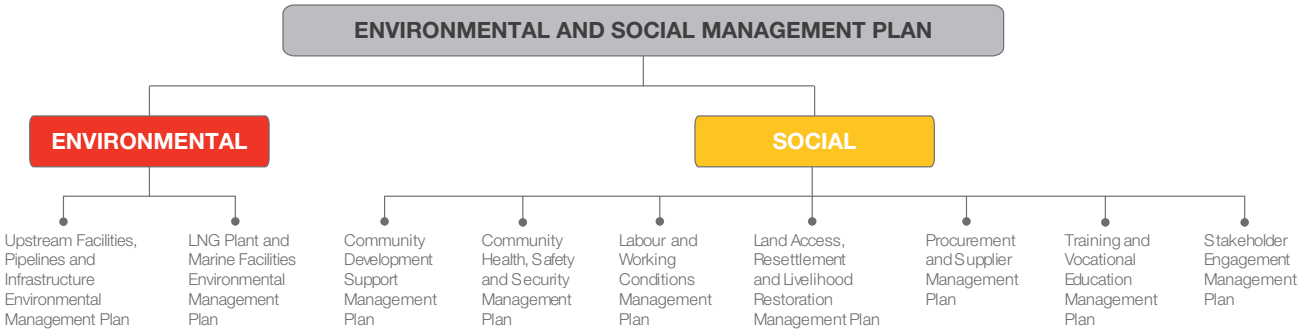
3.2 Security

The Security team worked with the Papua New Guinean Government and ExxonMobil PNG Limited stakeholders to safely complete the first LNG shipment this quarter.

The Project is finalizing the transfer of security management to the Production organization. This involves standardizing operational procedures and developing the competencies of contract security providers so they align with ExxonMobil PNG Limited's safety and security standards. For example, by the end of this quarter, more than 220 contract security workers participated in the internationally accredited Safe Driver Training course. Separately, 400 security workers have completed the Project's Safety Champions initiative.

FIGURE 3.1

PRODUCTION ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN STRUCTURE



3.3 Revenue management

In May, Bank of Papua New Guinea representatives advised that, while completion of the PNG LNG Project was an outstanding achievement, the near-term impact of LNG revenues on the economy should not be over-estimated.

Several speakers at the Australia Papua New Guinea Business Forum held in Cairns, Australia, highlighted that investors still needed to be aware of the business risks and challenges when doing business in Papua New Guinea.

During this quarter the World Bank committed to fund and manage the development of a scoping study to identify challenges and solutions with respect to implementation of the Extractive Industries Transparency Initiative (EITI) in Papua New Guinea. The study is being conducted in collaboration with the Papua New Guinean EITI multi-stakeholder group.

ExxonMobil PNG Limited is among 21 representative organizations that are members of the Papua New Guinean EITI multi-stakeholder group. Other members include: key Papua New Guinean Government agencies; 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; 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.

The EITI is a voluntary initiative, which aims to improve governance in resource-rich countries through disclosure and verification of company payments and government revenues from oil, gas and mining projects. Papua New Guinea was officially accepted as a candidate EITI country by the EITI Secretariat in Oslo, Norway on March 19, 2014. ExxonMobil has served continuously on the EITI board since its inception in 2002.

3.4 Management of Change

The Project's Management of Change procedure is implemented when changes to the Project's scope are required. Prior to any proposed change, the Project's requirements for health, safety, security, environmental and social management, operability and maintenance, regulatory and cost, and scheduling are considered. Changes are classified in accordance with how they need to be managed. For example, Class I changes require Lender Group review prior to implementation, while Class II changes only require Lender Group notification in the PNG LNG Quarterly Environmental and Social Report.

This quarter, one Class II Management of Change was raised regarding the demobilization of temporary construction camps.

As Project construction comes to a close, there are a number of construction camps that require decommissioning and reinstatement. The Project has been approached by stakeholders, including government agencies and Lancos, who have expressed an interest in obtaining construction camp infrastructure. ExxonMobil PNG Limited continues to work with third party organizations with the aim of avoiding and/or mitigating any potential environmental and social impacts from the distribution of camp infrastructure.

A second Class II Management of Change was raised regarding a temporary bridge that was installed across the Benaria River to assist with construction of the onshore pipeline. The bridge was to be removed following the completion of construction, however in response to a request by the Government, the temporary structure will remain until the Government completes a permanent bridge across the river.

04 PROCUREMENT AND SUPPLY

Throughout construction, the Enterprise Centre and the Project's Business Development team have helped businesses take advantage of opportunities both within and outside of the Project. The Project continues to support the development of Papua New Guinean businesses.

4.1 Supplier development

Lancos have provided the Project with services such as labor supply, light vehicle maintenance, heavy equipment rental, hire services and spare parts supply. During the second quarter, almost 83 million Kina (US$34 million) was spent on Lanco services.

At the start of production this quarter, the Project's total Lanco spend had grown to more than 2.72 billion Kina (US$1.12 billion).

Non-Lanco Papua New Guinean businesses have also provided services to the Project in the form of training services, equipment hire and camp rental services.

The Project's total in-country spend with Lancos and these additional services reached nearly 11 billion Kina (US$4.53 billion) by the end of the quarter. Of this, more than 219 million Kina (US$90 million) was spent this quarter alone.

4.2 Enterprise Centre

The Enterprise Centre has assisted more than 17,000 Papua New Guinean entrepreneurs since it was established in April 2010. The Centre, a joint venture between ExxonMobil PNG Limited and the Papua New Guinea Institute of Banking and Business Management, provides training and business assessments to help build the capacity of Lancos and other Papua New Guinean businesses.

During this quarter, 122 entrepreneurs sought assistance through the Centre. To date, the Centre has provided the equivalent of more than 10,000 training days to Papua New Guinean businesses.

4.2.1 Business assessments and training

As Project construction winds down, the Enterprise Centre is doing fewer Project-related business assessments. Four assessments were conducted during the quarter, as shown in Figure 4.1. This brings the total number of business assessments conducted during construction to 322. Of these, 87 assessments were conducted on Lancos, with the remaining assessments conducted on other Papua New Guinean businesses.

Central Provincial Transport Authority employees after completing customer service training with the Enterprise Centre

The equivalent of 305 training days was delivered to businesses this quarter, as shown in Figure 4.2. Since the Enterprise Centre commenced training activities in the fourth quarter 2009, more than 10,000 days of capacity building training have been delivered to Papua New Guinean businesses.

FIGURE 4.1

NUMBER OF ENTERPRISE CENTRE ASSESSMENTS FOR LANCOS AND NON-LANCOS

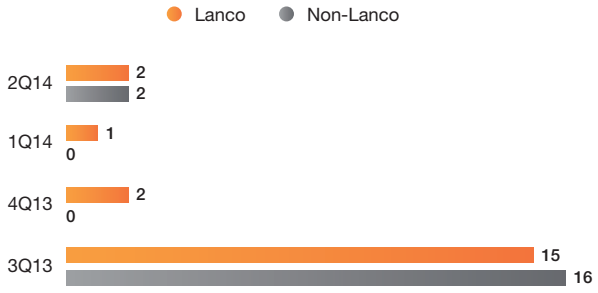
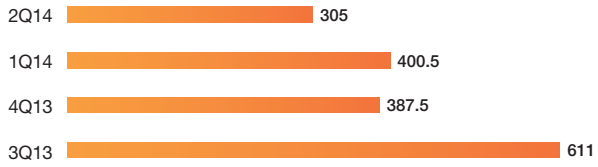


FIGURE 4.2

NUMBER OF CAPACITY BUILDING TRAINING DAYS



4.2.2 PNG Employment and Supplier Database management

The new PNG Employment and Supplier Database, which became operational in the first quarter 2014, is attracting the interest of companies and individuals. So far, 32 job seekers and 11 businesses have registered on the new Database, and 13 job and business opportunities have been posted.

The PNG Employment and Supplier Database replaces the PNG Supplier Database, which was operational throughout most of the construction phase.

From its establishment in April 2010 to its decommissioning in the first quarter 2014, the PNG Supplier Database recorded 39,431 logins, registered 1,549 Lancos and other Papua New Guinean businesses, posted 648 business opportunities, contacted 879 suppliers and awarded 364 contracts.

05 COMMUNITIES

The Project continues to work collaboratively with communities and non-government organizations to deliver infrastructure and health, safety and local business initiatives that will provide long-term community benefits.

5.1 Structure and relations

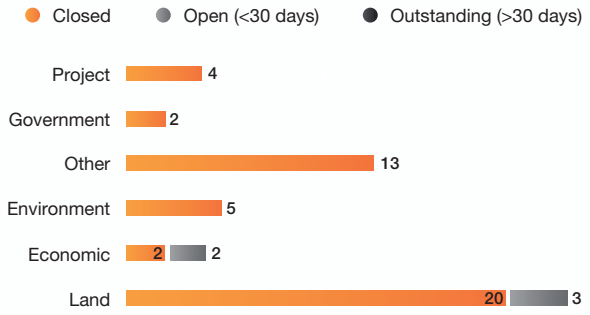
Targeted community impact and engagement management plans are used to manage the Project's interaction with communities. These plans form part of the Construction ESMP.

5.1.1 Community grievance management

The Project registered and categorized 38 grievances during the second quarter, in addition to 13 grievances carried over from the previous quarter. By the end of this quarter, 46 grievances were closed as shown in Figure 5.1, with 67 percent of these closed within the 30-day target timeframe.

FIGURE 5.1

NUMBER OF GRIEVANCES DURING THE SECOND QUARTER BY CLOSURE STATUS



Land-related grievances remain the primary area of concern for communities, at 39 percent of grievances registered during the quarter. Most of these concerns related to compensation claims and assessments. A number of grievances also related to resettlement claims. The Project verified that resettlement claims were completed.

Other grievances, representing almost 32 percent of grievances recorded this quarter, were claims regarding traffic incidents involving domestic animals. As construction activities decrease, the Project is investigating how many of these claims are Project-related.

Environment-related grievances remained at around 10 percent and were mainly in relation to claims about water pollution and Project water use. All four of the grievances received during the quarter were investigated and closed quickly.

Economic concerns accounted for 8 percent of grievances lodged this quarter. Most of these concerned Project employment and business opportunities, along with inquiries about community ventures.

Other Project-related matters accounted for a further 8 percent of the grievances raised during this quarter.

At the end of the quarter, five grievances remained to be carried over for closure in the next quarter. None of these were open for more than 30 days, resulting in no outstanding grievances recorded this quarter.

Felix Uri, Senior Lands Officer, ExxonMobil PNG Limited (right) provides feedback to a grievant in Homa Village

5.1.2 Project Induced In-Migration

The ongoing Project Induced In-Migration Study is informing assessment of the impact construction activities had on the migration of people in and around Project areas.

During this quarter, the Project Induced In-Migration Procedure was refined to include coordinated inputs from Land and Community Affairs field officers, the Public and Government Affairs team, and the Papua New Guinea Institute of Medical Research (IMR) Integrated Health and Demographic Surveillance System (iHDSS). The new Procedure addresses key demographic, economic, infrastructure and health indicators linked to Project Induced In-Migration and provides guidance for the Production team on community engagement.

The iHDSS remains an important source for the collection, assessment and monitoring of Project Induced In-Migration indicators.

5.1.3 Fisheries

Since the start of construction, the Project has conducted quarterly fish catch landing surveys with communities surrounding Caution Bay and the Omati River to determine the impact of construction activities on fishing in these areas. As predicted in the Project's Environmental Impact Statement, the results of these surveys indicate that Project construction has not significantly impacted fishing in these communities.

Quarterly fish catch landing surveys continue in Caution Bay. Preliminary findings show that more than 2,900 kilograms of fish were caught by 336 fishers who participated in surveys this quarter. Quarterly fish catch landing surveys in this area will continue into 2015.

With the start of production, the Project is reducing the frequency of quarterly surveys in the Omati River. Instead, two six-monthly surveys are being undertaken until the end of 2014. The first survey was completed in May. Initial results showed that 570 fish weighing a combined 455 kilograms were caught by 94 fishers who participated in the survey. However, the survey period was impacted by severe winds, rainfall and strong tides.

5.1.4 Social considerations for logistics activities

The Project is engaging with communities in Angore ahead of construction of a camp and mobilization of a drilling rig and associated equipment to support drilling activities at Angore. The drilling rig is scheduled to be transported to Angore in the third quarter 2014. The local community has been engaged to assist with traffic control during the rig move. At the end of this quarter, the Project hosted an event in Kikori to signify the closing of the Barging Route Waterways Memorandum of Understanding between ExxonMobil PNG Limited and eight tribes from villages along the Kikori River. ExxonMobil PNG Limited donated eight 7-metre banana boats with motors and fishing equipment to representatives from each of the eight tribes. The boats will be used for fishing and transportation activities.

Delivery of new banana boats donated by the Project

ExxonMobil PNG Limited representatives donate a banana boat to Kouwo Ara, representative of the Paia tribe from Kikori

5.2 Infrastructure, services and resources

During this quarter, the Project worked with local communities to build a new resource center for the Lake Kutubu Wildlife Management Committee and a new classroom for the Mananda Flexible Learning Centre. A new Juni Community Hall, which was funded by the Project and built by the community, opened in May.

The new Juni Community Hall

In addition to new facilities, the Project provided infrastructure maintenance to the Juni, Para, Mananda and Idauwi health clinics in the Upstream area. The Para Clinic in Hides received a much-needed extension to its outpatient and maternity wards. The Project also provided assistance to Koroba High School with repairing the school's water pump.

Since 2010, the Project has supported communities through more than 240 completed community development support projects and another 21 that are still in progress. These include: the new Lea Lea footbridge; the Komo community market facility; five police houses for Komo Station; numerous community halls; and the Laba Minimart.

In this quarter alone, classroom infrastructure upgrades were completed at: Juni Primary School in Hides; Bisi, Veiru and Veraibari schools in the Kikori region; and LNG Plant site village primary schools in Boera, Papa, Lea Lea and Porebada.

A renovated classroom at Lea Lea Primary School

The Project has also provided community meeting places in the form of *'haus wins'* to remote communities in the Upstream area. *'Haus wins'* provide a sheltered meeting place with a water tank for the provision of fresh rainwater. During construction, the Project supported the construction of more than 20 *'haus wins'* for local communities.

Teine clan community 'haus win' opening in Angore

Idauwi community 'haus win' opening

5.3 Verification, monitoring, assessment and audit

The Project conducted monitoring during construction to ensure its activities complied with commitments made in the Community Engagement, Community Health and Safety, Community Impacts, Community Infrastructure, Camp Management, and Labour and Worker Conditions Social Management Plans. Compliance with these plans was tracked through 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.

With the transition to the Production ESMP and the transfer of facilities to the Production organization, the Project has completed monitoring of its commitments made in the six key social management plans of the Construction ESMP. No Severity Level III or Severity Level II incidents were recorded against these social management plans.

Ongoing monitoring will continue to ensure camp standards and operational management are maintained in accordance with the Production ESMP.

To date, the Project has completed 168 social monitoring events, with almost 40 percent (67 events) of these focused on implementation of the Camp Management Plan. Implementation of the Labour and Worker Conditions Management Plan accounted for 26 monitoring events, while the remaining four social management plans each had 18 to 20 monitoring events.

5.4 Community health

The Project demonstrates its commitment to supporting health programs in the communities in its footprint through the integrated Community Health Impact Mitigation Management Program.

The Program includes health-related initiatives based on the environmental health areas framework developed by the International Petroleum Industry Environmental Conservation Association (IPIECA) and further expanded by the International Finance Corporation. The Program also aligns with ExxonMobil's corporate citizenship objectives.

This Program, and its related health initiatives, form part of the Project's commitment to developing sustainable health services through partnerships with organizations such as the IMR and PSI.

Early in 2011, the Project established an annual independent review of the Program by the Independent Scientific Advisory Board, which consists of globally recognized community and public health experts led by Professor Marcel Tanner, Director of the Swiss Tropical and Public Health Institute. The Board assesses the Program's progress and determines the effectiveness of the Project's health partners in developing and delivering community health initiatives.

In its initial review, the Board determined that the Program was well designed, appropriate and on track. Following this assessment, the Board conducted yearly reviews of the iHDSS component of the Community Health Impact Mitigation Management Program.

In their 2013 review, the Board, and the Lender Group's Independent Environmental and Social Consultant, confirmed the iHDSS had established a new benchmark for monitoring potential health effects related to a large development project, and provided a good platform for the future development of baseline health data in Papua New Guinea.

5.4.1 Integrated Health and Demographic Surveillance System

Since August 2010, the Project has supported the IMR under a private-public partnership agreement known as the 'Partnership in Health' program. This program aims to develop a sustainable, evidence-based public health monitoring and surveillance system in Papua New Guinea. It will benefit the people who live and work near the Project, as well as other parts of Papua New Guinea.

A major component of the 'Partnership in Health' program is the iHDSS, which the IMR implemented in key Project areas in Hiri and Hides, and in two control sites at KarKar Island and Asaro Valley. The iHDSS is used to compare population and household-level data to capture changes in economic and health behaviors, such as improved housing and water sanitation, to understand health-related trends in the population. Health studies were also conducted during the iHDSS on significant illnesses affecting people in the participating communities. The studies captured a review of respiratory illnesses such as tuberculosis and pneumonia, Sexually Transmitted Infections (STIs), vector-borne illnesses and non-communicable diseases including cancer, diabetes and heart disease.

Data provided by the iHDSS is establishing a useful baseline of health indicators for the Papua New Guinean Government, development partners and medical researchers to use in assessing community health needs, health policy outcomes and effectiveness.

During a National Department of Health Workshop in April, the iHDSS was confirmed as a useful source of information for determining the allocation of health resources.

The International Network for the Demographic Evaluation of Population and Their Health (INDEPTH Network) accepted and registered iHDSS survey sites in November 2012. The INDEPTH Network brings together key researchers from across the globe who conduct health and demographic evaluations of populations in low- and middle-income countries. The INDEPTH Network's mission is to strengthen global capacity for health and demographic surveillance systems. Another aim of the INDEPTH Network is to mount multi-site research to guide health priorities and policies in low- and middle-income countries, based on up-to-date scientific evidence.

Fieldwork for the iHDSS has provided employment opportunities for Papua New Guineans in the survey areas. By the start of production, approximately 180 Papua New Guinean citizens had been recruited to gather iHDSS data. In addition, three of the IMR's senior scientific graduates were able to submit proposals to PhD programs based on their scientific experience gained through the iHDSS program. The graduates focused on: the Geographic Information System (GIS) application for health surveillance in Papua New Guinea; health metrics and epidemiological transition using verbal autopsy; and nutrition transition among resource development impacted populations.

Preliminary findings from the latest iHDSS research results indicate respiratory infections, such as tuberculosis and pneumonia, are among the leading causes of illness in the four communities participating in the iHDSS. Further information about the IMR's research projects and reports is available at www.pngimr.org.pg.

A major achievement of the 'Partnership in Health' program was the establishment of the National Infectious Disease Diagnostic and Research Laboratory (also known as the Partnership in Health Laboratory) in the University of Papua New Guinea School of Medicine and Health Sciences building in Port Moresby. The Laboratory, which opened on December 21, 2012, continues to increase its scope of testing for infectious diseases such as tuberculosis, dengue and chikungunya, as well as research into viruses and bacteria that cause illness and diarrhea in iHDSS communities.

It is providing a platform for young Papua New Guinean scientists to develop their skills in biomedical research and diagnostics, while advancing important biomedical research in tropical medicine and emerging infectious diseases, such as cholera, tuberculosis and STIs.

The Laboratory is among a number of health-related facilities developed with Project support during construction. Others include a new health community clinic and medical staff house in Boera Village, and office locations and staff houses for IMR workers in Papa Health Clinic, Mananda Health Centre and Para Clinic. The Project has also provided 40 water tanks for Kikori Hospital, which have the potential to provide 400,000 litres of clean rainwater to the Hospital.

5.4.2 Tuberculosis

During this quarter, an IMR laboratory technician received specialized tuberculosis diagnostic training through the Queensland Mycobacterium Reference Laboratory at the Royal Brisbane Hospital, Australia. The training is improving the technician's skills for researching tuberculosis cultures at the Partnership in Health Laboratory.

Tuberculosis surveillance continues at all four iHDSS sites, and in Kikori. Results of the surveillance studies have been published in IMR scientific progress reports. These reports are peer reviewed medical journals and were presented at the National Department of Health workshop in April.

The Project is delivering ongoing tuberculosis education to its workforce during toolbox talks and at worksite inductions. In addition, the Project is involved in a joint tuberculosis awareness-raising campaign with World Vision Papua New Guinea.

During construction, the Project supported IMR activities in the Kikori area including the provision of training and improved laboratory capabilities for Kikori Hospital to address the high burden of tuberculosis in the Gulf Province.

In this area, the IMR has concluded that approximately 1 percent of the respiratory illness cases recorded were active (infectious) tuberculosis, and over 10 percent of these cases were multi-drug resistant tuberculosis strains. This is a level hundreds of times greater than in developed countries.

Kikori Hospital is the primary health facility in the Gulf Province, with facilities and personnel that can diagnose and treat tuberculosis.

In early 2012, two Australian doctors recruited through the Walter and Eliza Hall Institute of Medical Research began working in Kikori Hospital supported by the 'Partnership in Health' program. By the end of that year, the IMR established an infectious diseases diagnostic laboratory at the Hospital equipped with a GeneXpert diagnostic machine, and other critical tuberculosis diagnostic equipment and supplies to improve the accuracy and speed of tuberculosis diagnosis.

The Project also supplied GeneXpert diagnostic machines to Modilon Hospital in Madang and the National Infectious Disease Diagnostic and Research Laboratory in Port Moresby. The technology is enabling these hospitals to provide same-day results with 99 percent accuracy. This is compared to processes such as smear staining and culture generation, which can take between two and eight weeks to confirm a diagnosis.

In addition, GeneXpert machines make it possible to quickly determine if the tuberculosis is drug resistant or not.

5.4.3 Support to non-government organizations

Since the start of construction, the Project has supported important non-government organizations in their delivery of health programs in Project communities.

PSI has partnered with the Project to implement the Enhanced Community Health Program with many partner organizations in Papua New Guinea. For example, PSI and their partner Marie Stopes Papua New Guinea collaborated with local health services to conduct *'Fit Meri'* and *'Fit Man'* clinics in the four villages near the LNG Plant site.

The Project's Medicine and Occupational Health team and Land and Community Affairs team meet with PSI representatives to discuss the final Enhanced Community Health Program report

These clinics provided information about family planning and sexual and reproductive health risks and prevention.

During this quarter, PSI completed health education in the Hiri and Hides areas, and surveyed villagers and community health workers to identify outcomes and lessons learned from the Enhanced Community Health Program. This was the final scope of work for the Project-supported Program.

Further information on the many community health initiatives delivered through the Enhanced Community Health Program is presented in *Case Study – Project supports community health initiatives*.

In addition to working with non-government organizations, the Project has consistently recognized world health days by providing educational materials and raising awareness in communities. For example, during construction, the Project's annual World Acquired Immunodeficiency Syndrome (AIDS) Day activities involved providing STI and Human Immunodeficiency Virus (HIV) prevention educational materials, as well as rapid HIV test kits, to health centers throughout the Project area. This quarter, the Project recognized World Malaria Day by raising worker and community awareness about vector-borne illnesses.

5.5 Community safety

With the start of production this quarter, community engagement focused on safe behaviors during Project operations. In particular, with upcoming drilling activities in Angore, communities are being informed about logistical and construction safety along the rig transportation route.

Communities also received updates about Project activities and safety information relating to LNG shipping operations.

Members of the Arua clans gather at Kulu for an update on drilling operations at Wellpad G

As worksites continue to demobilize and equipment is transported for sale or disposal, road safety remains a high priority. To maintain community safety awareness, road safety education sessions are being conducted in schools and communities throughout the Project area. During these sessions, children are given road safety information packs.

Each pack includes a high visibility vest, coloring pencils and coloring-in posters that feature messages about road safety.

Children from Awatangi Village coloring-in their road safety posters

Contents of the road safety packs

Since the start of construction, the Project has conducted many community safety initiatives, particularly in the area of traffic management. For example, the Project provided traffic controllers and installed signage, posters and directional traffic cones/poles near worksites for pedestrian safety.

The Project also reminded communities of the importance of driving within speed limits and following the instructions of traffic controllers. School education programs on pedestrian safety were conducted as part of community safety engagements. Drama was also used to highlight safety messaging in communities.

5.6 Community investment

The Project is supporting individuals and community organizations in a culturally appropriate manner to deliver sustainable community development.

5.6.1 Community Development Support Plan

The Project's Community Development Support Plan focuses on: Strengthening Social Resilience, Local Economic Development, and Community Capacity Building and Partnerships. During this quarter, extensive work was undertaken with communities to support education, medical and environmental programs in the Project area.

Strengthening Social Resilience

Since the start of construction, the Project has committed approximately 13 million Kina (US$5.4 million) to support education in Project communities. This includes more than 7 million Kina (US$2.9 million) for education infrastructure and another 6 million Kina (US$2.5 million) on learning materials, education scholarships and teacher capacity building activities.

As part of its commitment to schools, during this quarter the Project distributed 2,400 portable solar lights to students from Redscar High School, and Boera, Papa, Lea Lea and Porebada Primary Schools in the LNG Plant site villages. This is in addition to 2,500 solar lights provided to elementary school students and teachers from ten schools in the Upstream area in the first quarter. The lights enable students who live in areas that do not have access to electricity to read and complete their homework in the evenings.

Almost 13,400 school packs containing stationery were also distributed to schools located near the Highlands Highway between Markham in the Morobe Province and Tari in the Hela Province this quarter.

In addition to donations made during this quarter, the Project has provided more than 1,400 desks to schools throughout the Upstream area and 60,000 books and activity packs from the Toea children's book series to more than 100 schools in the Project area.

School packs being distributed to Zumin Primary School students in the Markham area of Morobe Province

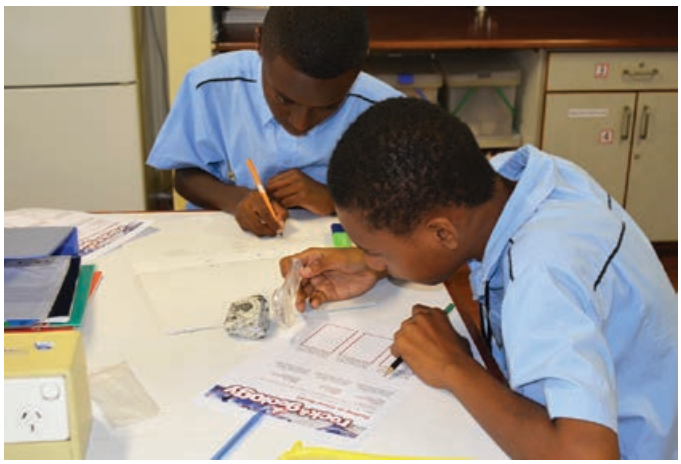
The Toea series is based on the adventures of fictional character Toea as he travels through different areas of Papua New Guinea. The series has helped deliver important safety, health and cultural messages to school-aged children while encouraging literacy.

Another Project-led literacy initiative resulted in the official launch of a book written by Papua New Guinean primary school children this quarter. The book, titled *Kastom Stori Sene Gori* (traditional stories), is the result of a story writing and drawing competition conducted with schools in the Project area during 2011. The competition encouraged children to interview their elders, learn traditional stories and then write or draw pictures about the stories they heard. Twenty-six schools across the Project area participated, submitting 3,700 stories and pictures. The published *Kastom Stori Sene Gori* book features winning handwritten stories and illustrations by students that reflect traditional stories from local villages. It was launched at the Buk Bilong Pikinini children's library in June and is being distributed to schools throughout the Project area.

Children gather for the launch of the Kastom Stori Sene Gori book in Moro

Also in June, 138 students from years 7 and 8 at Ela Murray International Primary School and Gordon International School participated in the ExxonMobil Science Ambassador Program. The Program has been delivered to Papua New Guinean schools since 2013. It aims to encourage and motivate students to develop an interest in the study of science and potentially consider a career in a science-related profession. The Program educates students about science topics relating to the petrochemical industry. These one-day lessons teach school children about topics such as: rocks and minerals; the origins of oil and gas; chemicals; and oil refining with the aid of materials such as rocks and fossils. To date, more than 500 students have participated in the Program.

In partnership with ExxonMobil PNG Limited, Papua New Guinea's National Research Institute has launched an Action Research initiative to improve the quality of teaching in Hiri District schools.



Students from Ela Murray International Primary School participate in a rocks and geology lesson as part of the ExxonMobil Science Ambassador Program

This quarter, 45 teachers were selected from nine schools in the Project area to participate in the nine-month initiative.

With support provided by mentors from the Institute, the initiative helps teachers identify where they can improve their teaching to enable better student learning. The Action Research initiative is intended to strengthen efforts made by the National Department of Education to improve the level of teaching in Papua New Guinean schools.

The Project continues to support the advancement of women in Papua New Guinea through programs such as the Centre for Development and Population Activities Global Women in Management (GWIM) conference and the World Bank Women's Self Reliance program.

By the start of production, the Project had supported 49 Papua New Guinean women with participating in GWIM events, including the first GWIM conference held in Papua New Guinea in March 2014, and international conferences in Jakarta and Washington DC. The GWIM program aims to nurture management, leadership and technical skills in women so they can contribute to the development of their communities.

Local Economic Development

During this quarter, the Project donated 55,000 Kina (US$22,660) to the Business Professional Women's Club of Port Moresby. The funding will support the Club's Scholarship for Girls program, which assists financially disadvantaged women and girls wishing to attend tertiary institutions and colleges. To date, the Project has provided more than 100,000 Kina (US$41,200) to support the work of the Business Professional Women's Club.

The Project provided an 11,000 Kina (US$4,530) sponsorship to the annual Susu Mamas Ball this quarter. Funds raised from this event help support maternal clinics operated by Susu Mamas in Papua New Guinean hospitals.

By the start of production, the Project had donated more than 120 drum ovens and provided 3,600 people with food processing training to enable these communities to make sustainable incomes from the sale of baked goods.

As part of the Food and Agriculture Development program, the Project has helped some 9,000 people in the Hides and Komo areas, including resettled households, with establishing subsistence food gardens. This support includes the provision of training and the supply of seedlings, planting materials, tools, livestock and poultry. To date, the Project has distributed more than 260,000 sweet potato cuttings, 21,900 cassava cuttings, over 13,800 pineapple suckers, 2,700 orange and mandarin grafted seedlings, more than 2,000 kilograms of peanut seed, over 950 kilograms of corn seed, almost 2,000 ducks and chickens of improved breeds, and a wide range of temperate climate vegetables to households.

The training delivered as part of the Food and Agricultural Development program builds upon knowledge acquired in other learning opportunities provided by the Project, such as Personal Viability training. Personal Viability training has proved popular with communities in helping participants understand how to better manage their time and money; gain confidence in starting businesses; and become more self-reliant. More than 1,350 community members have completed the training.

Community Capacity Building and Partnerships

As part of the Project's partnership with Texas Children's Hospital, two Baylor College of Medicine doctors provided training on pediatric care to 25 Tari Hospital health care workers this quarter. The training included demonstrations of how to use a new neonatal resuscitation unit and incubators donated by the Project.

Nurse Margaret Poge (right) with a young patient at Juni clinic, which received medical supplies and health practitioner training through the Project

More than 45 medical students at the University of Papua New Guinea School of Medicine and Health Sciences also received practical clinical instruction in general pediatrics, critical care, malnutrition, tuberculosis, HIV and inpatient and outpatient pediatrics.

The two-year Texas Children's Hospital program, conducted in collaboration with its partner the Baylor College of Medicine, is the result of a US$3.1 million (7.5 million Kina) Project donation that aims to improve maternal health and reduce child mortality rates in Papua New Guinea. The program provides Papua New Guinean medical practitioners with specialist training in pediatrics and public health.

A Baylor College of Medicine pediatrician continues to support the Port Moresby General Hospital with more than 100 pediatric patient visits each week.

During construction, the Project engaged MediSend International, a non-government organization based in the United States, to supply medical equipment and provide training for biomedical technicians on the use and care of the equipment. Biomedical technicians install, operate, repair and maintain equipment such as X-ray machines, incubators, and cardiac pressure monitors.

To date, 11 Papua New Guinean biomedical technicians have received this specialized training through MediSend International in Dallas, Texas. They have since returned to Papua New Guinea and are applying their specialized skills in hospitals in the Project area.

The Project continues to work with local communities on sustainable approaches to building community capacity. For example, during this quarter the Project provided food and stationery for a training workshop organized by the Hiri District Education Office to improve teacher knowledge and administrative capabilities.

Project representatives distribute food and stationery for a workshop with School Board of Management members and head teachers

The workshop was designed for head teachers, principals and administrators from schools in the LNG Plant site villages. Fifty-nine senior educators, administrators and members of the School Boards of Management from nine schools in the Hiri District participated in the workshop.

5.6.2 Strategic community investments

The Project continues to support the Port Moresby Nature Park's biodiversity and educational programs. As part of this commitment, the Project has donated 287,000 Kina (US$118,240) to expand the school excursion program, which aims to bring more than 11,000 school children to the Park during 2014. The donation will also help with the development and maintenance of animal exhibits and contribute to a private animal research and breeding center. To date, the Project has donated 959,000 Kina (US$395,100) to support the Port Moresby Nature Park's programs. The Project has also provided a new generator to the park to ensure a consistent power supply, and information technology support to help with growing administrative demands.

Dale Pittman, Deputy Production Manager, ExxonMobil PNG Limited joins a school excursion at the Port Moresby Nature Park

Also during this quarter, the Project donated 20,000 Kina (US$8,240) to the Salvation Army Red Shield Appeal to support community health programs in the Gulf and Central provinces.

In addition, the Project provided a grant of 100,000 Kina (US$41,200) to the Sir Theophilus Foundation, for its work in recruiting and training specialized medical professionals for Port Moresby General Hospital.

5.6.3 Volunteer programs

Project workers and their families were involved in multiple volunteer activities this quarter, including refurbishment works at the Port Moresby General Hospital children's ward playground.

In June, ExxonMobil PNG Limited Managing Director, Peter Graham, joined 50 workers and their families in refurbishing the playground at the Port Moresby General Hospital children's ward.

The volunteers were involved in painting the fence, replacing old swings, spreading gravel and painting decorative pictures on walls to make the playground a brighter and happier place for children admitted to the Hospital.

Project volunteers involved in the Port Moresby General Hospital's playground refurbishment

Project volunteers attaching new seats to the swing set

Another 60 Project volunteers participated in the annual Sir Anthony Siaguru Walk Against Corruption, organized by Transparency International Papua New Guinea. This is the fifth consecutive year that Project workers have participated in the walk, which aims to raise awareness about the effects of corruption. This year, 30 of the Project volunteers joined the walk while the other 30 distributed water to the more than 2,000 walkers who were led by ExxonMobil PNG Limited Managing Director, Peter Graham.

Peter Graham, ExxonMobil PNG Limited Managing Director, leads the 2,000-strong group of walkers in the annual Sir Anthony Siaguru Walk Against Corruption

Among the walkers were 250 students from 25 schools sponsored by ExxonMobil PNG Limited to participate in the event.

The ExxonMobil PNG Limited team of volunteer walkers

Also during this quarter, 62 Project workers were involved in a cleanup of rubbish near the Moro Market area, while another 26 volunteers painted walkways and moved plants at the Port Moresby Nature Park.

The Moro B Camp cleanup crew

Volunteers painting fences at the Port Moresby Nature Park

The Project also provided volunteer panel representatives for this year's Papua New Guinea Women's Forum. Additional volunteers helped draft the constitution of the newly established Papua New Guinea GWIM Alumni Secretariat.

So far this year, more than 230 Project workers and their families have contributed over 1,200 hours to support 11 volunteer activities. Since the start of construction, 1,087 Project workers have dedicated over 20,000 hours to support 29 volunteer activities.

PROJECT SUPPORTS COMMUNITY HEALTH INITIATIVES

During construction, the Project supported non-government organizations such as PSI with delivering high-value community health initiatives in Project communities.

Through the Enhanced Community Health Program, PSI conducted community health and wellness education on topics that included disease prevention and reproductive health. For example, PSI conducted WASH Program training; Marital Relationships Training courses; and training covering STIs and HIV/AIDS prevention. In addition, scholarships were provided to in-service health care workers and pre-service students.

Since PSI began Enhanced Community Health Program activities in November 2010, almost 12,900 people have been educated on the prevention of diarrheal infections through the WASH Program. As part of the WASH Program, some 8,200 WASH kits were provided to households in the Project area. Each kit contained a 20-litre bucket with tap, soap, water purification tablets, oral rehydration solution, zinc tablets and health information brochures.

A team of 60 Papua New Guinean *'helti man'* (healthy man) and *'helti meri'* (healthy woman) ambassadors were trained as WASH Program educators. Community Health Worker Gideon Wally said there had been a dramatic reduction in diarrhea cases at the Para Clinic since the Program began. "Diarrhea cases at the clinic have dropped. Before, in a week, I would see about 30 to 40 diarrhea patients. Now that I distribute oral rehydration solution and zinc tablets and explain the importance of these medications and how to use them, I have now been seeing nine to ten diarrhea patients in a week. The Program has been a great help and has eased my burden of seeing so many patients in a week," he said.

With Project support, PSI provided the Marital Relationships Training course to more than 2,700 people. This course has benefited villages throughout the Project area by helping to reduce alcohol consumption, gender-based violence and concurrent partnerships, while increasing school attendance.

The Marital Relationships Training course also addressed areas such as family planning options, gender roles, communication, intimacy and conflict resolution. Participants in the four-day course were provided with essential communication tools to use in their marital relationships. Feedback from the training was positive, with many participants reporting that implementing these communication practices brought them closer together and helped to build a stronger family dynamic.

Other Project-supported programs included PSI's STI prevention initiative *'Seif Draiva'* (Safe Driver), which provided behavior change communication sessions focused on reproductive health and gender-based violence.

The training was adapted from the Marital Relationships Training course and tailored to truck drivers who worked the Highlands Highway route.

More than 6,900 drivers received *'Seif Draiva'* training, along with health care vouchers that provided them and their partners with access to Susu Mamas and Marie Stopes Papua New Guinea health clinics in Lae, Mount Hagen and Goroka. Over 3,600 vouchers were provided for these services, and drivers are using the vouchers to access clinics. Community feedback for this initiative is very positive and there is strong demand for it to continue.

The Project also supported the *Bright Smile, Bright Futures* Program, which was introduced to schools in 2011 to educate communities about dental health and hand hygiene. Implemented by PSI and the Hiri District Maternal Child Health Unit, *Bright Smile, Bright Futures* targeted schools in the LNG Plant site villages to teach children about the need for dental care, and how to maintain healthy teeth.

As part of its commitment to helping build the skills of Papua New Guinean citizens, the Project provided health education scholarships in partnership with PSI and Divine Word University. Thirty-four students from the Southern Highlands, Gulf Province and Central Province were able to study in health-related fields at several universities. Twenty-five of these students graduated with Bachelor Degrees in Rural Health, Health Management, Environmental Health, Physiotherapy and Nursing. Many of these graduates are working in health care centers and hospitals in Project areas.

The Project also funded six training grants for Evangelical Church of Papua New Guinea workers in the Hides area to enhance their health care skills. This included advanced training in microscopy for one community health worker, health care financial administration for three workers, and advanced training for one nursing officer.

The partnership between the Project and PSI has delivered wide-ranging health benefits for communities in the Project footprint, with flow-on effects for the wider Papua New Guinean population through increased training of health professionals who may go on to serve in Port Moresby or other regions.

PSI Research Analyst, Ore Toporua with her colleague David Kumie, Research Officer

06 COMPENSATION AND RESETTLEMENT

Compensation is paid to individuals and households for physical and economic displacement caused by Project activities, in accordance with requirements of the *Oil and Gas Act 1998*. The Project uses standards of living and livelihood restoration indicators to measure the success of its Livelihood Restoration Program and monitor physical and economic displacement impacts.

6.1 Compensation

During this quarter, 21 Clan Agency Agreements were signed and 30 compensation payments made for land access representing 6 kilometres of the onshore pipeline ROW, the Timalia River Borrow Pit and access roads.

The Socioeconomic team continues to work with clans to complete Clan Agency Agreements along the onshore pipeline from Paua to Dagia River. Some of these clans are involved in disputes regarding customary land ownership, so Clan Agency Agreements are only able to progress as clan issues are resolved.

By the end of this quarter, 98 percent of 2014 deprivation payments were completed, with eight payments made during the quarter.

6.2 Resettlement

The first phase of the Livelihood Restoration Survey, which began early this year, was completed during this quarter. The Livelihood Restoration Program continues in the Project area.

6.2.1 Milestones and progress

The Project is finalizing its resettlement commitments in the final stages of construction. The only resettlement activities that remain are the Livelihood Restoration Program and the Monitoring and Evaluation Program.

6.2.2 Highlights, achievements and lessons learned

During the quarter the Livelihood Restoration team distributed 505 chickens and 454 ducks to resettled households, particularly in the Hides, Komo, Angore, Homa and Paua areas, and along the pipeline ROW.

The Project also provided training to some 20 resettled households in Komo, Hides, Homa and Paua in caring for young orange and mandarin trees distributed during 2012 and 2013.

Crop distribution and food processing training continues as part of livelihood restoration activities in Komo and Hides.

The first phase of the Livelihood Restoration Survey, which was completed this quarter, involved an evaluation of livelihood status with a randomly selected sample of economically displaced households from throughout the Project area. Early indications show a general improvement in the livelihoods of people who were economically displaced by Project activities. The second phase of the Livelihood Restoration Survey will follow-up on the progress of these households. It will commence in the third quarter 2014.

07 WORKFORCE

With the start of production during the second quarter, the Project is providing ongoing demobilization support to the construction workforce. At the same time, the Project is delivering training and transition support to the incoming Production team.

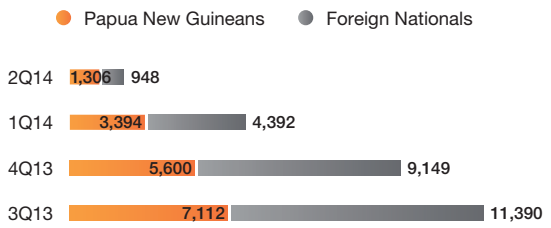
7.1 Development

Project workforce numbers declined this quarter as construction contractors continued to demobilize. By the end of the quarter, the total Project workforce was just over 2,250 compared to almost 7,800 in the previous quarter.

Papua New Guineans make up 58 percent of the current Project workforce, compared to 44 percent recorded in the first quarter as shown in Figure 7.1.

FIGURE 7.1

PROJECT WORKFORCE NUMBERS



More than 55,000 people worked on the Project during the construction phase. The workforce peaked at the end of 2012 with 21,220 workers, 40 percent of whom were Papua New Guinean citizens.

7.2 Workforce training

Since the start of construction the Project has maintained its commitment to providing training opportunities intended to build the skills of Papua New Guinean citizens.

7.2.1 Construction training

During this quarter, more than 12,300 hours of training were delivered across Project worksites.

Throughout construction, the Project delivered more than 2.17 million hours of worker training in approximately 13,000 training programs.

Project-provided training

With the commencement of production during this quarter, the bulk of Project-provided training fell under the Operations and Maintenance Training and Vocational Education Program. This Program is divided into two main components.

One component focuses on training requirements of experienced Operations and Maintenance Technicians, while the other incorporates the Operations and Maintenance trainee program (see *Section 7.2.3 Operations and Maintenance training*).

The Operations and Maintenance Training and Vocational Education Program consists of some 100 training modules per person, including computer-based training, classroom lessons and field assessments. The Program includes: company, facility and vendor specific training; procedural competency assessment; and roadmap development, delivered by Competency Assurance System approved trainers and assessors.

Up close:

Project trainers join ExxonMobil PNG Limited team

In May, two construction trainers, Francis Boso and Gary Ereta, secured long-term work as trainers with ExxonMobil PNG Limited as a result of their experience with the Project.

Francis and Gary were part of the team responsible for training 3,800 HGCP workers for the construction phase.

Francis completed workplace training, as well as a Certificate IV in Training and Assessment from Churchill Education, Australia. He has also attained a Bachelor's Degree in Technical Education specializing in Electronics, Technology and Mathematics from Don Bosco Technical Institute, Papua New Guinea.

Gary achieved a Train-the-Trainer certificate through the Enterprise Centre, as well as completed workplace training. His skills focus on supervisor training, particularly to ensure safety in the workplace.

Trainers Francis Boso and Gary Ereta

There are currently 148 experienced Operations and Maintenance Technicians, and 135 Operations and Maintenance trainees, undertaking the Operations and Maintenance Training and Vocational Education Program.

As part of the Project's commitment to training, two purpose-built facilities were established to help meet the training needs of construction workers. These facilities are the Juni Construction Training Facility in the Upstream area, and the Port Moresby Construction Training Facility.

In May, the Juni Construction Training Facility was officially transferred to the Hela Provincial Government to provide ongoing vocational training opportunities for Papua New Guinean citizens. During construction, this Facility was used to train Project workers in areas such as carpentry, civil construction and concreting.

The Port Moresby Construction Training Facility, which provided internationally accredited training in construction-related trades, will be handed to the Papua New Guinean Government in July 2014.

Contractor-provided training

Project contractors have delivered more than 1.4 million hours of training to Papua New Guinean citizens through 7,800 courses to date.

Where possible, contractors have provided ongoing employment opportunities for workers. For example, during this quarter, Tau Tauedau from Tubusereia Village in the National Capital District secured long-term employment as a Civil/Structural Engineer with the Singapore Office of the Hides Gas Conditioning Plant and Hides Wellpads contractor.

Tau Tauedau, Civil/Structural Engineer at the HGCP site

The Project has also supported workers with building their skills to source new work opportunities as part of the demobilization process. At the LNG Plant site, workers were provided with the opportunity to participate in the Papua New Guinea National Training Council-accredited Bright Future training program, which focused on: identifying successful work and personal behaviors; articulating and documenting personal and professional skills and experiences; and learning how to effectively market and present themselves to prospective employers. Following on from the Bright Future training program, the LNG Plant site offered voluntary transition training to help workers understand their skills, competencies and accomplishments; develop a curriculum vitae and introductory letter; search for job opportunities; and learn job interview techniques. By the start of production, more than 1,500 workers had completed this voluntary training.

7.2.2 Graduate programs

The first and second intakes of ExxonMobil PNG Limited engineers have played a vital role in starting production this quarter as part of the Operations Technical team. For example, at the LNG Plant, surveillance engineers worked rostered night shifts to provide engineering support. The engineers were also involved in commissioning machinery, tuning control loops to optimize production, conducting incident investigations at both the LNG Plant and HGCP, and providing forecasts of production to Exxon Mobil Corporation and Project co-venture partners.

The Project's start-up has provided many valuable learning opportunities for the engineers and enhanced the development of their troubleshooting skills.

The third intake of engineers returned from their training assignments in Melbourne to join the Operations Technical team and support the Project's start-up activities.

The third intake of engineers for the Operations Technical team during their overseas training assignment in Melbourne, Australia

7.2.3 Operations and Maintenance training

The Project's 135 Operations and Maintenance trainees continue to gain experience in production environments such as the HGCP, the pipelines and the LNG Plant, including the arrival and departure procedures for LNG ships, as part of their on-the-job training.

Operations and Maintenance trainee Abena Asi prepares the gangway for the arrival of the Spirit of Hela

During this quarter, 21 of the 59 trainees from the first intake were promoted to technician level. Advancement is self-paced, based on the trainee's exposure to equipment, their competency levels and ability to meet ExxonMobil PNG Limited expectations. The remaining 38 trainees are expected to advance later this year.

Trainees from the second intake are nearing completion of their training in areas such as: ExxonMobil PNG Limited processes and procedures; the Operations Integrity Management System; and Safety, Health and Environment procedures; as well as their facility-specific training.

Trainees assigned to the LNG Plant have started the transition to their long-term work teams while, in July 2014, the remaining trainees will begin their on-site training at the HGCP.

The Operations and Maintenance training program is providing trainees with 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.

The training program consists of three components: the Basic Skills Training Program; Advanced Skills Training; and on-the-job training.

The Basic Skills Training Program was delivered at the Production Operations Training Centre in Port Moresby. Initially an 18-month course, this component was reduced to 12-months for the second intake based on the exemplary academic performance of the first group of trainees. Upon completion of this component, trainees were deployed to their preferred disciplines in either production operations or one of the maintenance trades. From the two intakes, 64 trainees were assigned to production operations, with the remaining 71 trainees deployed to mechanical, electrical or instrumentation maintenance trades.

Advanced Skills Training involved one year of overseas placement. The first intake of trainees embarked on their overseas assignment with LearnCorp International in Canada during 2012. In December 2013, the second trainee intake completed a one-year placement with the Institut Teknologi Petroleum PETRONAS (INSTEP) in Malaysia. Both groups completed the same training curriculum during their overseas placements.

The on-the-job training component is being delivered over 24 to 36 months. During this time, trainees are assigned to either the LNG Plant or the HGCP. From the first intake, 41 trainees were deployed to the LNG Plant, with the remaining 18 assigned to the HGCP. From the second intake, 42 trainees were deployed to the LNG Plant, with the remaining 34 assigned to the HGCP.

To be considered for a position in the Operations and Maintenance training program, applicants had to meet the eligibility criteria of a B grade or above for English, Math, Physics and Chemistry. For each intake, there were many more eligible applicants than was anticipated for the limited number of trainee positions available. Given the strong pool of candidates, ExxonMobil PNG Limited created an opportunity for 70 applicants not selected for the Operations and Maintenance training program to complete an internship with the Project.

A group of 22 Project interns from the second intake

From the first intake, 15 interns were offered positions in the second intake of the Operations and Maintenance training program. Another six interns have since become full-time employees with ExxonMobil PNG Limited. During construction, the interns made valuable contributions in areas such as dispatch/logistics, medicine and occupational health, local business development, land and community affairs and human resources.

The Project also recruited eight Papua New Guineans with operations and maintenance experience as part of the initial operating team for the production phase. The experienced technicians, who commenced work in March 2012, are playing an important role in mentoring the Operations and Maintenance trainees.

7.2.4 Above Field workforce training

ExxonMobil PNG Limited is committed to the ongoing professional development of its office-based workforce as part of the Culture by Design initiative *'Em pasin bilong ExxonMobil long PNG'* (The way we work at ExxonMobil in PNG). Employee training programs focus on the beliefs, values, behaviors and skills that are essential for building the culture of a high performing organization.

During this quarter, training was provided on topics including Negotiation Fundamentals, Conflict Management, Business Writing and Masterful Presentations.

These courses are intended to improve worker skills in communication and negotiation by providing them with the ability to write and present professionally, identify the causes of conflict in the workplace, develop problem-solving capabilities, and build relationships that foster teamwork.

Women working on the Project also continue to be supported through the Women in Energy Network Mentoring Program, which gives them the opportunity to learn from executive mentors in the workplace. This Program covers a broad range of topics such as: work-life balance; corporate culture; career development and training; personal wellbeing; networking; time management; and communication styles and techniques.

7.3 Health management

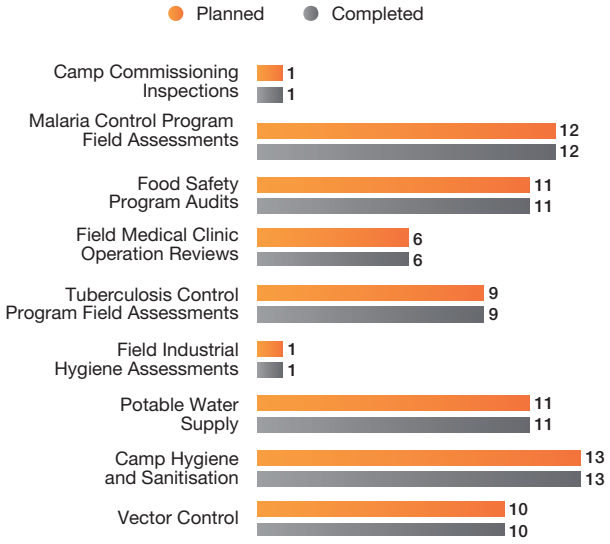
The Project is maintaining health systems and controls for the incoming production workforce, while supporting the demobilization of construction camps and worksites.

As part of this process, routine contractor health program assessments continue, with the number of health activities completed this quarter shown in Figure 7.2.

Since construction began, ExxonMobil PNG Limited's Medicine and Occupational Health team has completed more than 98 percent of planned Project health activities. This equates to more than 1,500 health activities including program assessments, inspections, audits and drills conducted across 12 health program areas.

FIGURE 7.2

NUMBER OF PLANNED AND COMPLETED HEALTH ACTIVITIES DURING THE SECOND QUARTER



7.3.1 Camp and contractor health support

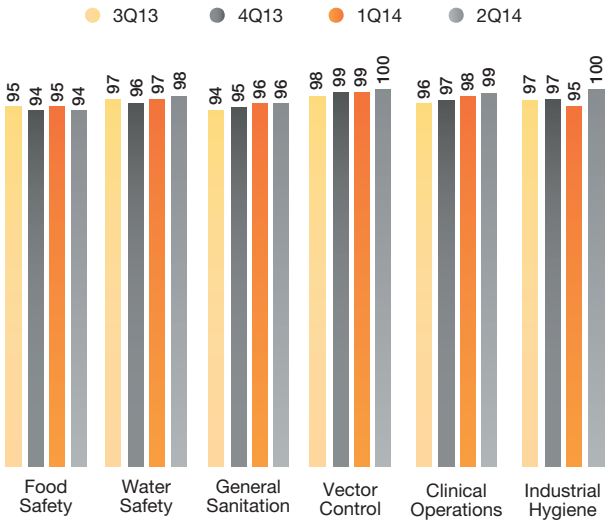
The Project continues to support the demobilization of camps and their clinics.

Throughout the construction phase, assessments were undertaken on a quarterly basis to determine contractor camp compliance with Project health specifications. Assessments focused on the areas of food safety, water safety, general sanitation, vector control, clinical operations and industrial hygiene.

As shown in Figure 7.3, camp health programs achieved high adherence with Project standards during this quarter.

FIGURE 7.3

PERCENTAGE OF CAMP ADHERENCE TO PROJECT SPECIFICATIONS BY HEALTH CATEGORY



Since the start of construction in 2010, adherence to Project health specifications, across all health categories, has generally improved each quarter. For example, in camp hygiene and sanitation, 73 percent was recorded during the first quarter 2010. This figure has continually improved each quarter during construction to where it now stands at 96 percent.

7.3.2 Leading and lagging indicators

Leading and lagging indicators enable the Project to monitor the effectiveness of health programs.

Proactive programs, such as the Malaria Control Program implemented to minimize the risk of malaria in the worker population, are assessed using leading indicators. Lagging indicators record actual cases of illness.

Up close:

World Malaria Day fights the bite

In recognition of World Malaria Day on April 25, the Project held a series of presentations and distributed mosquito bed nets to raise worker awareness about the prevention of vector-borne illnesses.

During presentations conducted across Project sites, workers were provided with information about mosquito bite prevention, malaria chemoprophylaxis use and early diagnosis and treatment.

In addition to malaria, the information sessions also covered prevention of other mosquito-borne illnesses, such as dengue and chikungunya. The information sessions were supported by posters, banners and brochures, along with the distribution of 500 mosquito bed nets to workers.

Since 2011, 4,300 mosquito bed nets have been distributed to Project workers.

Helen Eri, Production organization Training Reporting Analyst learns about vector-borne illnesses during a World Malaria Day presentation

Malaria and tuberculosis

There was one reported malaria case involving a semi-immune[1] person during this quarter. The Project has recorded no cases of malaria contracted by non-immune[2] Project workers in Papua New Guinea since October 2011.

Two Tuberculosis Index Cases (community-acquired) were recorded in Papua New Guinean workers this quarter. To minimize the risk of transmission to other workers, these cases were managed with isolation and referral off-site for appropriate treatment. The Project has effectively managed tuberculosis throughout construction, with no tuberculosis cases transmitted in the work environment since construction began in 2010.

Malaria

The Project participated in awareness-raising activities for World Malaria Day on April 25. Project workers were provided with information about malaria prevention, symptoms and treatment through fact sheets, posters and presentations. Messages were delivered during toolbox talks, lunch-and-learn sessions and at site meetings.

The Project continues to consult the Australian Army Medical Institute for quality assurance with malaria diagnosis.

Malaria Control Program implementation remained steady at 96 percent performance this quarter.

Tuberculosis

Toolbox talks and worksite newsletters are among methods used to maintain high levels of worker awareness about tuberculosis prevention. GeneXpert diagnostic equipment and QuantiFERON testing are also used for early identification of active tuberculosis cases and screening for latent tuberculosis. Active cases are isolated and referred off-site for treatment in accordance with national health guidelines.

Tuberculosis Control Program implementation performance remained steady at 97 percent this quarter.

Food and water safety

Food safety program implementation continues strong performance this quarter with 94 percent effectiveness. The Project was able to maintain high standards of food safety preparation and cleanliness throughout the demobilization process.

Improvements in potable water safety procedures were observed this quarter with program performance increasing to 98 percent, compared to 97 percent in the first quarter 2014.

Camp hygiene and sanitation

Close monitoring of sanitation and hygiene standards across Project camps indicated that program performance levels remain steady at 96 percent.

1 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.
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.

Vector control

Vector surveillance and control program implementation achieved its highest rating of 100 percent in this quarter.

Papua New Guinea is home to a variety of snakes, which has presented a challenge to Project teams throughout the construction phase. With many snake species known to be in the vicinity of the LNG Plant, the Project established the Vector Surveillance and Control team to manage the snake population and provide worker awareness training about safe behaviors near snakes. The team located and safely removed over 1,200 snakes, 380 of them venomous, from the LNG Plant site during the construction period.

Clinical operations

Smaller clinics continue to demobilize as construction camps are closed, with medical supplies, equipment and records from these clinics transferred to larger operating clinics. During this transition, clinical operations are maintaining high standards of performance, reaching 99 percent rating this quarter.

Industrial hygiene

The Project achieved an industrial hygiene performance level of 100 percent this quarter.

General illness events

One dengue case was reported during this quarter at the LNG Plant. Investigations revealed the case was most likely community-acquired in Port Moresby during rotational leave.

Two cases of chickenpox were reported at the LNG Plant site. Both cases were isolated and provided with appropriate treatment to minimize the risk of transmission to other workers.

Three measles cases were also reported during the quarter. A measles health alert was issued to raise awareness about measles prevention, symptoms and treatment.

Medevacs and medical transfers

The Project completed five medevacs this quarter, with one of them related to work activities. The remaining four medevacs were for personal health conditions unrelated to work. None of the 33 medical transfers conducted in the quarter were due to work-related injuries.

7.3.3 Other strategic initiatives

Health program readiness reviews were conducted this quarter in preparation for the transition of worker camps to the Production organization. These reviews included monitoring camp contractor's preparedness in kitchen services, potable water service delivery, camp management and cleaning services, vector surveillance and control, and medical service delivery.

Up close:

Workshop reviews health policy

On April 10, ExxonMobil PNG Limited representatives joined 59 health professionals from Papua New Guinean and international organizations in a one-day workshop to review health initiatives in Papua New Guinea.

The workshop, which was sponsored by the Papua New Guinean National Department of Health and supported by ExxonMobil PNG Limited, enabled public and private sector health agencies to meet and work together toward sustainable health initiatives for Papua New Guinea.

The facilitator was Professor Maxine Whittaker, Director of the Australian Centre for International and Tropical Health, School of Population Health, University of Queensland, and member of the Independent Scientific Advisory Board. Attendees included representatives from organizations such as the University of Papua New Guinea School of Medicine and Health Sciences, the Papua New Guinea Cancer Foundation, Susu Mamas, the IMR, UNICEF, World Vision International, the World Health Program, AusAID – the Australian Agency for International Development, and the Texas Children's Hospital and its partner, Baylor College of Medicine.

During the workshop, attendees discussed results from the iHDSS, along with IMR's tuberculosis study and maternal and child health study.

Government representatives determined this research would be used to help drive actions in health policy in Papua New Guinea. It was also determined that private-public partnerships had proven beneficial for national health initiatives and discussions would continue in areas such as the iHDSS.

The agencies agreed that ongoing education was needed in schools, churches and through the media on topics such as tuberculosis and sexual health awareness.

A poster at the National Department of Health workshop

During the construction phase three strategic health initiatives were introduced to improve ExxonMobil PNG Limited's ongoing health program delivery.

These were: the development of International SOS health performance metrics; the introduction of a contractor health performance assessment program; and the implementation of the Infectious Disease Outbreak Management toolkit and training program. These initiatives helped to raise greater awareness of health issues and increase the level of contractor accountability with health program delivery.

7.4 Safety management

The Project continues its impressive safety record, achieving 47 million hours worked without a Lost Time Incident since July 2013.

At the end of this quarter, the LNG Plant achieved over 73 million hours worked without a Lost Time Incident since the first quarter 2012. The site's Incident and Injury Free® program, which was introduced in the first quarter 2012, has played a significant role in contributing to the site's exemplary safety record. The program provides workers and supervisors with insights and tools to better understand how their own attitudes and actions impact safety in the workplace.

With the start of production, teams across all Project sites are concentrating on the safe completion of their scopes of work and demobilization activities. During this process, the Project continues to focus on best practice safety performance and systematically applies lessons learned from incidents. The Project also continues to employ safety initiatives used throughout the construction phase including:

- Safety, Security, Health and Environment leadership workshops, which involve contractors and Project leaders sharing best practices and lessons learned.
- Thorough analysis of higher potential incidents to identify trends and areas for improvement.
- The Incident and Injury Free program, with more than 14,000 workers trained-to-date.
- First Line Supervisor training, which has been delivered to more than 2,000 supervisors to date.
- Work Management System training to enable workers to address the planning and control of safety-critical activities, such as hot work performed near hydrocarbons and working near energized equipment.
- The Safety Champions initiative, which was launched in September 2011, has provided almost 1,600 workers with the training, experience and confidence to influence safety in the workplace.

During this quarter, the Project re-assessed its safety risk profile, as workplace risks changed from construction-related hazards to working with energized facilities and hydrocarbons. To minimize the risk of safety incidents, the Project is ensuring worker compliance with the Production Life Saving Actions, which outline critical actions for working in a live production environment.

The Production organization continues to ensure that workers with the appropriate level of competencies and skills are employed to operate Project facilities, in accordance with the requirements of ExxonMobil PNG Limited's Operation Integrity Management System. To date, 285 workers have completed approximately 20,000 units of relevant training, which equates to an average of 70 training subjects per person.

Scott Elsey, Operations Permit Coordinator (second from left) with Operations and Maintenance trainees during a safety walkabout at the LNG Plant

7.4.1 Leading indicators

Throughout the construction phase, the Project has consistently exceeded target participation levels for core safety processes, such as Job Safety Analysis, and Observation and Interaction. While the number of Job Safety Analyses and Observation and Interactions declined as a result of construction workforce demobilization, as shown in Figures 7.4 and 7.5, the Project workforce exceeded its target participation rates by almost 300 percent.

FIGURE 7.4

NUMBER OF JOB SAFETY ANALYSES CONDUCTED BY QUARTER

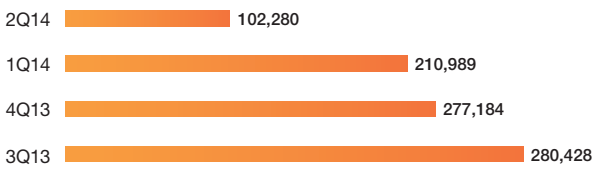
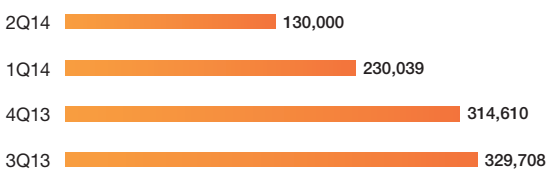


FIGURE 7.5

NUMBER OF OBSERVATIONS AND INTERACTIONS CONDUCTED BY QUARTER



Since construction began in 2010, 2.5 million Job Safety Analyses and more than 2.6 million Observations and Interactions were completed.

7.4.2 Lagging indicators

Incident trends have remained steady for the past few quarters, as shown in Figure 7.6. With more worksites demobilized, Project work hours continue to decline each quarter as shown in Figure 7.7. To date, approximately 200 million work hours have been expended on the Project's construction.

FIGURE 7.6

PROJECT INCIDENT RATES BY QUARTER

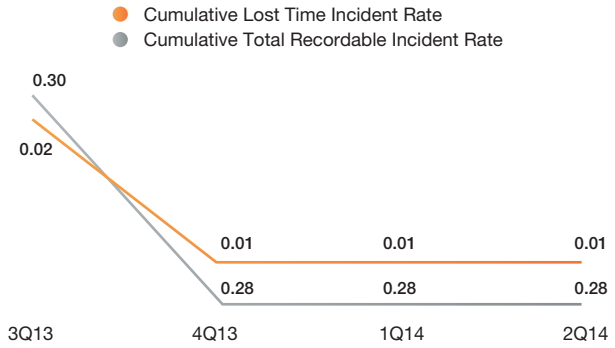
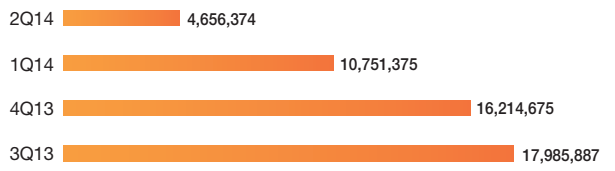


FIGURE 7.7

PROJECT WORK HOURS BY QUARTER



NOTE: Project-to-date work hours totalled 198,832,564.

7.5 Worker welfare and conditions

The Project has consistently delivered high standards of worker welfare and conditions, and met commitments made under the Labour and Worker Conditions Management Plan and the Camp Management Plan.

7.5.1 Camps

As worker camps continue to demobilize with the handover of worksites to production, the remaining camps are maintaining high worker morale through a variety of recreational and social activities. These include sporting events, discos, talent shows and cultural celebrations.

Throughout construction, worker camps accommodated many diverse cultural needs to cater for the multi-national workforce. For example, the LNG Plant and Marine Facilities contractor hosted cultural festivals such as a Japanese festival, called *Matsuri*, at the LNG Plant site worker camp.

The Project also catered to the religious needs of individual cultures during construction. For instance, during *Eid al-Fitr*, which is an Islamic festival held at the end of *Ramadan*, Middle Eastern cuisine was served at a Komo Airfield worker camp to help Muslim workers celebrate this religious event.

In addition to cultural events, camps held music jam sessions for workers. These jam sessions proved highly popular, attracting approximately 1,000 attendees.

7.5.2 Labor and worker conditions

Contractors continue to support workers through the demobilization process. Certificates of service are provided for demobilized workers, along with references and farewell ceremonies.

Where possible, some workers are retained for waste management and environmental remediation tasks. This approach gives these workers more diverse skills and longer-term employment on the Project.

To help office-based employees develop a sense of pride, toward the end of construction the Project provided weekly tours of the LNG Plant site for these workers. Attendees included administrative workers who were not based at the LNG Plant site, so had few opportunities to observe day-to-day construction activities. More than 650 workers participated in these tours.

In addition to catering for the needs of the Project's multi-national workforce in worker camps, monthly cultural awareness training sessions were held during construction to help workers better understand Papua New Guinea's culture and the cultures of other Project workers.

Office-based workers during an LNG Plant site tour

The Project's drama group also helped workers develop their own cultural awareness by delivering performances based on effective communication and understanding of Motu-Koita behavior and cultural expectations. In addition, drama performances were used to support wider workplace topics such as: respecting timekeepers – getting back to work after breaks in the day; and hand washing for food handlers.

08 CONFORMANCE

Verification, monitoring, assessments and audits have been implemented in accordance with the Construction ESMP and were used to manage the transition from construction through to commissioning and production. With the start of production, ongoing conformance will be monitored, verified and assessed in accordance with the Production ESMP and via Exxon Mobil Corporation's Operations Integrity Management System framework.

8.1 Verification

Verification activities were mostly around demobilization and reinstatement during the second quarter. Close-out inspections verified that demobilization and reinstatement activities complied with commitments made in the Construction ESMP.

Key Field Environmental team members transitioned from construction to production roles during the quarter.

8.2 Monitoring

In addition to monitoring compliance with the Construction ESMP, the Project has developed monitoring programs to align with the Production ESMP. Results of monitoring conducted during this quarter are outlined in the following sections.

8.3 Assessments and audits

The Project and its contractors continued assessments and audits on all active worksites. For example, contractors continued to undertake weekly environmental inspections of Upstream facilities to assess environmental management at workshops and yards. The Project and contractors also conducted joint close-out assessments as the contractors demobilized. Close-out assessments included checking for the prevalence of weeds and the status of rehabilitation and waste management.

The Lender Group's Independent Environmental and Social Consultant completed their twelfth site visit and audit in June. The report from their previous visit in February 2014 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 Level as shown in Figure 8.1. During this quarter, 18 Severity Level <0 environmental incidents were recorded with the majority of these related to hydrocarbon or water-based fluid spills. Sixteen near misses were also recorded.

The Project investigated the causes of incidents and near misses, with results shown in Figure 8.2.

FIGURE 8.1

NUMBER OF ENVIRONMENTAL INCIDENTS DURING THE SECOND QUARTER BY SEVERITY LEVEL

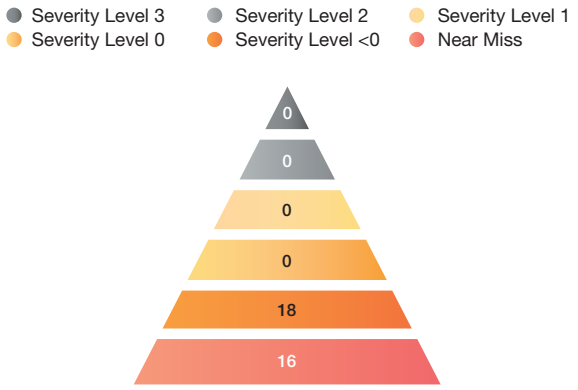
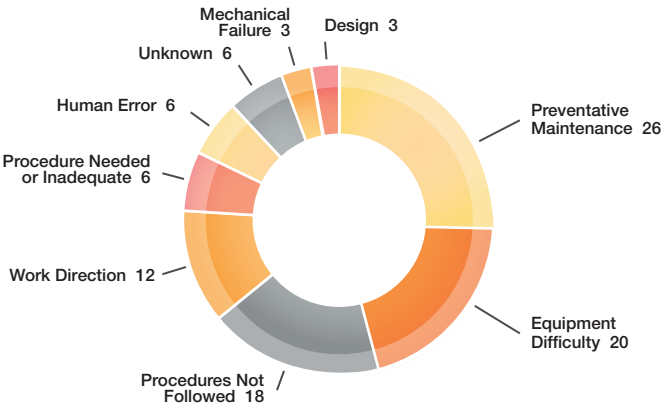


FIGURE 8.2

PERCENTAGE OF ENVIRONMENTAL INCIDENTS DURING THE SECOND QUARTER BY CAUSAL FACTOR



8.4.2 Non-conformance and field observation performance

The Project's environmental performance is verified through non-conformances and field observations. 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. Conversely, positive field observations recognize good environmental practices.

During this quarter, 16 positive field observations were recorded, with many related to reinstatement and waste control measures.

Waste management and spill prevention and response remain the primary reasons for field observations, with 51 recorded this quarter. No non-conformances were raised during this quarter.

Field observations recorded during this quarter are shown in Figure 8.3, while the closure status of field observations is illustrated in Figure 8.4.

FIGURE 8.3

NUMBER OF ENVIRONMENTAL NON-CONFORMANCES AND FIELD OBSERVATIONS DURING THE SECOND QUARTER BY SEVERITY LEVEL

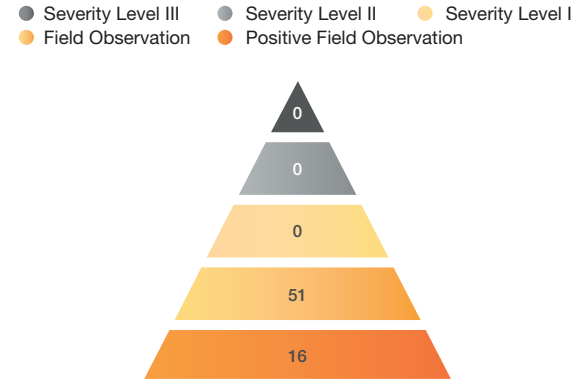
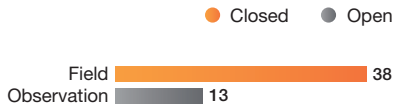


FIGURE 8.4

NUMBER OF ENVIRONMENTAL FIELD OBSERVATIONS DURING THE SECOND QUARTER BY CLOSURE STATUS



09 POLLUTION PREVENTION AND ABATEMENT

The Project proactively implements measures to prevent pollution from worksites. Ongoing monitoring is conducted to assess the effectiveness of these measures.

9.1 Air emissions

During the Project's construction, air emissions were generated from sources such as: dust from exposed soils; vehicle and equipment movement on unsealed surfaces; exhausts from equipment and incinerators; and greenhouse gas emissions from fuel combustion and flaring during commissioning and start-up activities.

The potential for dust emissions reduced this quarter with the completion of reinstatement works. Vegetation is starting to cover areas that were previously disturbed, and gravel or dirt surfaces have been replaced with permanent hardstand surfaces.

The Hides Waste Management Facility incinerator reached steady state operating conditions during the second quarter, with stack emissions testing completed. The high temperature incinerator is working to design specifications. It has been handed-over to the Production organization with the intention for it to remain operational until drilling activities are complete.

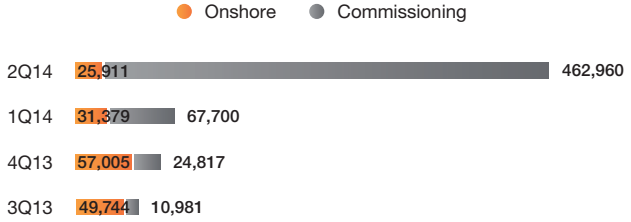
The Project's construction-related greenhouse gas emissions are calculated based on direct fuel use. Indirect sources, such as purchased electricity, are not included. Emissions from commissioning activities are calculated using Exxon Mobil Corporation approved workbooks, which will be consistently applied into production.

During this quarter, onshore and aviation fuel use equated to a greenhouse gas emissions value of 25,911 tonnes of carbon dioxide equivalent. Greenhouse gas emissions from flaring reached approximately 462,960 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.

Monitoring of ambient air quality, in particular sulfur dioxide and nitrogen dioxide levels, continues during hydrocarbon flaring events. Results remain well below the Project's emissions criteria.

Results from air quality monitoring at four designated locations around the LNG Plant also show that air emissions remain well below the Project's approved criteria.

9.2 Noise and vibration

Throughout construction the Project has monitored noise to assist in identifying and managing potential impacts, even though the Project Environment Permit criteria for noise monitoring only applies to permanent facilities and steady state operations – not temporary construction facilities or commissioning activities.

Noise monitoring at the LNG Plant site this quarter found that levels remained well below the Project's environmental criteria. Noise measured at the HGCP also complied with the Project's requirements.

Scoping for annual noise monitoring studies was completed this quarter in preparation for production. Annual noise monitoring will be conducted by an external specialist.

The Project recorded no unresolved noise grievances this quarter.

9.3 Waste management

Wastes generated during this quarter were primarily associated with the demobilization of temporary construction facilities. The Project's waste hierarchy continues to be applied, with a preference for reuse and recycling over disposal wherever practicable.

The Project's approach to waste minimization has enabled more than 4,000 light vehicle tires to be reused, through patented technology, for land stabilization and reinstatement works. The Project also used another 300 heavy haul truck tires in applications such as safety berms along roadsides and for erosion control.

As construction sites are demobilized, selected surplus materials such as cabinets, seats and lockers have been distributed to local communities through the Community Development Support Program.

A hammermill cuttings treatment system is being used to clean drill cuttings, which are then reused as landfill cover at the Hides Waste Management Facility. The hammermill system also enables base oil from drilling activities to be recovered, treated and reused to make up new drilling mud. The water treatment unit at the waste treatment facility allows drilling water to be treated and reused where possible.

The treated water has been used to rehydrate the processed drill cuttings and allow safe, dust-free transportation to the Hides Waste Management Facility. It is also used for equipment and vehicle washdowns and as cooling water for pumps within vacuum trucks.

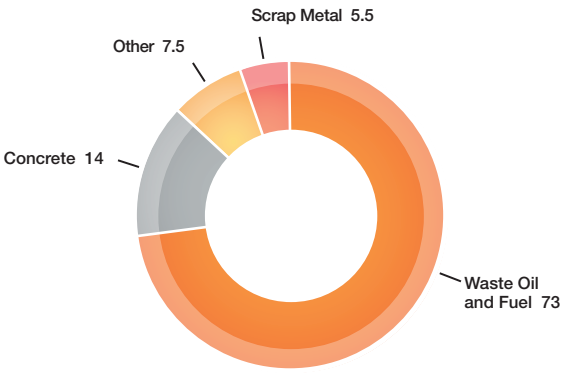
With the disposal of construction wastes almost complete, the Project has confirmed that the LNG Plant site and Hides Waste Management Facility landfills have enough capacity to dispose of all Project-related construction wastes. By the end of this quarter, the first of the Hides landfills cells reached 70 percent capacity, while the second was completed and started to receive demobilization wastes. At the LNG Plant site, the generation and disposal of demobilization wastes is more than 80 percent complete. The first of two landfill cells at the LNG Plant site is full, with capping in progress. The second cell reached 85 percent capacity at the end of the quarter.

The Hides Waste Management Area at Kopeanda is now receiving waste

Predominant waste types generated this quarter are illustrated in Figure 9.2. Solid waste by disposal method used is shown in Figure 9.3.

FIGURE 9.2

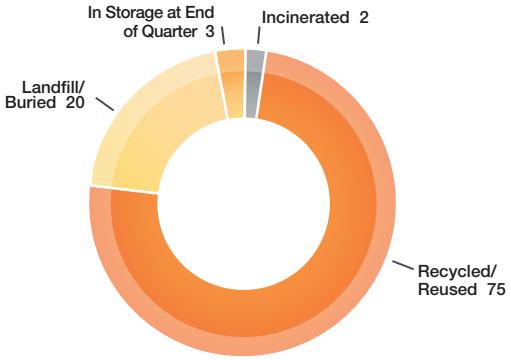
PERCENTAGE OF SOLID WASTE DURING THE SECOND QUARTER BY TYPE



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

FIGURE 9.3

PERCENTAGE OF WASTE DURING THE SECOND QUARTER BY DISPOSAL METHOD



At the end of the quarter, the only remaining onshore pipeline waste management areas were at Kopi Logistics Base, Moro Camp 5 and a temporary recyclable waste accumulation area at Wellpad A. Waste processing equipment, such as the aerosol can crusher, drum crusher, tire debeader and baler were disconnected and prepared for demobilization.

During demobilization activities, the Project remains focused on maintaining high environmental management standards. For example, this quarter the Onshore Pipeline contractor relabeled all waste and oil spill response bins to assist workers in appropriate waste management. The contractor also placed monthly waste management posters on site noticeboards to raise worker awareness about correct waste management procedures.

Refreshed labels on waste and oil spill kit bins

9.3.1 Wastewater

Most of the temporary construction wastewater treatment plants have been decommissioned or prepared for decommissioning. This involves desludging and cleaning of units prior to disconnection. Monitoring of operational wastewater treatment plants continues and any variation in performance is addressed through process control and operational modification.

By the end of this quarter, the permanent wastewater treatment plant was operational at the LNG Plant site, while the HGCP permanent wastewater treatment plant was in the start-up phase.

9.4 Hazardous materials

The Project avoids the use of hazardous materials, particularly those subject to international bans or phase-outs. No hazardous materials were reported on Project worksites this quarter.

Up close:

Production teams ready for emergency response

While ExxonMobil PNG Limited has systems in place to minimize the risk of hydrocarbon spills during production, it has also provided workforce training in case of an emergency situation. The training consists of spill response drills, classroom presentations and equipment familiarization sessions. The training is provided to relevant production workers, as well as vessel crew and contractor and third-party supplier teams.

For example, in April an offshore spill containment training session was conducted for tugboat and landing craft crews. This exercise involved the deployment of the landing craft and boom, so that workers could learn the equipment's capabilities and constraints. Tugboat captains practiced turning maneuvers while trying to maintain the boom formation between them. This required the vessel captains to communicate effectively with each other to coordinate their movements.

ExxonMobil PNG Limited has also prepared Tactical Response Plans and technical support documents that provide site-specific approaches for spill response. These Plans provide quick reference tools using information from site surveys to enable specific responses to events, which enables teams to minimize the potential impact of spills on local environments.

Landing craft deploying a boom during the spill containment exercise

9.5 Spill prevention and response

With production starting this quarter, ExxonMobil PNG Limited continues to provide plans, equipment, personnel resources, and workforce training and drills to reduce the likelihood and minimize the consequences of emergency situations. This includes hydrocarbon spill prevention and response.

The Drilling organization reinforces its 'no spill' culture through spill awareness initiatives including training specific to non-aqueous drilling fluid transfers and transport. For the year-to-date, there were no spills recorded from almost 160 kilobarrels of non-aqueous drilling fluid transfers.

Demobilization activities in the Upstream area have achieved positive field observations in relation to spill prevention. Demobilized equipment was observed to be stored with drip trays, and the contractor regularly replaced absorbent material, and applied appropriate bagging and disposal to used absorbents.

Replacing spill prevention pads on demobilized machinery

Spill stations and waste bins located next to stored equipment

9.6 Dredging and offshore trenching

No dredging or offshore trenching activities were conducted during the quarter.

10 BIODIVERSITY

Measures to avoid or minimize impact to Papua New Guinea's valuable biodiversity resources continue to be implemented in the final stages of construction.

10.1 Ecological management

Ecological management training was delivered to the remaining onshore pipeline workers during the second quarter in the form of toolbox talks regarding fauna management and protection. Animals rescued and released during the quarter included a wounded Superb Fruit Dove *Ptilinopus superbus* found at a HGCP worker camp, and an unknown species of snake found during earthworks at Hides in preparation for drilling activities.

Superb Fruit Dove rescued at an HGCP worker camp

A post-construction survey was undertaken in Caution Bay to assess the Project's impact on water quality and ecology, and measure the effectiveness of mitigation initiatives in the area (see *Section 11.1.2 Quality* for the results of the survey).

The survey covered 14 coral and fish sites, 13 seagrass sites, ten offshore pipeline sites and two dredging material disposal sites. The post-construction survey followed pre-construction baseline surveys conducted in 2010 and 2011. Pre-construction surveys found that the condition of coral, within and outside the Project area, showed pre-existing degradation. A construction period survey conducted in 2012, which addressed actual versus predicted impacts, noted sediment at some sites within 2 kilometres of the LNG jetty and offshore pipeline.

Video footage from the post-construction survey this quarter showed little observable difference in the structural, biotic and ecological characteristics of coral and fish sites, when compared to earlier surveys. The appearance of some sedimentation and coral mucus at three sites during the 2012 survey was not observed in the 2014 survey. Hard coral cover was variable, though typically low. Based on a preliminary assessment of the 2014 results, the nature of the reef and marine ecology is consistent with findings of the Project Environmental Impact Statement and pre-construction surveys.

10.2 Quarantine management

The amount of cargo imported by contractors continues to decrease in the final stages of construction.

During this quarter, 215 Project consignments arrived in Papua New Guinea. Thirty-eight percent of consignments were inspected, with 5 percent of those requiring re-fumigation. The shipment of materials into Papua New Guinea will continue to decline for the remaining contractors until the end of demobilization activities.

10.3 Weed, plant pathogen and pest management

A weed identification training package for Upstream area workers was provided to drivers this quarter. The training aims to raise worker awareness of the Project's Weed Management Strategy and help train field officers in the monitoring of Priority 1 weeds.

Weeds identification training for Upstream area drivers

An Invasive Species Protocol was completed and field-tested during this quarter. The Protocol supports the Project's Environmental Management Plans and the Biodiversity Monitoring Plan, with specific objectives to establish a process for maintaining a register of weeds, outline monitoring methods and timelines, and guide potential remedial action.

The Project's fifth weed audit was completed in May and included an assessment of weeds at the Permanent Facilities Compound in Port Moresby. The audit showed that the overall abundance and diversity of weeds across the Project area remained stable. All weeds found in the Project area were known to occur in Papua New Guinea prior to construction.

The Priority 3 weed Red Convolvulus *Ipomoea hederifolia* was newly discovered in Kopi and at the Permanent Facilities Compound during the audit.

The Priority 1 weed, Anglestem Willow Primrose *Ludwigia leptocarpa*, was found in the Moro area, and another Priority 1 weed, Bamboo Piper *Piper aduncum*, was seen at Wellpad B. Control measures were implemented on these species at both these locations following the audit.

Quarterly weed audits continue, with emphasis on the monitoring and control of Priority 1 species along the Hides Spineline. Silverleaf Desmodium *Desmodium uncinatum* was treated with herbicide by the Hides Gas Conditioning Plant and Hides Wellpads contractor this quarter.

10.4 Induced access

Security checkpoints are being maintained at the Hides Wellpad Access Road, Kikori River Bridge and Mubi River Bridge. Worker inductions and site identification badges continue to be used to control access to the Hides Wellpad Access Road.

No new access roads were constructed this quarter, and roads that will not be used during the production phase continue to be reinstated, with measures put in place to prevent vehicular access.

An Induced Access Protocol has been developed for the production phase. To minimize the risk of induced access during production, the Project is leaving a few access tracks in strategic locations that allow permanent worker access to ExxonMobil PNG Limited facilities and the pipeline ROW. The tracks are intended to enable facilities to be reached in an emergency in all weather conditions. They also enable access to the ROW at reasonable intervals for surveillance and management without damaging reinstated areas. Access will generally be allowed only to Project vehicles and will be monitored.

Access by third party vehicles serving operational needs, and landowner vehicles, may be sanctioned subject to approval from ExxonMobil PNG Limited.

10.5 Reinstatement

The Project's fifth reinstatement audit was completed this quarter, with 76 sites assessed across a range of environments. The audit found that Project reinstatement works were completed to a very high standard, with few sites requiring any form of remediation, and that reinstatement practices progressively improved. The audit results reflected the time taken for plant colonization to occur, particularly at higher altitude sites, and the presence of weeds at some sites – which are subject to monitoring and control.

The Project is working with adjacent communities to raise awareness of reinstated sites and to minimize the risk of vandalism to reinstatement structures, which the audit identified as a challenge.

The ongoing integrity of reinstatement structures along the ROW is being monitored.

Up close:

Driver training targets weed control

To control the spread of weeds during production, the Project is providing a training package so that drivers in the Upstream area can more easily identify exotic weeds.

The training materials include packs of Weed Identification Playing Cards and a copy of the PNG LNG Project Weed Identification Manual (second edition). The playing cards and manual are proving popular with workers in helping them to easily identify Priority 1 and 2 weeds.

"The playing cards make identifying weeds much easier because photos of the weeds are on the cards," Project driver Gima Nakula said.

"This means, for example, I can just say I saw a weed that was on a nine of clubs when I report to the environment officer and the environment officer will check what the nine of clubs weed is, and will go out to control it," he said.

ExxonMobil PNG Limited Biodiversity Adviser, Anita Mosby, demonstrates how to identify weed species using the Project-supplied Weed Identification Playing Cards with Project drivers

Reinstatement works along the pipeline ROW east of Komo

10.6 Biodiversity Strategy

The Project is progressing implementation of its Biodiversity Offset Delivery Plan. All five components of the biodiversity offset program, contained within the Biodiversity Offset Delivery Plan, are progressing.

The most significant work this quarter occurred with Enhancement of Existing Protected Areas (Component 4). The Project has committed to supporting existing protected areas, such as the Lake Kutubu Wildlife Management Area. During this quarter, construction began on a resource center for the use of the Lake Kutubu Wildlife Management Area Committee and local communities. The Committee previously identified a need for the resource center to support its operations in protecting the Lake Kutubu Wildlife Management Area. Implementation of the Biodiversity Monitoring Plan continues, with mapping of the Project area to identify biodiversity resources that need to be protected, or could have been impacted by Project construction. This desktop analysis will be followed by fieldwork later in the year.

The Lake Kutubu Wildlife Management Area Committee welcomes construction of their new resource center

To commemorate World Environment Day on June 5, a Piku turtle (Pig-Nosed Turtle *Carettochelys insculpta*) display was opened at the Port Moresby Nature Park.

Yolarnie Amepou, newly appointed champion of Piku protection efforts, addresses the crowd at the opening of the Port Moresby Nature Park's Pig-Nosed Turtle display

More than 2,000 people attended the event. Updates on Project-support initiatives for the conservation of the Pig-Nosed Turtle are outlined in *Case Study – Piku – the new face of PNG conservation*.

PIKU – THE NEW FACE OF PNG CONSERVATION

Piku, the Pig-Nosed Turtle, has become the new face of animal conservation in Papua New Guinea with the help of Kikori Delta communities, a dedicated team of scientists, and support from the Project.

A Piku turtle exhibit was launched at the Port Moresby Nature Park on June 5 for World Environment Day. The exhibit highlights the plight of the turtle whose numbers have plummeted 57 percent in the past 30 years, due mainly to over-harvesting.

In addition to supporting World Environment Day, the Piku team celebrated World Turtle Day on May 25

The turtle's geographical distribution is currently restricted to Northern Australia and the Southern part of New Guinea. Its scientific name is *Carettochelys insculpta* but it was given the name Piku by the Rumu tribe from Kikori. The turtle is also known as Uwo by the coastal Kerewo tribe, and other tribes in Kikori refer to it as Watemu, Watemui, Waema, Uro and Kaso-uwo. The Project has been working with Kikori communities and marine conservation experts since 2012 to protect this turtle species.

Piku turtle meat and eggs are important to Kikori communities as a food source and a source of income when traded at local markets. Increased human population and better fishing techniques have led to over-harvesting. The turtle is now on the threatened species list and local communities share with conservationists a determination to return Piku's population to sustainable levels.

The Project funded an academic study of Piku's plight in 2012. The study was led by a team from the University of Canberra, Australia, backed by students from the Papua New Guinea Institute of Biological Research.

They identified the nesting areas and routines of the turtle and worked with communities to introduce ongoing protected areas.

The Piku team of scientists is continuing to drive the conservation work. The team's core members are Professor Arthur Georges, Dr Carla Eisemberg, Yolarnie Amepou, Eric Manasi, Professor Jasmyn Lynch and Dr Benedict Yaru. Yolarnie Amepou, a Papua New Guinean research Masters student, has been appointed to lead the research on a full-time basis, with support from the ExxonMobil PNG Limited Field Environmental team.

As part of conservation efforts, landowners are encouraged to take action to protect the nesting turtles. For instance, landowner Frank John, of Wau Creek Protection Area, has stopped the harvesting of eggs and protects nesting mothers on his property. His land is in one of the most critical Piku nesting areas and his contribution is highly valued by the conservation team.

The Piku team's emphasis is on building the capacity of local communities to manage turtle protection measures for the long-term. Community meetings are held in all villages near Piku habitats to engage the support of the people. This is backed by an education program for students involving children's books, competitions, radio plays and turtle hatchings.

The *Adventures of Piggy on the Kikori* is part of a series of children's books dedicated to Piku. It has already been circulated to over 10,000 school children in Papua New Guinea. A second book, *Monty and the Lake Kutubu Invasion*, is being distributed, and a third book, *Little Al in Big Trouble*, is in production.

The book Monty and the Lake Kutubu Invasion

Radio plays about Piku are aired on the Community Development Initiatives Foundation radio station in the Gulf Province. Children playing the parts of Piku and other tropical animals unique to Papua New Guinea present the radio drama. Piku interacts with the other creatures and delivers key messages about taking care of the environment and about sustainability.

PIKU – THE NEW FACE OF PNG CONSERVATION

Up close:

Piku's champion

Yolarnie Amepou from Madang Province has been appointed the champion of Piku protection efforts. It is Yolarnie's responsibility to continue studies of the turtle's nesting biology and to undertake research into the effectiveness of landowner-initiated conservation work. Her presentation of her work at the Society of Conservation Biology Conference in Fiji in June earned Yolarnie an award for one of the best student presentations.

A graduate of the Papua New Guinea Institute of Biological Research and the University of Papua New Guinea, Yolarnie is completing her research Masters studies with the University of Canberra, Australia. She is a key member of the Piku team, which is funded by ExxonMobil PNG Limited.

Yolarnie has been with the Piku team since its initial research project in 2012, which provided the basis for community-based protection activities. She previously conducted similar studies on sea cucumber sustainability for the University of Papua New Guinea.

"My interest in Piku was prompted by the turtle's story - its biology, its harvesting by humans, its deep ancestral connection with the Kikori people, and the very real possibility that this species could become extinct in my lifetime," she said.

"My studies have shown me the direct relationship people and communities have with the survival of species within their area.

"I want to pursue a career as a biologist so that my research helps Papua New Guinean people gain a renewed appreciation of the need to preserve our incredible biodiversity," Yolarnie said.

Yolarnie Amepou was among the top three postgraduate student presenters at a recent conservation conference in Fiji

Students and teachers at Kikori Primary School in the Gulf Province were given a firsthand experience of how Piku eggs hatch as part of their studies. Members of the Piku team brought incubating eggs to the school so students could watch the hatching and learn about the species. The students also participated in a Piku banana boat naming competition. The winning entry was Kiride Queen, which was inspired by the name of the Kikori River Delta.

The Kiride Queen

Winners of the boat naming competition Lydiah Helave (second from left) and Timothy Tomala (third from left) with second place winners and fellow students

The Piku team is working to expand on-ground conservation action with the coastal communities from Veraibari to Goare, the villagers of Apeowa, and other stakeholders. They are preparing a case for a coastal zone protected area built around the Pig-Nosed Turtle, dolphins and other iconic species living in the Kikori Delta and estuaries.

11 RESOURCE MANAGEMENT

The Project acknowledges the ongoing social, economic and cultural value of natural resources – such as quarry materials, timber, water and soil – and aims to sustainably manage their use.

11.1 Water management

11.1.1 Usage

Water is used on the Project for activities including dust suppression, drilling wells, vehicle washdowns, and for domestic use in worker camps.

Water used in vehicle washdown at the Hides Vehicle Washdown Facility

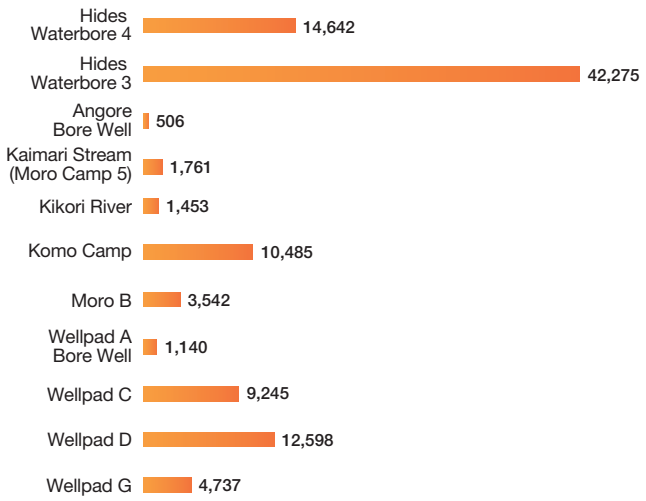
Approximately 133,000 kilolitres of freshwater was extracted from ground and surface water sources across Project worksites during the second quarter. Another 91,094 kilolitres of seawater was extracted to supply the desalination plant at the LNG Plant site, which generates freshwater for the site.

During this quarter, there was one new extraction point opened at the Angore bore to support drilling activities. Water extraction volumes continue to remain within the Project's permitted limits.

Water volumes from each extraction source are shown in Figure 11.1. Water use by type is illustrated in Figure 11.2.

FIGURE 11.1

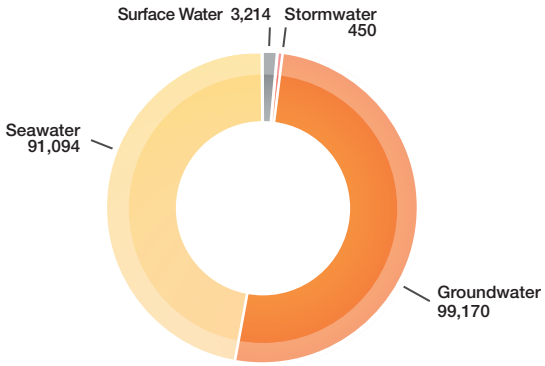
VOLUME (KILOLITRES) OF WATER USED DURING THE SECOND QUARTER BY EXTRACTION SOURCE



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 SECOND QUARTER BY TYPE



11.1.2 Quality

Ongoing monitoring is conducted to assess the quality of ground, sea and surface waters near Project facilities to detect changes that could result in environmental impacts.

Water quality testing for Upstream residential camps was completed by on-site technicians using the laboratory at Komo this quarter. Additional samples taken by contractors were delivered to Komo for analysis. The Komo laboratory is equipped to process surface water samples, wastewater and potable water samples.

Parameters include pH, turbidity, suspended solids, conductivity, temperature, ammonia nitrogen, fecal and total coliforms, salinity, total dissolved solids, free and residual chlorine and chemical oxygen demand.

At Caution Bay, post-construction water quality surveys were conducted as part of the final phase of a three-stage monitoring program that involved pre-construction surveys, sampling during construction, and post-construction surveys. These surveys assess the Project's impact on water quality and measure the effectiveness of mitigation initiatives.

In-situ and laboratory water quality results were predominantly within nominated criteria.

Dissolved oxygen concentrations at two estuarine/shallow sites exceeded the nominated criteria, however they were similar to previous results, which were found to be related to existing environmental factors. The surveys showed no indication of impact from construction activities that would warrant further monitoring of water quality in Caution Bay.

11.2 Raw materials

Throughout construction, the Project aimed to minimize the use of raw materials where practicable. During this quarter, the volume of extracted materials from quarries was minimal, as most activities that required aggregate were completed in the first quarter 2014. The Onshore Pipeline contractor had no further requirement for quarried material considering that pipeline-related construction activities and road upgrade works were completed. Therefore, close-out reports were finalized for each quarry, documenting the status of the site as closed or reinstated and vacated by the Project. Some pre-existing quarry sites continue to be operated for other projects.

Only 22 cubic metres of timber was purchased this quarter. Other timber requirements were filled using recycled timber from demobilization wastes.

11.3 Erosion and sediment control

Permanent erosion and sediment control measures along the onshore pipeline ROW are now complete. ExxonMobil PNG Limited is conducting ongoing monitoring to assess the effectiveness of these measures, using both ground and aerial inspections. Where reinstatement monitoring identifies any failures, erosion and sediment control teams will be sent to repair or augment control measures. During this quarter, erosion and sediment control teams conducted maintenance at new culverts along the Hides Wellpad Access Road and installed new control measures along the Tagari Access Road.

Permanent erosion and sediment control measures at the HGCP and LNG Plant continue to be monitored.

11.4 Acid sulfate soils

No soil monitoring was required this quarter because there was no disturbance caused by the Project to soils with a potential to produce acid sulfate.

The Project has conducted ongoing monitoring for acid sulfate soils throughout construction, particularly in areas with the high potential for these soils, such as in Omati and at the LNG Plant site. Acid sulfate soils can generate and release acid into the environment if exposed to oxygen for a long time. Project monitoring confirmed there was no impact caused by the Project's construction activities. This positive result was achieved through contractor efforts to minimize the disturbance time of these soils, along with the use of limestone on running tracks, and effective backfilling of the ROW trench.

12 CULTURAL HERITAGE

During the second quarter, the Project's cultural heritage register was finalized and handed-over to the Production organization.

Cultural heritage management has been a significant component of construction activities. During the Project's construction, over 5,800 archaeological and oral tradition sites were recorded. Archaeological sites are those with physical evidence of past cultural activity, while oral tradition sites are those known to the people through their historical cultural stories.

During construction, more than 500 chance finds were made from both archaeological and oral tradition sites. Following assessment by the Project archaeologist, some 240 artefacts, and related reports, were transferred to the Papua New Guinea National Museum and Art Gallery, with many others returned to local communities in accordance with the Chance Finds Protocol. Collaboration will continue with the museum on the storage and publication of archaeological material from the Project.

ExxonMobil PNG Limited will continue to monitor some cultural heritage sites, with the sites mapped and field verified during post-construction surveys.

The Project's Cultural Heritage Management Plan and protocols will be applied to any new areas to be developed during the production phase.

12.1 Pre-construction surveys

The Project conducted pre-construction surveys prior to commencing works to identify potential cultural heritage sites that required preservation or mitigation measures to be developed in partnership with local landowners.

With the finalization of construction activities, no assessments were undertaken this quarter.

12.2 Salvage excavations

There was no salvage excavation conducted during the quarter.

12.3 Incidents of disturbance to known cultural heritage sites

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

12.4 Chance finds

The Project conducts inspections to identify the presence of chance finds before ground disturbance activities commence. No chance finds were made during the quarter.

Up close:

GIS and satellite technology helps protect cultural heritage sites

Pre-construction surveys were conducted throughout the construction phase to identify and protect cultural heritage sites. Through these surveys, 3,294 cultural heritage sites were identified.

Mapping and field verification of cultural heritage sites identified during construction forms part of the post-construction survey work undertaken across the Project. These surveys help ensure that each site has been appropriately mitigated and protected before handover to the Production organization.

Over smaller geographical areas, field verification of all individual sites is often undertaken. However, given the span of the Project area, Geographic Information System (GIS) technology was used to assist the verification process.

After mapping each site, the Project GIS team applied proximity criteria to the site data, which enabled them to use GIS to identify sites that needed verification. With the criteria entered, each site was assessed by determining if they were:

- Within the construction footprint, and therefore would require mitigation.
- Remote from construction and not requiring Project attention.
- Within the survey area but not the construction footprint.

This assessment process resulted in 317 sites requiring verification. Of these, 42 cultural heritage sites were able to be visually verified by checking for signs of disturbance shown in up-to-date satellite imagery and aerial photography. The remaining cultural heritage sites were physically verified by field teams.

Through collaboration between the Project's GIS team and field teams, verification could be performed in a much shorter timeframe, while still guaranteeing the cultural heritage sites were properly assessed.

Chris Armstrong, GIS Analyst, and Craig Richards, Lead GIS Advisor

13 STAKEHOLDER ENGAGEMENT

The Project and its contractors have worked to develop lasting positive relationships with communities based on trust, mutual understanding and collaboration. The Project remains committed to ongoing engagement with Papua New Guinean communities in the Project area.

13.1 Government

When construction began in 2010, Project representatives met with more than 60 members of the national parliament to discuss national content initiatives. This resulted in the creation of the representative Lancos, Laba Holdings Limited and the Hides Gas Development Corporation. Ongoing engagement has continued with representatives from the national, provincial and district governments throughout construction and into production.

13.1.1 People processes

During construction, the Project held regular meetings with key Government agencies and contractors to discuss the efficient mobilization of Project labor into Papua New Guinea.

The Papua New Guinean Government continues to expedite visas and work permits including Restricted Employment Facility visas, which enable non-national workers to enter the country for up to 30 days, for Project workers with specialized skills that are unable to be found in-country.

13.1.2 Materials and tax

As well as making many purchases locally, the Project has imported substantial quantities of materials to construct the HGCP, LNG Plant, pipelines and other facilities.

The Project continues to work collaboratively with key Government agencies, including the Papua New Guinean Customs Service and National Agricultural Quarantine Inspection Authority, as well as some private sector operators, to implement procedures that comply with the Government's import requirements.

Ongoing Papua New Guinean Customs Service audits confirm the Project is complying with import duty requirements. These audits are not delaying the clearance of Project cargo into the country.

13.1.3 Infrastructure and Government support

The Project has finalized its investment agreement with the Papua New Guinean Department of Works to support emergency repair and maintenance works for road sections along the Highlands Highway between Lae and Hides until the end of the second quarter 2015. Support to the Department of Works will include engineering design and construction supervision.

The Project is also assisting the Hela Provincial Government with engineering design and preparation for the upgrade and sealing of the road between Komo and Tari.

During the past four years, the Project has developed over 60 kilometres of new roads, replaced six major bridges, and repaired and routinely maintained approximately 30 bridges in the Project area. Improvements have also been made to more than 300 kilometres of existing roads, including the Highlands Highway that links the Hides region to Lae.

13.1.4 Advocacy

In addition to the official loading of the first LNG cargo, which was attended by Papua New Guinean Prime Minister, the Honorable Peter O'Neill, the Project conducted 12 advocacy workshops this quarter.

Advocacy workshops and plant site visits were conducted for the Department of Petroleum and Energy Minister, the Honorable Nixon Duban, and visiting foreign dignitaries including: the British High Commissioner to Papua New Guinea, Her Excellency Jackie Barson; the new Chinese Ambassador to Papua New Guinea, Ambassador Li Ruiyou; leaders from the Melanesian Spearhead Group; a buyers' delegation from Osaka Gas Company Limited and the China Petroleum and Chemical Corporation (Sinopec); and a technical group from the Project's co-venture partners.

Since early 2010, the Project has held over 360 advocacy workshops and hosted visits to the HGCP and LNG Plant sites for some 6,000 dignitaries from various government departments, representative stakeholder organizations, schools and community groups. The Project's advocacy workshops provided participants with updates on construction progress including: the transition to production; community development programs; and national content initiatives, such as the training and development of local workers and suppliers.

The Honorable Peter O'Neill, Prime Minister of Papua New Guinea, on board the Spirit of Hela for loading of the first cargo

13.1.5 Benefits assurance delivery

During this quarter, the Papua New Guinean Department of Petroleum and Energy completed the first phase of its clan vetting process to identify beneficiary clans and determine the appropriate distribution of royalties from LNG production.

The first phase involved identifying new clans in greenfield areas and verifying existing clans in brownfield areas. The clan lists compiled by the Department were approved through a ministerial determination and gazettal process. The list of approved clans was published in Papua New Guinean newspapers for public record.

During phase two of the clan vetting process, the Department aims to determine how landowner royalties will be split between the approved clans. The Government intends to begin the second phase in the third quarter 2014, which will involve consultation with clans at public forums. In the meantime, the Papua New Guinean Department of Finance has established a dedicated trust account to safeguard accumulated landowner royalties.

13.2 Communities

Through effective communication and consultation, the Project aims to maintain positive community relations as the construction period ends, and throughout the production phase.

13.2.1 Engagement activities

In preparation for the first LNG shipment and the transition to production, the level of community engagement increased this quarter. In the Project area, 245 formal engagements and 290 informal engagements were conducted with over 14,200 individuals from 101 communities. To date, the Project has completed over 4,500 community engagements involving more than 165,000 participants.

With LNG production beginning this quarter, community engagement activities focused on updates about the first LNG cargo, safety along the pipeline ROW, and traffic and pedestrian safety.

In the Upstream area, community engagement activities covered safe behaviors near the pipeline ROW, road safety, and safety near Project facilities. Communities were also informed about commissioning activities, such as the start of LNG shipping operations, and construction demobilization.

Players from Papua New Guinea's premiere rugby league team, the Kumuls, helped deliver messages to schools about the importance of navigation aids and safety at sea. More than 1,300 students and teachers from five primary and high schools in the LNG Plant site villages participated in five navigation and safety at sea awareness sessions. Some students received Kumul jerseys for correctly answering questions related to what they had learned during these sessions.

The Kumuls' Joe Bruno presents a jersey to Papa Primary School student Jemma Miria

An additional 600 residents from LNG Plant site villages, as well as members of women's groups, fishing groups and other community organizations, were also informed about the Project's LNG shipping operations.

The Project's community engagement activities have proven successful with building positive relationships and minimizing safety risks around Project facilities.

Engagement methods used during construction included:

- Formation of clan committees to enable constructive two-way dialogue between the Project and the community.
- Distribution of the LNG Plant site and Upstream newsletters to churches, schools and community organizations.
- Community notice boards that provided Project updates and information about the next community meetings.
- A coloring contest for school children, who were provided with pictures of construction equipment with hazards written in Huli.

Approximately 100 Village Liaison Officers and Community Liaison Officers provided an interface between the Project and the communities. In most engagement activities, Project messages were interpreted into the local dialect and drama performances were often used to provide construction updates and deliver safety messages.

Stakeholder engagement will continue during production to keep communities informed of ExxonMobil PNG Limited activities. As part of this process, a team of Village/ Community Liaison Officers will be retained to support engagement activities.

Issues identification

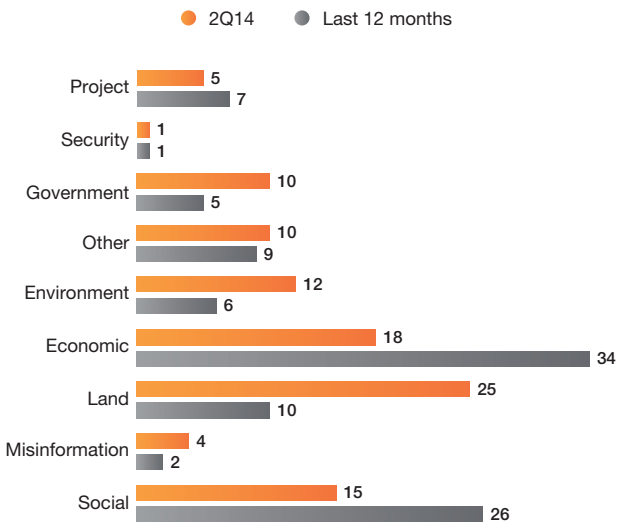
Most issues raised through community engagements during construction were economic or social in nature. Economic issues represented 34 percent of all issues registered for the Project. They mainly related to employment or business opportunities.

Social issues, represented 22 percent of the total and covered concerns such as requests for additional information, and labor and worker conditions of community members employed by Lancos.

As shown in Figure 13.1, 25 percent of issues raised this quarter fell into the land category, specifically regarding compensation payments for land access. For the Project-to-date, land concerns represented only 8 percent of total issues, with many of these related to resettlement and addressed by Socioeconomic team members in the field. The increased percentage of land-related issues this quarter was expected as Clan Agency Agreements progressed in the Upstream area.

FIGURE 13.1

PERCENTAGE OF ISSUES RECEIVED BY ISSUE CATEGORY



Economic issues accounted for 18 percent of issues raised during the quarter and related to Project employment, community development and community investment.

Social issues concerned community health and safety along the pipeline ROW, and accounted for 15 percent of issues raised this quarter.

13.2.2 Media

Decie Autin, Project Executive, ExxonMobil PNG Limited, presented a Project update at the Australian Petroleum Production and Exploration Association (APPEA) conference in April. Positive feedback was received from attendees about the success of the Project.

On May 14, Papua New Guinean Prime Minister, the Honorable Peter O'Neill, officiated the loading of the first LNG cargo onto the vessel *Spirit of Hela* with a small ceremony at the LNG Plant. ExxonMobil PNG Limited representatives; Members of Parliament; the former Prime Minister, Grand Chief Sir Michael Somare; and Hela Governor, Anderson Agiru, also attended the event.

Peter Graham, Managing Director, ExxonMobil PNG Limited; Anderson Agiru, Hela Governor; Grand Chief Sir Michael Somare, former Papua New Guinean Prime Minister; and the Honorable Peter O'Neill, Papua New Guinean Prime Minister, celebrate the loading of the first LNG cargo

The arrival of the first LNG shipment in Japan on June 2 made world and local news headlines with positive responses from international and local commentators. The Prime Minister, along with a delegation of Papua New Guinean Members of Parliament, attended the arrival of the first cargo in Japan.

Toasting the successful arrival of the first PNG LNG shipment in Japan

ExxonMobil PNG Limited Managing Director, Peter Graham, said the Project was an enormous undertaking that was completed earlier than forecast, and he anticipated further foreign investment would flow into the country as other companies saw what could be achieved in Papua New Guinea.

To commemorate the first LNG cargo, a colorful, glossy feature story about the history of the PNG LNG Project was published in the *Post Courier* and *The National* newspapers on May 27.

Advertisements celebrating the start of production were published in other Papua New Guinean and Australian newspapers.

Also in May, the Project produced a color brochure titled *The PNG LNG Story*, which highlights the Project's key initiatives in safety, health, environment and community programs.

Since December 2012, Peter Graham has written a monthly newspaper column entitled *'Yumi Stori long PNG LNG'* (Let's have a chat about PNG LNG). The column provides regular updates about the Project's construction progress and is published in the *Post Courier*, *The National* and *Wantok Nius* newspapers. During this quarter, Peter Graham's column thanked the people of Papua New Guinea, the Government, Project area communities, suppliers, contractors, and co-venturers for their part in bringing the PNG LNG Project to fruition.

The seventeenth PNG LNG Quarterly Environmental and Social Report, which reported on activities that occurred in the first quarter 2014, was published on the Project's website. Printed copies of the Report were made available to Project stakeholders with limited access to the internet.

READ THE REPORT SERIES AT
www.**pnglng.com**

The Report's Executive Summary was published in English in the *Post Courier* and *The National* newspapers. It was also published in Tok Pisin in the *Wantok Nius*.

14 ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
EITI	Extractive Industries Transparency Initiative
ESMP	Environmental and Social Management Plan
GIS	Geographic Information System
GWIM	Centre for Development and Population Activities Global Women in Management
HGCP	Hides Gas Conditioning Plant
HIV	Human Immunodeficiency Virus
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
STI	Sexually Transmitted Infection
WASH	Water, Sanitation and Hygiene

A1 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	• Infrastructure upgrades supporting main construction activities in the Gulf Province and Southern Highlands Province. • Camps 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	• 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	• Installation of a telecommunications system to support construction and production.
Offshore Pipeline Saipem	• 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	• 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	• LNG facility engineering and construction, including LNG process trains, condensate storage tanks, LNG storage tanks, utilities, 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	• Engineering and construction of the HGCP processing facilities and associated wellpads, including accommodation and maintenance facilities.
Onshore Pipeline SpieCapag	• 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, spineline, utility lines, and associated power and telecommunications cables.
Komo Airfield McConnell Dowell and Consolidated Contractor Group Joint Venture	• Airfield and supporting infrastructure.
Associated Gas Development Various	• Upgrades and modifications to Kutubu Central Processing Facility and Gobe Production Facility including gas dehydration, metering, and condensate handling.
Nabors Drilling International Limited	• Drill and complete 12 wells.
Permanent Facilities Compound Leighton (PNG) Limited	• Construction of offices and associated service facilities.

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

A2 APPENDIX 2 – SUMMARY OF THE PROJECT'S DEVELOPMENT

Construction of the US$18.8 billion Project required the simultaneous delivery of five major developments as one over-arching Project. Construction began in 2010, following approval of the Environmental Impact Statement in 2009, and ended with the departure of the first LNG cargo on May 25.

A chronology of the Project's development and of key social and environmental programs is outlined in the following sections.

Construction

Early activity involved site preparations, finalizing construction designs, procurement and pre-fabrication of materials in many countries including Papua New Guinea, Australia, the United States, Malaysia, Singapore and Japan. Most of the major design and procurement work was completed in early 2010. Other Project milestones are outlined in Table A2.1.

Table A2.1 – Summary of construction milestones

Year	Construction milestones
2009	• The Project Environmental Impact Statement was approved in October, comprising 6,000 pages drawing upon 26 supporting studies. • Project approval by co-venture partners in December. • Award of Engineering, Procurement and Construction contracts. • Signing of sales and marketing agreements with four major customers between December and March 2010.
2010	• Completion of financing arrangements with lenders. • Full execution phase commenced in March. • Port Moresby Construction Training Facility and Kopi Shore Base completed. • Construction of the Komo Pioneer Camp, Wellpad A Camp, Moro B Camp, LNG Plant Pioneer Camp and Gobe Camp completed. • LNG Plant Bypass Road and Papa Lea Lea Road upgrades completed. • Bulk earthworks commenced at the HGCP site and the Komo Airfield. • Fabrication of the first of two 60-metre tall drilling rigs, weighing 725 metric tonnes each, begins in Houston, Texas. • Manufacture of pipe for offshore pipeline in Japan, followed by final coating in Malaysia. • First deliveries of line pipe for the onshore pipeline arrived at Kopi Shore Base and pipeline stringing commenced. • LNG Plant and Marine Facilities site preparations began.
2011	• Juni Construction Training Facility completed. • Telecommunications installed including six mountain top facilities of radio repeaters, generators and equipment shelters and two 70-metre communications towers. • First HGCP foundation installed and the HGCP Pioneer Camp completed. • First foundations for Komo Airfield installed. • Last of 40,000 pieces of line pipe received at Kopi Shore Base. • First drilling rig completed and transported 13,000 kilometres to the first production wellpad site in Hides. • Manufacture of all offshore pipe completed and offshore pipeline construction began. • Construction of the LNG Plant landfall site and LNG jetty piling commenced. • First onshore pipeline weld completed in April and the start of trenching and lowering-in activities. • First concrete foundations poured for LNG Plant Process Train 1 and the LNG tanks. • Commencement of work erecting the LNG tank walls and roof fabrication.
2012	• Completed all camps for the Upstream area. • HGCP earthworks completed and foundations installed for the main pipe rack, compressors and power generators. • First layer of asphalt laid for Komo Airfield runway. The contractor moved 9 million cubic metres of earth by the end of construction to complete the Airfield. • Drilling begins at first production well on Wellpad B in Hides, while the second drilling rig begins to mobilize. • Mechanical completion of the 407-kilometre offshore pipeline, which joins the onshore pipeline at the entrance of the Omati River and stretches into Caution Bay. The offshore pipeline is buried to depths up to 110 metres below sea level. • Outer shells and roof air raises completed on the LNG tanks. • Set the Project's tallest single piece of processing equipment, the 53-metre Main Cryogenic Heat Exchanger, on its foundations at the LNG Plant site. • The 2.4-kilometre jetty trestle is installed for the LNG Plant Marine Terminal.

Year	Construction milestones
2013	• HGCP foundations and heavy equipment, including gas turbine generators, electrical switch rooms, air compressor skids and dehydration units completed. • Komo Airfield completed and the first Antonov cargo load of heavy equipment arrived in May. Within three months, 88 loads were delivered and the Airfield has since been used for Project passenger and cargo flights. • First production well completed and the second drilling rig commenced drilling operations. • The final 32-inch automatic pipe weld completed on the onshore pipeline on December 11. • Train 1, the LNG tanks, utilities and permanent building completed and mechanical completion of the LNG jetty achieved. • In September, the first commissioning gas arrives at the LNG Plant from the Kutubu Central Processing Facility. • Installation of 400 kilometres of offshore Fiber Optic Cable, part of more than 600 kilometres of Fiber Optic Cable for telecommunications between the HGCP to the LNG Plant. • LNG Plant and marine facilities commissioning activities begin.
2014	• Commissioning gas piped to the HGCP and flare lit in March. • First production wells opened for gas flow to the HGCP. • The 292-kilometre onshore pipeline spanning Hides through to Omati was completed on January 23. In some areas the pipeline rises to over 2,700 metres above sea level. The Project consists of more than 800 kilometres of onshore and offshore pipeline, with a combined weight of 700,000 metric tonnes. • In March, Hides reservoir gas was introduced into Train 1 at the LNG Plant. • On April 23, LNG production began. • On May 25, the first shipment of LNG left the LNG Marine Terminal on the *Spirit of Hela* for delivery to Japan. The first LNG cargo arrived in Japan on June 2. • Juni Construction Training Facility was handed to the Hela Provincial Government in May for vocational training. • The Port Moresby Construction Training Facility will be handed to the Papua New Guinean Government in July.

Pre-construction surveys were essential for planning, on a site-by-site basis, how best to minimize impacts to local ecosystems. By the start of production, 219 pre-construction surveys were completed for the development of the Project.

Safety, health, environment and social management

Throughout the construction phase, ExxonMobil PNG Limited was guided by an ESMP that described the Project's approach to the management and mitigation of potential environmental and social impacts associated with construction activities.

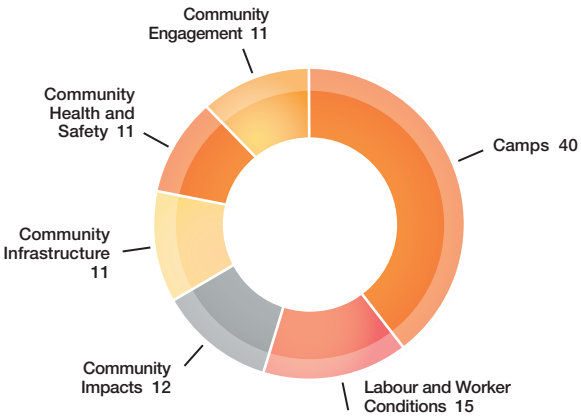
The Construction ESMP included 30 appendices, each containing a discipline-specific management plan, which was developed from the Project's Environmental Impact Statement to support the ESMP. Of these, 19 were grouped as Environmental Management Plans and the remaining 11 were Social Management Plans.

The Project monitored its activities throughout construction to verify compliance with commitments made in the ESMP and its supporting management plans. For example, social monitoring was undertaken to verify compliance with the six key social management plans of: Community Engagement; Community Health and Safety; Community Impacts; Community Infrastructure; Camp Management, and Labour and Worker Conditions.

Figure 1 shows the percentage of monitoring events conducted during construction for each of the six plans.

FIGURE 1

PERCENTAGE OF MONITORING EVENTS CONDUCTED AGAINST RELEVANT SOCIAL MANAGEMENT PLANS DURING THE CONSTRUCTION PHASE



Procurement and supply

Lancos provided materials and services to the Project including: catering; linen services; camp management; security; recruitment and hiring of unskilled labor; boat hire; heavy equipment rental; and trucking services. Where Lancos were not able to provide the services needed, other Papua New Guinean businesses were engaged.

During construction, more than 2.72 billion Kina (US$1.12 billion) was spent on Lanco services.

Combined with the services provided by other Papua New Guinean businesses, the total Project in-country spend on local goods and services reached nearly 11 billion Kina (US$4.53 billion).

The Enterprise Centre was established in April 2010 as a joint venture between ExxonMobil PNG Limited and the Papua New Guinea Institute of Banking and Business Management. The Centre provided business assessments and training to help build the capacity of Lancos and other Papua New Guinean businesses. It also connected businesses with Project opportunities.

By the start of production, the Enterprise Centre had assisted more than 17,000 Papua New Guinean entrepreneurs with developing their business capacity. The Centre also conducted 322 business assessments over the past four years, with 27 percent of these performed for Lancos as shown in Figure 2.

The Enterprise Centre delivered more than 10,000 days of capacity building training to Papua New Guinean businesses as shown in Figure 3.

Communities

Community health

The Project committed US$3.1 million (7.5 million Kina) to fund a partnership between the Texas Children's Hospital, its partner Baylor College of Medicine, and the University of Papua New Guinea School of Medicine and Health Sciences, to improve maternal health programs and reduce child mortality rates in Papua New Guinea.

The partnership involves doctors from the University of Texas being stationed at the School of Medicine and Health Sciences to provide teaching support and deliver medical services to strengthen the training of local health professionals.

MediSend International, a non-government organization based in the United States, was engaged by the Project to supply medical equipment and provide training for biomedical technicians on the use and care of the equipment. Biomedical technicians install, operate, repair and maintain equipment such as X-ray machines, incubators, and cardiac pressure monitors. Eleven Papua New Guinean biomedical technicians were trained through this program.

The Project provided funding and support, as part of its partnership with the IMR, for the development of a National Infectious Disease Diagnostic and Research Laboratory (also known as the Partnership in Health Laboratory) in the University of Papua New Guinea School of Medicine and Health Sciences building. Researchers use the laboratory to study water-borne and vector-borne illnesses, such as tuberculosis, norovirus, malaria and dengue.

FIGURE 2

NUMBER OF ENTERPRISE CENTRE ASSESSMENTS FOR LANCOS AND NON-LANCOS DURING THE CONSTRUCTION PHASE

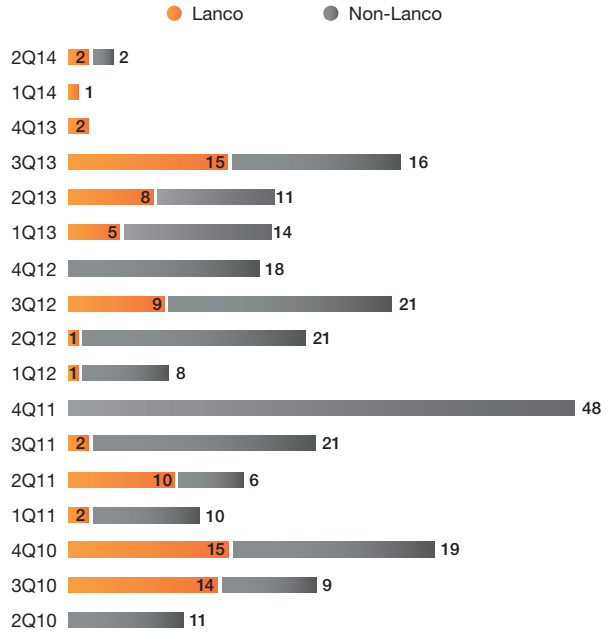
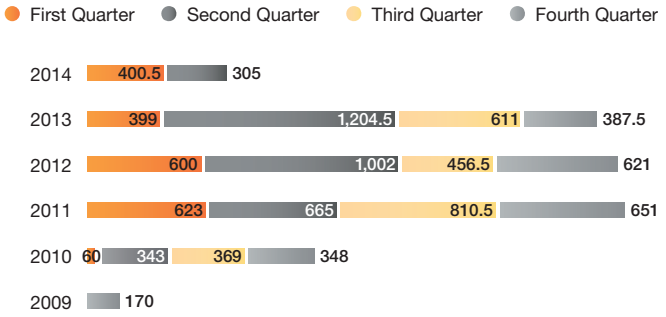


FIGURE 3

NUMBER OF ENTERPRISE CENTRE CAPACITY BUILDING TRAINING DAYS DURING THE CONSTRUCTION PHASE



In collaboration with PSI, the Project supported successful community sanitation programs. For example, the WASH Program focused on raising awareness about good hygiene practices to prevent diarrheal illness. Almost 12,900 people were educated about how to prevent diarrheal infections through the WASH Program.

As part of this Program, 8,200 WASH kits were provided to households in the Project area. Each kit contained a 20-litre bucket with tap, soap, water purification tablets, oral rehydration solution, zinc tablets, and health information brochures.

A team of 60 Papua New Guinean *'helti man'* (healthy man) and *'helti meri'* (healthy woman) ambassadors were trained as educators for the WASH Program.

Community safety

The Project has conducted many community safety initiatives, particularly with regard to traffic and pedestrian safety.

The Project worked closely with road safety authorities and communities to heighten road safety awareness and reduce risks during construction. A pedestrian and road safety awareness program was delivered to communities. This included visiting schools to highlight the importance of avoiding construction equipment, being aware of vehicles along roads, and being visible to drivers. Local traffic controllers were engaged to help deliver road and pedestrian safety awareness messages to drivers and their passengers along roads in the Project area.

Infrastructure improvements to enhance safety included widening some roads, and fencing pedestrian walking paths.

Meeting places, called *'haus wins'*, were built in remote Upstream area communities to give people a safe place to meet. *'Haus wins'* provide shelter and a water source in the form of a rainwater collection tank. The Project supported the provision of more than 20 *'haus wins'* during construction.

Sustainable community development

A Food and Agriculture Development program has helped some 9,000 people to establish subsistence food gardens through the provision of training and the supply of seedlings, planting materials, tools, livestock and poultry. It enabled families to generate an ongoing income from agricultural production.

The program involved the distribution of more than 260,000 sweet potato cuttings, 21,900 cassava cuttings, over 13,800 pineapple suckers, 2,700 orange and mandarin grafted seedlings, more than 2,000 kilograms of peanut seed, over 950 kilograms of corn seed, almost 2,000 ducks and chickens, and a wide range of temperate climate vegetables to households.

More than 120 drum ovens for baking were provided to Project communities along with training for 3,600 people in food processing methods to enable them to make sustainable incomes through the sale of baked goods.

A group of 20 entrepreneurial women from Lea Lea Village established the Lea Lea Fish Market with Project support. The Project provided business-related training sessions and a women's forum. The women created a permanent communal point where fishers could sell their catch, generating an income for their community by charging a small fee to those who use their market.

The Barging Route Waterways Memorandum of Understanding, signed in 2010, has empowered eight tribes in the Omati delta region to drive the development of their respective villages by providing opportunities for community and infrastructure development projects, as well as training and scholarship programs.

During construction, 1,350 community members completed Personal Viability training provided by the Project as part of its community development commitment. The training showed participants how to better manage their time and money; gain confidence in starting businesses; and become more self-reliant.

The Project has sponsored 49 Papua New Guinean women to attend the GWIM program, which is conducted by the Centre for Development and Population Activities. The GWIM program aims to nurture management, leadership and technical skills in women so they can better contribute to the development of their communities. The women were able to attend the first GWIM conference held in Papua New Guinea. Some of these women also attended GWIM conferences in Jakarta and Washington DC.

Schools

During construction, the Project committed approximately 13 million Kina (US$5.4 million) to support education in Project communities. This includes more than 7 million Kina (US$2.9 million) for education infrastructure and another 6 million Kina (US$2.5 million) on learning materials, education scholarships and teacher capacity building activities.

The learning materials provided included a children's book series based on the adventures of fictional character Toea, as he travels through different areas of Papua New Guinea. Toea played a vital role in delivering important safety, health and cultural messages to school-aged children, while also encouraging literacy. During construction, the Project distributed 60,000 books and activity packs from the Toea series to over 100 schools in the Project area.

The Project assisted the National Department of Education with creating opportunities for teacher training to bridge the gap in teacher knowledge between the requirements of elementary and primary schools. Grants from the Project to the National Research Institute funded two research programs in over 171 schools in the Project area, to identify teacher training needs and address challenges faced in the classroom.

Infrastructure support provided for schools in the Project area included classroom and staff housing refurbishment, new water tanks, and toilet facilities.

Volunteers

By the start of production, 1,087 Project volunteers had contributed over 20,000 hours of their time to support 29 different volunteer activities in Papua New Guinea.

Workforce

A total 55,000 workers spent approximately 200 million hours constructing Project facilities as shown in Figure 4. As shown in Figure 5, the workforce reached 21,220 at its peak in the fourth quarter 2012, with 40 percent being Papua New Guinean citizens.

FIGURE 4

CUMULATIVE WORK HOURS FOR THE PROJECT-TO-DATE

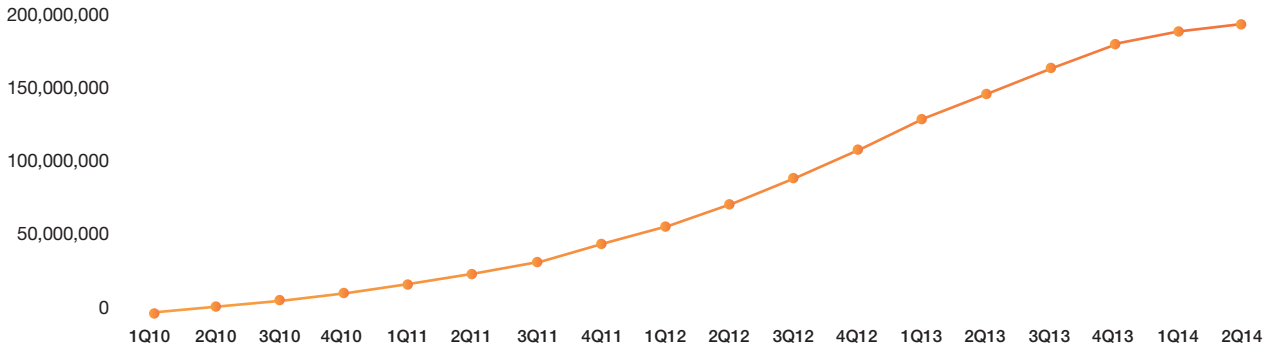
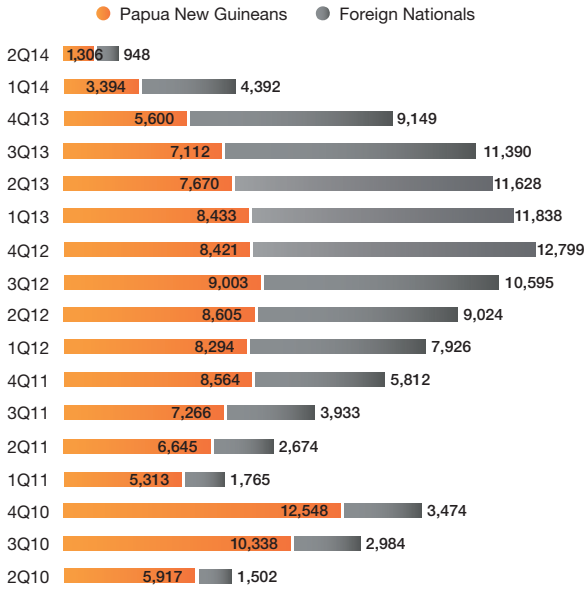


FIGURE 5

PROJECT WORKFORCE NUMBERS DURING THE CONSTRUCTION PHASE



By the start of production, more than 2.17 million hours of worker training was completed in approximately 13,000 training programs provided by the Project.

To ensure all workers had the necessary skills for their jobs, two facilities were purpose-built: the Port Moresby Construction Training Facility and the Juni Construction Training Facility. These facilities provided Project workers with accredited training in construction-related trades such as carpentry and civil construction.

Operations and Maintenance training program recruits underwent a competency-based training program geared specifically for the operation and maintenance of the production facilities. These 135 Papua New Guinean trainees completed the Operations and Maintenance training program, conducted through two intakes from 2010 to 2014.

Health and safety

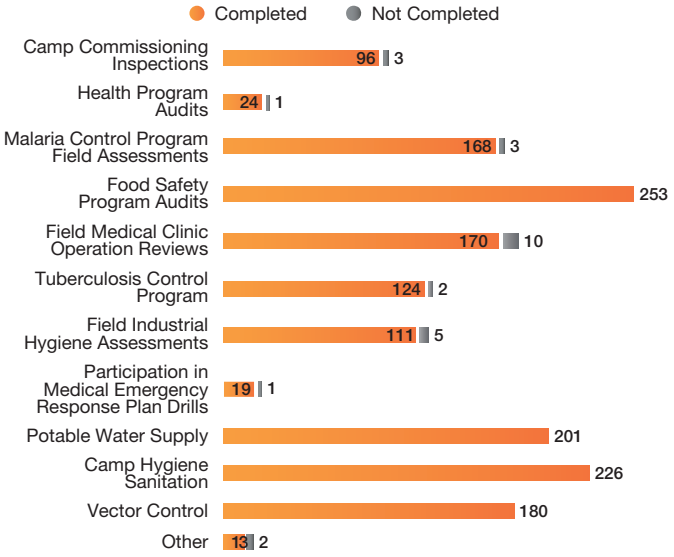
The health and safety of Project workers was the priority across all worksites.

The Project aimed to protect worker health by implementing proactive malaria and tuberculosis control programs that outlined processes workers were required to follow to minimize the risk of contracting or spreading these illnesses. These programs were reinforced with ongoing education about malaria and tuberculosis prevention during toolbox talks, lunch-and-learn sessions and site meetings.

Routine contractor health program assessments were conducted to ensure the health of the Project workforce. Since construction began, the Project completed more than 98 percent of planned health activities. This equates to more than 1,500 activities conducted across 12 different health program areas as shown in Figure 6.

FIGURE 6

COMPLETED HEALTH ACTIVITIES DURING THE CONSTRUCTION PHASE



The Project's ongoing commitment to *'Nobody Gets Hurt'* was demonstrated through the many initiatives designed to educate workers about safe behaviors on Project worksites.

Key initiatives implemented to ensure the safety of the Project workforce included:

- The Safety Champions initiative: Launched in September 2011, this initiative provided selected workers with specialized training and experience to enable them to positively influence safety in the workplace. The initial proposal was to train 100 Safety Champions, however; by the start of production, almost 1,600 Safety Champions were trained.
- The Incident and Injury Free program: Introduced in January 2012 at the LNG Plant site, it involved an orientation session for all workers and specialized skills training for supervisors, along with toolbox talks designed to create an incident and injury free workplace. By the start of production, over 14,000 workers completed the program.
- Risk Tolerance training: Risk Tolerance training encouraged workers to consider factors that influenced their decisions to accept risk, or reduce their exposure to risk. Participants were taught that how they perceived and evaluated these factors would influence their behavior, their work, and ultimately their safety.
- The Life Saving Rules: During construction, workers were required to follow Life Saving Rules and behaviors to prevent fatal incidents. The Life Saving Rules were communicated to workers and enforced in a culturally sensitive manner to ensure expectations were understood.

The Project's commitment to core safety processes, such as Job Safety Analyses and Observations and Interactions, meant workforce participation targets were consistently exceeded. Throughout the construction phase, participation levels in these processes grew in line with the Project workforce, resulting in 2.5 million Job Safety Analyses and more than 2.6 million Observations and Interactions completed by the end of the construction phase as shown in Figure 7.

Environment

Pollution prevention and resource management

During construction, the Project sought to reuse or recycle materials wherever possible to reduce the amount of waste sent to landfill for disposal. For example, more than 4,000 light vehicle tires were reused, through patented technology, for land stabilization and reinstatement works. The Project also used another 300 heavy haul truck tires in applications such as safety berms along roadsides and for erosion control. Without employing innovative recycling techniques, all of these tires would have required incineration.

Timber packing material that came with imported heavy machinery was donated to communities and used to build local infrastructure. Juni Construction Training Facility trainees used some of the timber for projects such as making school desks, tables and chairs, which were then donated to local schools. Other community groups used it in the construction and maintenance of houses, churches and community facilities.

Aluminum cans were donated to the Hides Women's Association for recycling. The sale of these cans to a recycling company in Mount Hagen has enabled the Association to raise funds for their programs, which includes buying material for sewing.

Biodiversity

Protection of Papua New Guinea's biodiversity was a core element of the construction process.

A comprehensive Biodiversity Strategy underpinned the Project's environmental commitment. The Strategy was based on surveys conducted over the previous 15 years, including surveys by the World Wildlife Fund, and baseline studies conducted for the Project's Environmental Impact Statement. A Biodiversity Offset Delivery Plan was developed as part of the Biodiversity Strategy to address biodiversity impacts that could not be managed through mitigation. The Plan contained a biodiversity offset delivery program with five components as shown in Figure 8.

FIGURE 7

NUMBER OF JOB SAFETY ANALYSES, AND OBSERVATIONS AND INTERACTIONS CONDUCTED CUMULATIVELY DURING THE CONSTRUCTION PHASE

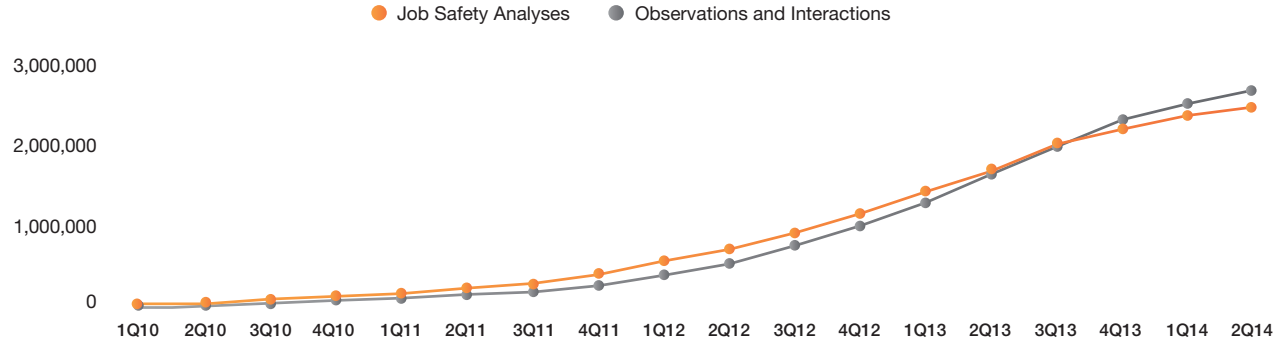


FIGURE 8

THE FIVE COMPONENTS OF THE BIODIVERSITY OFFSET PROGRAM

Cultural heritage

During construction, many previously unknown items – called chance finds – were discovered and managed under a Chance Finds Protocol agreed with the Papua New Guinean Government. The Protocol gave the Project responsibility for collecting, identifying and storing artefacts before transferring them to the Papua New Guinea National Museum and Art Gallery. Chance finds ranged from ancestral remains to stone tools and weapons. By the start of production, Project teams identified over 500 chance finds from both archaeological and oral tradition sites. Archaeological sites are those with physical evidence of past cultural activity, while oral tradition sites are those known to the people through their historical cultural stories.

Following assessment by the Project archaeologist, some 240 artefacts, and related reports, were transferred to the Papua New Guinea National Museum and Art Gallery, with many others returned to local communities in accordance with the Chance Finds Protocol.

During the Project's construction, over 5,800 archaeological and oral tradition sites were recorded.

Stakeholder engagement

Throughout construction, the Project worked to establish two-way dialogue with its many stakeholders, including Papua New Guinean women, vulnerable individuals and minority groups.

By the start of production, the Project had engaged more than 165,000 people in over 4,500 community engagements.

Some of the many stakeholder engagement activities conducted during construction include:

- A network of 100 Village Liaison Officers and Community Liaison Officers was established as a critical interface between the Project and communities. Each Liaison Officer was an active member of his or her community – often a former government representative, clan leader, peace and good order committee member, or church leader. In production, a team of Village/ Community Liaison Officers will be retained to support engagement activities.
- An open house format encouraged smaller group discussions.
- Flyers in English and Tok Pisin were distributed at meetings. In most engagements, an interpreter was used to translate information into the local dialect.
- A grievance mechanism was implemented to address individual or community complaints lodged with the Project. The mechanism involved five steps: publicizing the process; receipt and registration of grievances; review and investigation; resolution and response; and monitoring and evaluation. Issues and grievances received related mainly to concerns about compensation for land use, complaints arising from the resettlement of some residents, access to land, impacts on food resources and perceived threats to the environment and cultural sites.
- Radio programs and drama performances were regularly used.
- Advocacy workshops and site tours proved valuable in enabling Papua New Guinean Government representatives, community and business leaders, the media, foreign embassies and foreign government representatives to gain an insight into Project development. By the start of production, more than 360 advocacy workshops were conducted, and the Project had hosted visits for some 6,000 dignitaries at the LNG Plant and HGCP sites.

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

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

Oil Search

National Petroleum Company Papua New Guinea

Santos
We have the energy.

JX Nippon Oil & Gas Exploration

MRDC

PETROMIN
PNG HOLDINGS LIMITED