



PNG LNG Environmental and Social Report – Annual 2016

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Executive summary

"As we reflect on EMPNG's achievements over the past year it is important to remember the stakeholder partnerships that have made our success possible."

Andrew Barry, Managing Director, ExxonMobil PNG Limited

ExxonMobil Papua New Guinea (EMPNG) has safely produced more than 19 million tonnes of Liquefied Natural Gas (LNG) and delivered 264 LNG cargoes since production began. Of this, 7.9 million tonnes of LNG was produced and 108 cargoes delivered during 2016, which is approximately 14 percent above the original design specification of 6.9 million tonnes per annum.

EMPNG, a subsidiary of Exxon Mobil Corporation, manages and operates the Papua New Guinea Liquefied Natural Gas (PNG LNG) production facilities on behalf of co-venture partners: Oil Search Limited, Kumul Petroleum Holdings Limited, Santos Limited, JX Nippon Oil and Gas Exploration Corporation, Mineral Resources Development Company Limited, and their affiliates. This Annual – Social and Environmental Report provides a progress update on EMPNG's social and environmental commitments from 1 January – 31 December 2016.

Production

Two production milestones were celebrated during 2016 with the loading of the 200th LNG cargo in June and loading of the first cargo on the second custom-built PNG LNG vessel, the *Kumul*.

On 24 February, Papua New Guinean Prime Minister, the Honourable Peter O'Neill, also officially opened EMPNG's new Port Moresby office.

Safety and health

EMPNG has completed another year without a Lost Time Incident and continued its record of zero Lost Time Incidents since production began, bringing the record to 1295 days.



Loading of the first cargo on the second custom-built PNG LNG vessel, the *Kumul*

As well as strong safety performance, EMPNG has demonstrated innovative community health initiatives and achieved recognition from two global industry associations.

IPIECA, the global oil and gas industry association for environmental and social issues, featured EMPNG's Community Health Impact Management Program as an example of industry best practice in its *Health impact assessment* guide, while EMPNG's community health partnerships were highlighted at the Society of Petroleum Engineers International Conference and Exhibition on Health, Safety, Security, Environment, and Social Responsibility held in Norway in April 2016.

During 2016, EMPNG and the PNG Tribal Foundation helped local hospitals with donations of medical equipment and supplies.

In November, four shipping containers of medical supplies were delivered, with two donated to the Port Moresby General Hospital and the other two delivered to Angau Memorial Hospital.

264

LNG cargoes delivered to customers

Opposite:

Lower Kikori Delta, Gulf Province

A fifth container of medical supplies was delivered to Daru Hospital in December. The containers were donated from the United States with assistance from Project C.U.R.E.

A five-day workshop was held in Tari in July to train local healthcare workers to correctly identify and treat acute malnutrition in children. The workshop, conducted by the National Department of Health in collaboration with the University of Papua New Guinea School of Medicine and Health Sciences, involved 20 health care workers from Tari Hospital and other health centres throughout the Hela Province. Funding for the workshop was provided by UNICEF and through EMPNG's partnership with the Texas Children's Hospital and Baylor College of Medicine.

Since 2014, nearly 2000 children have been treated for malnutrition through the program. Texas Children's Hospital physicians are also supervising 19 research programs in paediatric care and public health in Papua New Guinea.

To commemorate World Tuberculosis Day on 24 March, EMPNG delivered tuberculosis awareness, free testing and prevention programs to workers and local communities. Tuberculosis awareness talks were also conducted with local schools.

Environment

A significant environmental milestone was achieved during 2016 with the completion of a revised Biodiversity Strategy, a supporting Biodiversity Implementation and Monitoring Program, and four biodiversity protocols. These revisions captured lessons learned during early implementation of the Biodiversity Strategy, feedback from stakeholders, and the results of biodiversity surveys conducted as part of the Biodiversity Implementation and Monitoring Program.

EMPNG's biodiversity activities during 2016 also included progressing the biodiversity offset program. In March and September, workshops were conducted with 125 conservation researchers and practitioners to address topics such as biodiversity and conservation research, best practices, policies, and partnerships in Papua New Guinea.

In April, November and December, EMPNG's Biodiversity team visited seven villages in the Lower Kikori Delta to conduct community resource use mapping, provide information about the biodiversity offset program and raise awareness about invasive species.

Community resource use mapping enables community members to identify important resource areas, and determine the status of these areas, so they can implement strategies to protect their resources. The communities were highly receptive to participating in the biodiversity offset program.

New programs to deliver Postgraduate Diploma and Masters in Conservation Management degrees focusing on biodiversity conservation were developed during 2016. These courses will be introduced in 2017 in partnership with the Mama Graun Conservation Trust Fund and the University of Papua New Guinea. Masters degree scholarships will also be offered from 2017.

A detailed freshwater ecology program examines the health of aquatic species in rivers surrounding Upstream area facilities.

Post-construction freshwater ecology monitoring conducted in September indicated that river systems had recovered from any short-term impacts caused by the construction of PNG LNG facilities. The most pronounced recovery was observed at Akara Creek downstream of the Hides Gas Conditioning Plant (HGCP).

At this site, the macro-invertebrate community composition and diversity had shown strong recovery, exceeding previous post-construction survey predictions.



A plant in the genus *Psychotria* discovered for the first time during biodiversity surveys. The flowers of this shrub are among the largest known for the genus. This new species is only found in one location on Hides Ridge

Air dispersion models, using actual emissions data collected between June 2015 and June 2016 for PNG LNG facilities, were completed during the second half of the year. This post-construction modelling confirmed predictions of no off-site impacts for normal operating emissions as presented in the PNG LNG Environmental Impact Statement.

Workforce development

More than 2500 workers, including EMPNG employees and contractors, were employed in production-related roles in 2016. Over 2000 of these were Papua New Guinean citizens, who comprised 82 percent of the workforce.

Employment of workers from areas surrounding EMPNG facilities is a priority for EMPNG. Of the total Papua New Guinean workforce, 37 percent are employed at worksites in their local area. Another 36 percent are employed from the broader regional areas in which the company operates. Other Papua New Guinean workers are employed from elsewhere in the country.

During 2016, the equivalent of 96,800 hours of training were delivered through 2180 courses. Ninety-five percent of all training hours were delivered to Papua New Guinean citizens.



EMPNG's first Production Engineer, Gerard Schulze at Hides

Thirty-nine Operations and Maintenance trainees completed the Advanced Skills training component of the Operations and Maintenance training program at the LNG Plant and HGCP in December. This is the first group of Operations and Maintenance trainees to complete Advanced Skills training in Papua New Guinea. The training was previously conducted in production facilities in Canada and Malaysia for the first and second intakes respectively.

EMPNG has funded scholarships for two intakes of 16 trainees to attend the Kumul Petroleum Academy in Port Moresby, which is the former Port Moresby Construction Training Facility that was handed over to the Papua New Guinean Government in 2014. The first intake of scholarship recipients began their 15-month training program in August.

Toward the end of 2016, nine wastewater treatment plant operators completed professional accreditation at the HGCP.



Kumul Petroleum Academy scholarship recipients Kwalimu Hiri and Micah Aluy learn how to work on flanges at the Academy in Port Moresby

These operators are among the first in Papua New Guinea to receive this accreditation, which is nationally recognised in Australia.

Supporting Papua New Guinean businesses

EMPNG uses the services of nine landowner companies (Lancos) and some 150 non-Lanco Papua New Guinean businesses for production-related activities. Lancos provide services such as labour hire, maintenance, transportation, fuel distribution, freighting and vegetable supplies.

Non-Lanco Papua New Guinean businesses are used for services including security, freight and logistics, transportation of personnel, food supply, customs clearance, surveying, maintenance supplies, medical services and construction material testing.

In 2016, EMPNG's total in-country spend on third party services was more than PGK337 million (US\$106 million). More than PGK150 million (US\$47 million) of this was spent on Lanco services.

Since the start of production, EMPNG has spent more than PGK1.2 billion (US\$378 million) on Papua New Guinean services. This includes almost PGK514 million (US\$162 million) spent with Lancos.

In March 2016, EMPNG and the Papua New Guinea Institute of Banking and Business Management announced a 12-month continuation of their long-standing partnership to develop the capacity and skills of Papua New Guinean businesses through the Enterprise Centre.

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In October, the Enterprise Centre hosted a Local Supplier Engagement forum with more than 200 local business owners. The forum aimed to educate business owners about topics such as: governance and leadership; safety, health and environment; compliance; and business ethics.

The equivalent of 6000 days of training were completed at the Enterprise Centre during 2016, with support from EMPNG and other organisations.

Social development

EMPNG's community livelihood improvement project, which was launched in August 2015, continues to help develop the capacity of community groups in the Upstream area.

The project is designed to educate and encourage community groups to improve the livelihoods and standards of living of their members, and to generate household and group income from small enterprise development.

By the end of December, the project had supported 17 women's groups with the development of skills such as land preparation, crop planting and poultry production. To date, more than 500 women and almost 130 men have benefitted from the program and gained skills in distributing planting materials and seeds, improved land management techniques, good crop management practices, poultry distribution, and improved food and health literacy and hygiene.

The Agricultural Livelihood Project, which builds on the food and agricultural program introduced to LNG Plant site communities in 2013, is supporting local farmers with agricultural training and materials to help them achieve sustained income to benefit their own household and the wider community. During 2016, 107 households in LNG Plant communities received agricultural training, while another 80 farmers received ongoing mentoring support. More than 4400 one-on-one mentoring and advisory support sessions were conducted during the year.

In August, EMPNG provided new teachers' houses for Papa Elementary School and Porebada, Boera, and Lea Lea primary schools in LNG Plant site communities. In addition to teacher housing, EMPNG is supporting the PNG Teaching Excellence Awards that were launched in late 2016 as part of the Prime Ministers' Excellence Award program.

In November, EMPNG completed the construction of a new clinic building and staff house for Para Clinic in the Hela Province.

EMPNG, in partnership with the Hides Special Purposes Authority Inc. and local Lanco the Hides Gas Development Company Limited, invested PGK1 million (US\$315,000) in the new infrastructure to improve healthcare for local communities.



From left: ExxonMobil Production Company Regional Vice President, Asia Pacific Region, Raymond Jones, Hides Special Purpose Authority Inc. Chairman, Lemson Mabiria and EMPNG Managing Director, Andrew Barry at the Para Clinic handover

More than 1200 students from 18 schools participated in the ExxonMobil Science Ambassador Program in 2016. Fifty-five EMPNG representatives delivered 45 sessions of the Program to eight schools in Hides, four schools in LNG Plant site communities and six schools in Port Moresby. For the first time, the Program was delivered to Gerehu and Carr Memorial and Coronation primary schools in Port Moresby.



Mananda Primary School students participating in the Science Ambassador Program in Hides

EMPNG sponsored nine Papua New Guinean women to attend the Centre for Development and Population Activities Global Women in Management (GWIM) program held in Jakarta, Indonesia from 18 April to 13 May 2016. These are among 62 Papua New Guinean women who EMPNG have supported to participate in the GWIM program since 2006.



EMPNG volunteers helping Buk bilong Pikinini during National Book Week

During 2016, the GWIM program celebrated its 10th anniversary in Papua New Guinea. In March, the inaugural Advancing PNG: Women Leaders Network Inc. annual general meeting was held in Port Moresby. The Network was established to ensure GWIM participants continued to support each other and share ideas to influence positive change in Papua New Guinea.

Forty women from Porebada, Boera, Papa, and Lea Lea villages have completed financial literacy training conducted by Nationwide Micro Bank (MiBank) with support from EMPNG. The training has helped these women understand how to make, manage and invest money. The women are transferring their new financial literacy skills to their respective communities.

During 2016, EMPNG and the Australian Government jointly launched scholarships through the Australia Awards Pacific Scholarships program. The Australia Awards – PNG LNG Scholarships program focuses on supporting students who are living in rural and remote provinces where EMPNG has its operations. Seven students are currently in the Scholarships program.

EMPNG has also provided a PGK350,000 (US\$110,250) *Pidu* or 'dolphins and dugongs' research scholarship to support three postgraduate students with their research into protecting the unique Australian snubfin dolphin (*Orcaella heinsohni*). In the Pacific Islands, this species is only found in the Kikori River Delta making it a unique species for Papua New Guinea.

EMPNG has committed an additional PGK282,000 (US\$89,100) to the Port Moresby Nature Park for its educational programs and the *Piku* Project. This contribution is part of EMPNG's ongoing sponsorship of the Park, which commenced in 2013 and has enabled the Park to develop a structured school excursion program.

Close to 60,000 students have participated in the excursion program.

EMPNG also contributed to World Wildlife Day activities held at the Nature Park in March 2016, with more than 2000 people participating in the day. To date, EMPNG's total contribution to Port Moresby Nature Park has reached more than PGK2.3 million (US\$724,500).

More than 1400 volunteer hours were recorded with over 360 EMPNG employees engaged in 17 volunteer activities during 2016.

Stakeholder and community engagement

EMPNG conducted 1795 formal community engagements in 136 communities and 9269 informal engagements in 176 communities, during 2016. These engagements involved more than 41,000 attendees.

During 2016, EMPNG started community tours of the HGCP, with a group of 11 women and six men from the Belopa Community Group being the first to participate and learn about Hides operations.

As part of the tour, the group visited the Hides medical clinic for a health talk about breast cancer awareness. By the end of 2016, four community groups had completed HGCP site tours.

At the LNG Plant site, Boera and Porebada primary school students were among eight school and community groups to tour the LNG Plant facilities in 2016.

EMPNG's site tours are intended to help communities better understand what life is like for workers at the LNG Plant and HGCP. In addition to community groups the tours are open to school students, church groups, youth groups and women's groups.

By the end of 2016, more than 250 dignitaries had participated in EMPNG's advocacy program and facility site tours.

"Now that EMPNG has settled into production operations, we continue to work together with communities, governments and other stakeholders on a single focused goal to create lasting social, environmental and economic opportunities for Papua New Guinea."



Andrew Barry
Managing Director,
ExxonMobil PNG Limited

41,000+
attendees at
community
engagements

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For the purposes of this Report, the currency conversion rate used, between Papua New Guinea Kina (PGK) and United States Dollars (US\$) is 0.3150 [PGK1 = US\$0.3150]. This rate is as published by the Bank of Papua New Guinea at 31 December 2016.



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