



PNG LNG ENVIRONMENTAL
AND SOCIAL REPORT



2020



ExxonMobil

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Santos



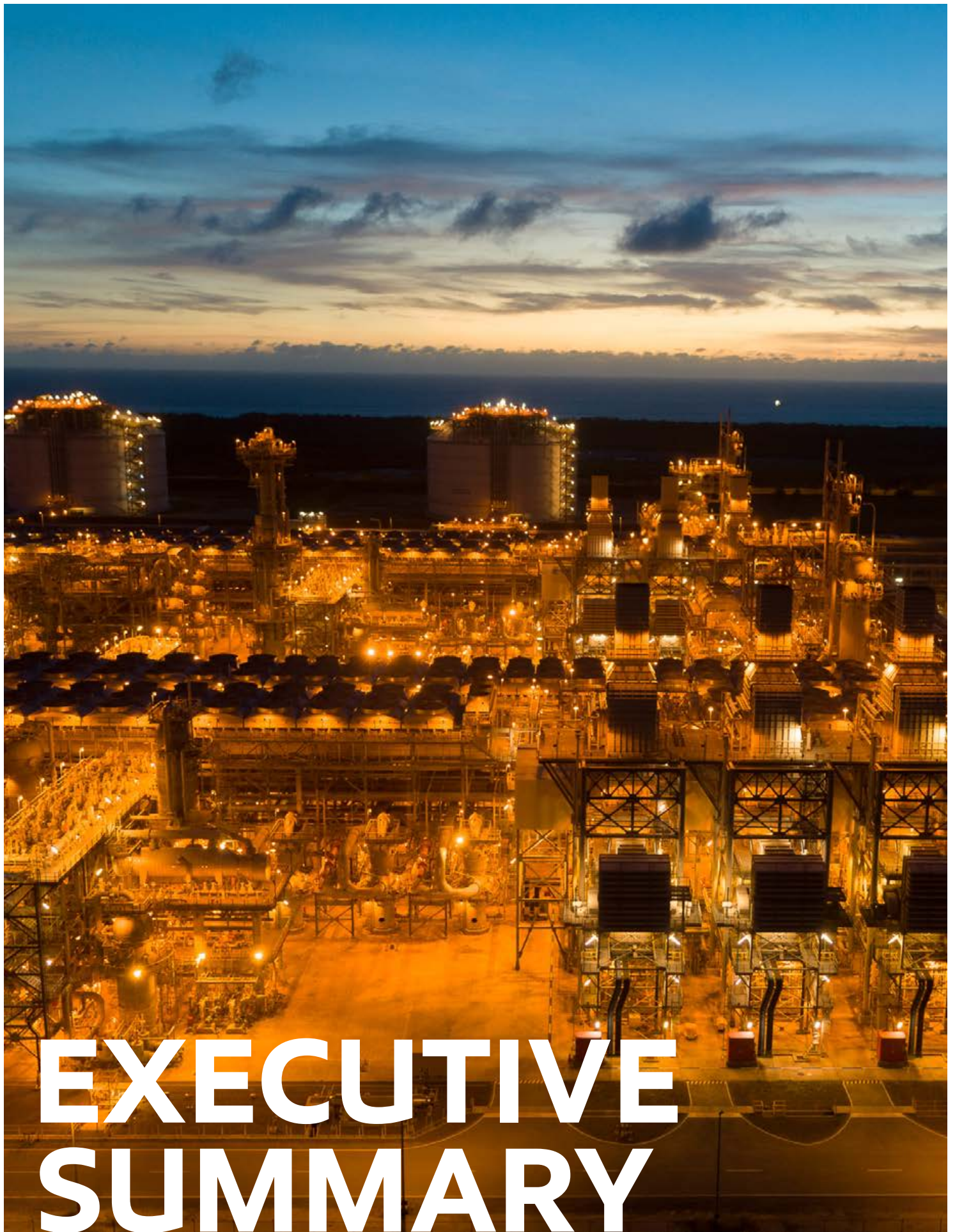
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For the purposes of this Report, the currency conversion rate used, between Papua New Guinea Kina (PGK) and United States Dollars (USD) is 0.2850 [PGK1 = USD0.2850]. This rate is as published by the Bank of Papua New Guinea as at 31 December 2020.



EXECUTIVE SUMMARY

The global impact of COVID-19 reached Papua New Guinea during 2020 and, as a result, ExxonMobil PNG Limited implemented measures including 'island mode' operations to protect its workforce on-site while safely continuing production.

Despite the ongoing challenges of pandemic restrictions, the Papua New Guinea Liquefied Natural Gas (PNG LNG) Project recorded its highest production year and best safety performance since operations began, while continuing to meet environmental and social commitments made in the Production Environmental and Social Management Plan.

A subsidiary of Exxon Mobil Corporation, ExxonMobil PNG Limited (EMPNG) manages the operation of PNG LNG 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 Environmental and Social Report provides a progress update on EMPNG's environmental and social performance from 1 January to 31 December 2020.

Production

During 2020, EMPNG loaded its 600th LNG cargo and produced a record 8.8 million tonnes of LNG. More than 50 million tonnes of LNG and 696 LNG cargoes have been shipped to customers in Asia since production began.



LNG Plant Marine Terminal jetty

As a result of continued stable operations at the LNG Plant, Papua New Guinea's Department of Petroleum has approved a variation of the plant's original operating parameters, which resulted in a production volume capacity increase from 8.5 million tonnes per year equivalent to 9.3 million tonnes per year equivalent.

Work was completed on a Dirio Gas & Power plant tie-in project from the LNG Plant, which will provide energy for Port Moresby businesses and communities.

National content

EMPNG aims to create long-term shared value from national content initiatives for its stakeholders in the areas of workforce development, supplier development, and strategic community investment.

EMPNG's workforce development priority is to grow, develop and enable the full contribution of Papua New Guinean citizens in the workforce.

HIGHLIGHT

EMPNG GETS NEW MANAGING DIRECTOR

ExxonMobil has appointed Peter Larden as EMPNG's new Managing Director.

Mr Larden joined ExxonMobil in Melbourne, Australia in 2005 and has held numerous senior-level technical and supervisory roles with the company across Australia, the United States, United Kingdom and Africa. He was involved in the PNG LNG Project based in Melbourne from 2009 to 2010. His most recent role was as President of ExxonMobil Canada Limited, where he was responsible for production, development and exploration interests in Atlantic Canada and Western Canada.

Mr Larden replaces former EMPNG Managing Director, Andrew Barry who accepted a position as Vice President of Global LNG Marketing for ExxonMobil in Singapore, with responsibility for LNG marketing activities worldwide. Mr Barry has led EMPNG since 2015, achieving record LNG production levels, and an industry-leading safety performance.



EMPNG's new Managing Director, Peter Larden



LNG Plant Operations Competency Assurance Standard assessors, Appollonia Nabo and Moale Bae

At the end of 2020, PNG LNG's workforce was 2784 employees and contractors. This was reduced from 3964 workers at the end of 2019 due to the suspension of some Upstream area projects as a result of travel and workplace restrictions caused by COVID-19. The 2020 workforce included 2539 Papua New Guinean citizens, who comprised 91 percent of the workforce, compared to 86 percent in 2019. Of the Papua New Guinean workforce, 20 percent is female, which is an increase from 17 percent in 2019. Ten new Papua New Guinean engineers were recruited to production operations in 2020, along with the second intake of graduate engineers.

Workforce training and development continued during pandemic restrictions, with many training programs delivered online. The equivalent of more than 87,030 hours of training was provided in 2020 through more than 2370 courses. Ninety-five percent of training participants were Papua New Guinean citizens.

On 1 September, EMPNG achieved a significant milestone with its first shift fully managed and operated by qualified Papua New Guinean workers. This included Hides Gas Conditioning Plant and pipeline operations supervisors, and control room, field and pipeline technicians. All EMPNG Control Room Technician positions are now occupied by Papua New Guinean citizens, including four women. Technicians begin their careers with EMPNG through the Operations and Maintenance training program.

Thirty-six Operations and Maintenance technicians, including six women, have qualified as Competency Assurance Standard assessors. In this capacity, they verify the competency of a technician for a particular procedure or task. Papua New Guinean citizens now comprise almost half the number of assessors at EMPNG.

Twenty-seven Junior Technicians, including 10 women, from the fifth intake of the Operations and Maintenance training program began on-the-job training at the LNG Plant in January following completion of their 12-month Junior Technician program at the Kumul Petroleum Academy. EMPNG also welcomed its sixth intake of Operations and Maintenance technician trainees. The 17 new trainees consist of five women and 12 men who are receiving training through the Kumul Petroleum Academy.

When they have completed training, these trainees will join the 198 Operations and Maintenance technicians, including 50 women, who are currently employed in production activities.

More than 40 percent of Operations and Maintenance technicians progressed to the next Technician Level during 2020.

In addition to creating employment opportunities and increasing the skills of the workforce, EMPNG aims to develop and engage the services of Papua New Guinean businesses so they can become self-sustaining enterprises that create more employment opportunities and contribute to the nation's economy. EMPNG has spent more than PGK15 billion (USD4.3 billion) on Papua New Guinean goods and services and invested some PGK27 million (USD7.7 million) in Papua New Guinean business development activities since the start of construction.

During 2020, 15 landowner companies (Lancos) and 196 non-Lanco Papua New Guinean businesses were engaged for production-related activities.

EMPNG's total in-country spend with Papua New Guinean businesses in 2020 was more than PGK817.3 million (USD232.9 million) compared to PGK755 million (USD215 million) in 2019.

Of this, approximately 40 percent was spent on Lanco services, which equates to more than PGK311.4 million (USD88.7 million) and compares to PGK239.3 million (USD68.2 million) spent on Lanco services during 2019.

Lanco services include road maintenance, civil works, transportation of personnel, fuel distribution, security, catering, and labour hire.

Non-Lanco businesses provide services such as road maintenance, transportation of personnel, security, freight and logistics, catering and food supply, customs clearance, maintenance, surveying, inspection and testing, medical services and waste management.

EMPNG's work with the Enterprise Centre during the past decade has helped build the capacity of PNG LNG's two representative Lancos. The Centre has also helped to develop Papua New Guinean businesses such as Nares Engineering Limited and Total Waste Management, which have both become internationally certified businesses that are now attracting overseas contracts.

With EMPNG's assistance the Enterprise Centre, which is overseen by the Papua New Guinea Institute of Banking and Business Management (IBBM), is transitioning to self-sustaining operations. This includes expanding the Centre's client base to provide business development services to other mining and petroleum industry operators and their suppliers, as well as to other large Papua New Guinean businesses. EMPNG remains committed to ensuring the long-term success of the Enterprise Centre as an active member of the IBBM Board.

EMPNG's community investment program supports sustainable community and economic development through education, health, livelihood support, law and justice, environment awareness, key infrastructure improvements and community-based initiatives.

During 2020, EMPNG invested PGK8.4 million (USD2.4 million) in the community through contributions, sponsorships, in-kind support and community-based projects. An additional PGK57.4 million (USD16.4 million) was invested in local infrastructure through infrastructure tax credit projects. More than PGK10 billion (USD2.9 billion) has been invested in community initiatives and local infrastructure since construction began.

EMPNG has renewed its contract with ANU Enterprise Proprietary Limited to continue the Community Livelihood Improvement Project, which began in 2015. The Project is helping to provide financial independence and improve standards of living for communities in Hides, Juni, Nogoli, Angore and Komo through training and support in areas such as nutrition, financial literacy and farming techniques. To date, EMPNG has invested almost PGK17 million (USD4.8 million) in these communities through the Project. Since the start of the Community Livelihood Improvement Project, communities have earned more than PGK537,000 from fresh produce sales to the Hides Alliance Group, which provides catering services for the Hides Gas Conditioning Plant.

Investment in community infrastructure continues, with funding provided during 2020 for a new Porebada Elementary School classroom, a new teacher's house at Kutubu Secondary School, a new community resource centre in Papa Village, and new staff houses for Redscar High School and Lea Lea Primary School.

The Advancing PNG: Women Leaders Network, which consists of alumni from the ExxonMobil-supported Centre for Development and Population Activities Global Women in Management program, is implementing women's empowerment programs. In 2020, the Network launched a member credit scheme in partnership with the Ambumangre Micro Credit Scheme. This initiative will help more than 50 different communities access funds in support of women's economic empowerment.

The Network has also partnered with the Helaro Hope Association to deliver Hiri Motu pottery workshops for women in coastal villages. The workshops are intended to keep this important culture alive for future generations and to create economic opportunities for women.



Helaro Hope Association President and Co-founder, Dobi Isaiah (left), with women participating in a Motuan pottery workshop in Porebada

EMPNG is maintaining ongoing support for Buk bilong Pikinini in its mission to increase literacy rates through the establishment of community-based libraries that give children access to reading materials.



Image courtesy of Buk bilong Pikinini

Buk bilong Pikinini launches a new early childhood development app



Head Start conservation program workers ready to return *piku* to their original home at Wau Creek

During 2020, EMPNG and Buk bilong Pikinini launched an early childhood development app, which will be used by Buk bilong Pikinini's library learning centres to help teachers use technology to support children's learning.

Environment

The Port Moresby Nature Park has celebrated a milestone with the completion of the five-year Head Start conservation program funded by EMPNG and delivered in partnership with the University of Canberra in Australia, Kikori River Catchment Area landowners and relevant authorities, to protect pig-nosed turtles (*Carettochelys insculpta*), or *piku*.

The program involved raising some 45 turtle eggs at the Nature Park, which were rescued from Wau Creek in the Lower Kikori region, with the intention of returning them back to the creek as adult turtles. In August 2019, the first 15 turtles from the program were released back into the wild once they had reached a size of approximately 15 centimetres in shell length.

During 2020, the remaining pig-nosed turtles raised through the program were returned to their original home at Wau Creek. Wau Creek residents have since expressed interest in creating their own in-situ turtle nursery to maintain ongoing protection of the *piku* species.

Twenty-two members of the Lake Kutubu Wildlife Management Area Committee have completed the final two modules of conservation training delivered by mammal expert Enock Kale. The final modules covered mammal and plant survey techniques.

Ten Upstream area communities completed resource mapping during 2020 and are now ready to establish conservation deeds for areas identified for conservation.

In July, a conservation committee was formed for the Lower Kikori region and involved community leaders from the Lower Kikori Delta, including representatives from the East and West Kikori local-level governments. For the first time, communities that were not part of the Barging Route Waterways Memorandum of Understanding signed between EMPNG and eight Kikori River tribes in 2010, showed interest in dedicating their land to support conservation initiatives.

Through waste reduction initiatives, including recycling, as well as a decrease in Angore Gathering System and earthquake recovery works, EMPNG achieved a 20 percent reduction in waste during 2020 compared to the previous year. More than 60 tonnes of used batteries from both the Hides Gas Conditioning Plant and LNG Plant site were sent to an approved Papua New Guinean facility for recycling in 2020. Another 200 tonnes of waste from the LNG Plant site was recycled during the year, including scrap metal and waste oil. Approximately 215 tonnes of waste oil was sent to an approved Papua New Guinean specialist contractor for recycling through their waste oil processing unit.

Almost 60 tonnes of oily wastewater was treated through the LNG Plant's dissolved air flotation unit with no impact to the quality of discharge water.

Social

EMPNG has completed over 70 million hours of work since the start of production. During this time, the LNG Plant has achieved more than seven years of work without a Lost Time Incident and one year without a restricted work incident. EMPNG has had no Lost Time Incidents for more than three years and no significant process safety events for almost seven years.

EMPNG's Safe Choice program, which was introduced in 2019, is empowering workers to make safer choices in the workplace. There are now 179 Safe Choice coaches, consisting of workers who have completed training to mentor, support and encourage their colleagues to make safe choices at work.

During 2020, workforce health activities focused on maintaining the physical and emotional wellbeing of workers during pandemic restrictions. To prevent the transmission of COVID-19, critical safeguards were implemented involving protocols such as: the use of masks; increased hygiene standards; social distancing; virtual meetings; revised shift rotations to accommodate pre-work quarantine procedures; and COVID-19 testing. As a result, EMPNG recorded no workplace acquired COVID-19 cases.

To support Papua New Guinea's pandemic response, EMPNG donated medical equipment to the National Department of Health. The equipment was used to establish an infectious disease isolation facility at Port Moresby General Hospital. EMPNG volunteers helped distribute the medical equipment and personal protective equipment to hospitals and frontline health workers during the year. EMPNG also provided food donations for frontline health workers and health facilities.



EMPNG employees support the National Department of Health with preparing personal protective equipment packages for frontline health workers as part of pandemic response efforts

To improve long-term community health outcomes, EMPNG worked closely with the Hela Provincial Health Authority to deliver a new sterilisation building and install two 400-litre steam sterilisation machines at Tari General Hospital. The sterilisation building and steam sterilisation units are anticipated to increase the hospital's capacity to treat more patients by speeding up the sterilisation process between procedures.

During 2020, EMPNG conducted 5408 engagements with communities throughout the PNG LNG area of operations. These were held through almost 2000 formal and some 3400 informal engagements with 36,650 stakeholders.

Community engagements were undertaken in accordance with COVID-19 safe practices and most of the engagements regarded raising awareness about COVID-19.



Papa Pre-school Head Teacher, Elder Baga Apoma, reads COVID-19 preparedness advice provided by EMPNG

EMPNG commemorated Papua New Guinea's 45th Independence Day in September with a webinar featuring local dignitaries talking about the petroleum industry's contribution to nation building. The webinar was opened by Papua New Guinea Prime Minister, the Honourable James Marape, who said PNG LNG was one of the greatest success stories of the country's young economy. He also commended the EMPNG workforce for their contribution and service to the country.

EMPNG is maintaining ongoing engagement with the government and communities of Papua New Guinea to realise initiatives that will help drive sustained economic and social development for the country.

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Image captions:

Cover EMPNG Field Operations Technician, Petrus Paul and OIMS Coordinator, Wesley Spinder at the HGCP

Executive Summary The LNG Plant at dusk



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Eneji Bilong Wol. Luksave Bilong Papua Niugini.*