



Pathways to a Sustainable Future

TotalEnergies in Papua New Guinea

Sustainability Report 2015 - 2022



Papua LNG is a liquefied natural gas (LNG) production project **led by TotalEnergies in partnership with ExxonMobil, Santos and JX Nippon Oil & Gas Exploration**, established in response to Papua New Guinea's desire to develop its gas resources.

The gas resources are estimated to be equivalent to more than **1 billion barrels of oil**. The Project will have an LNG export capacity of **5.6 million tonnes per year (Mt/y)**.

The Papua LNG project will consist of **9 production wells, 1 water injection well, 1 CO₂ re-injection well, a gas processing plant and 320km of pipeline** (60km onshore) extending from the processing plant to the liquefaction plant located at Caution Bay near Port Moresby.

The Project is a direct response to the growing energy needs of the Asian market and will not only contribute significantly to Papua New Guinea's economic growth with

a focus on people development but will also be a **landmark project in terms of sustainability, carbon footprint optimisation, and biodiversity considerations**.

The Papua LNG project integrates **sustainability as one of its key pillars**. This is illustrated by the innovative solution to re-inject CO₂ from the production wells from day one. In terms of biodiversity, the Project is committed to **Biodiversity Net Gain**.

The Papua LNG project will ensure that a skilled local workforce is established which is expected to provide in excess of **3,000 jobs for the region over the life of the Project**.

Our aim is for the Papua LNG project to be exemplary in its development, paying particular attention to environmental and biodiversity considerations and affording respect to local communities.



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Stakeholder Dialogue

Extensive and ongoing stakeholder dialogue is a key aspect of all Papua LNG project activities.



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Papua LNG Roadshow

The Roadshow engaged with thirty-one communities gathered in thirteen locations, hosting question and answer sessions in each location.



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Engagement with Communities

Papua LNG is committed to investing in the development and social wellbeing of those living within our Project Area.



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Land Access and Social Studies

Papua LNG places the protection of biodiversity and ecosystem services at the heart of all our projects and operations.

“ I am very pleased to share Papua LNG's inaugural edition of what we plan to make an annual publication. This inaugural report focuses on our first seven years in Papua New Guinea between 2015 to 2022, and illustrates our achievements in relation to environment, biodiversity and the development of local community initiatives.

Jean-Marc Noiray, Managing Director TotalEnergies EP PNG



Welcome to the first Sustainability Report

highlighting the achievements of Papua LNG since TotalEnergies took over operatorship of the Project in Papua New Guinea.

We examine every aspect of our operations to ensure we balance social and ecological impact with mutually productive outcomes across our entire energy value chain.

Our extensive consultations with the government of Papua New Guinea and the multiple stakeholders involved underscore the economic significance of the Project to the country and stand as a model for constructive engagement between the Project and the community.

Our interactive approach has allowed us to add quantifiable progress to those living within our Project area and to maintain a resolute commitment to the protection of Papua New Guinea's distinctive biodiversity and environment.

We are proud to stand together with the people of Papua New Guinea at the forefront of this journey towards a more sustainable future.



Jean-Marc Noiray, TotalEnergies EP PNG Managing Director, is presented with cultural gifts from the women of Orokolo village during a visit in 2021.

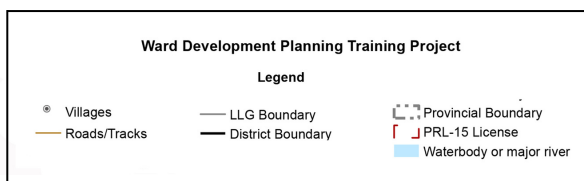
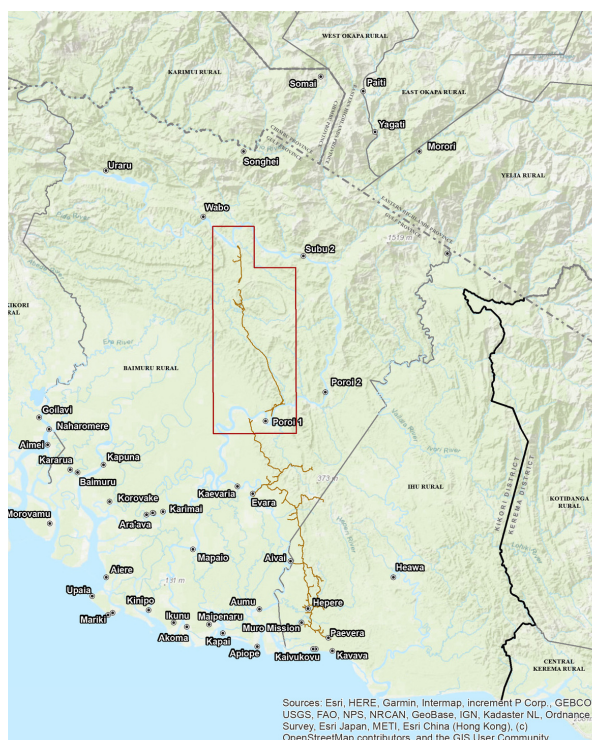
Community Support: Key Facts and Figures

Since the inception of the Papua LNG project in 2012, we have initiated several community support and development programs within our Project Area. This area includes the Petroleum Retention Licence block (PRL15), the Pipeline Export Route and Waterways. These are located within a remote section of Papua New Guinea's Gulf Province, where access to basic services is extremely limited.

Villages within the Project Area:

PRL15 and WATERWAYS: Wabo, Poroi 2, Subu, Ura, Poroi 1, Mapaio, Kaevaria, Evara, Aivai, Aumu, Apiope, Kapai, Kapai 2, Akoma, Kairu'u and Ikunu, Maipenaru, Mirimailau.

PIPELINE EXPORT ROUTE: Muro Mission, Ere, Kilavi, Avavu, Huruta, Hepere, Kaivakovu, Marea, Larehairu, Iuku, Harevavo, Areava 1 and Arehava 2, Pavera, Kavava, Oru Iariau, Herekele, Mareke, Ururu, Miha, Mirimurua.



Map of the Project Area, Gulf Province



Purari river, Gulf Province



“ *Papua LNG has been investing in the PNG labour force through adult literacy and scholarship programs since 2019* ”

Developing Local Skills

Papua LNG has been investing in the Papua New Guinea labour force through **adult literacy and scholarship programs** since 2019. We provide scholarships in **Technical and Vocational Education Training** as well as placements within the **Marine Cadets program**.

Medivac and Fuel

Papua LNG provides fuel to local communities for transport to the Kapuna Rural Hospital. To date, there have also been **thirty-three medical evacuations** to Port Moresby.



TVET students, Port Moresby Technical College, January 2021



171

young men and women from Gulf Province trained at Port Moresby Technical College

13

community volunteer tutors have been trained in the adult literacy program

70

students graduated from the Technical and Vocational Education Training program

185

learners in the adult literacy program. 62% female and 38% male

30%

of graduates from the Technical and Vocational Education Training program were female

20

young men from the Gulf Province have been trained at the Port Moresby Maritime Training College

Papua Liquefied Natural Gas Project

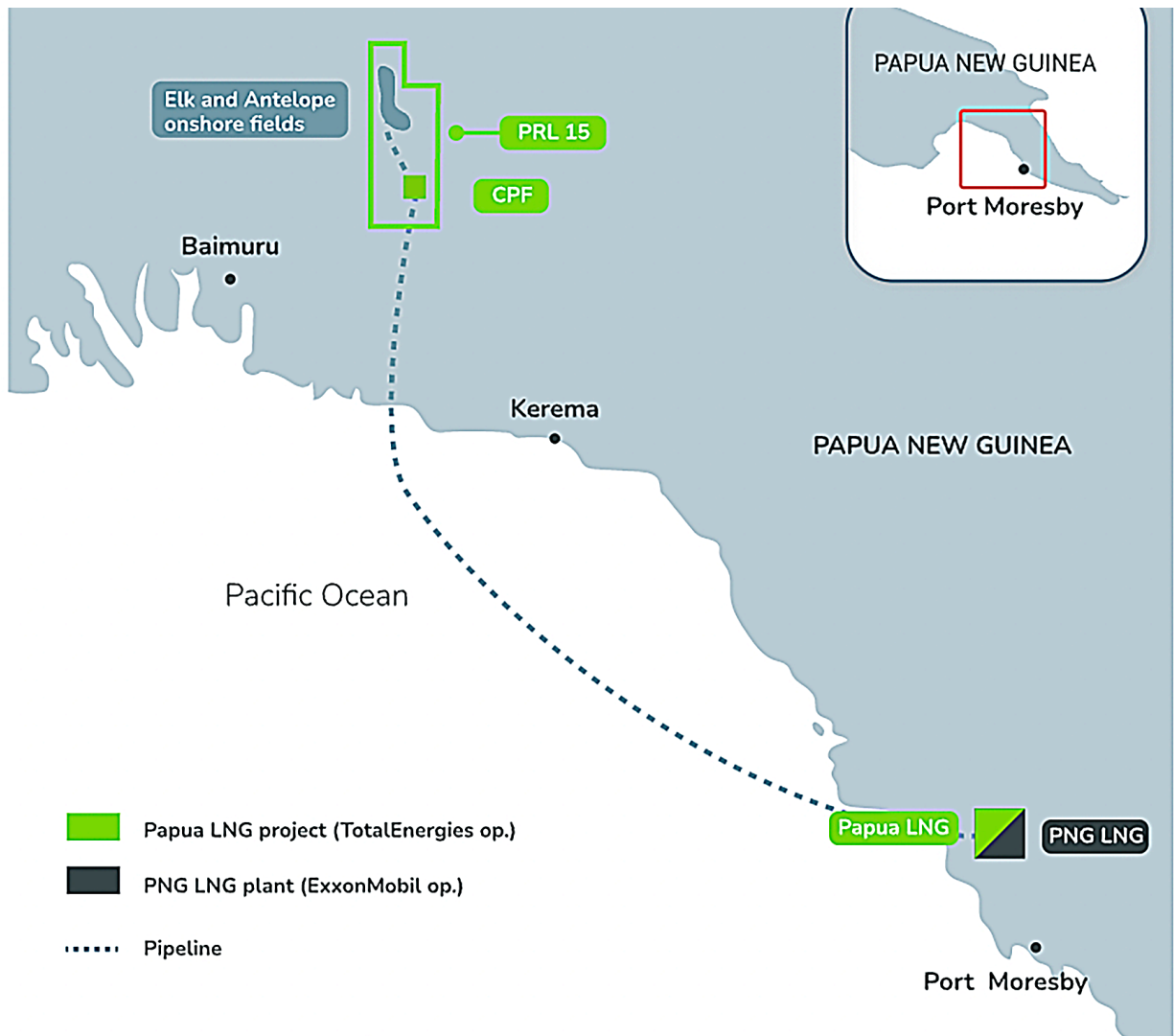
The Papua LNG project will target the production and commercialisation of two main gas discoveries (Elk and Antelope) located inside the Petroleum Retention Licence block (PRL15). Raw gas and condensate will be recovered from the Elk-Antelope gas fields, processed, and transported through two export pipelines to the existing Liquefied Natural Gas facility at Caution Bay, approximately twenty kilometres northwest of Port Moresby, in Central Province. This facility will be expanded to process the Project's natural gas and condensate.

Preparatory groundwork for the Papua LNG project began in 2012. The physical infrastructure of the Project will include the construction and operation of gas production wells, a gas conditioning plant and export pipelines. This is anticipated to require a five-year construction period, followed by thirty-five years of operation.

In July 2022, TotalEnergies, as the operator, announced the decision of the Papua LNG joint venture to commence the first phase of Front-End Engineering and Design (FEED) studies for the Project's upstream production

facilities. The integrated FEED was officially launched on 6 March 2023. In parallel, studies for the downstream liquefaction facilities are progressing in line with the overall Project schedule. The Project is targeting a Final Investment Decision (FID) in early 2024 and commissioning in early 2028. Julien Pouget, Senior Vice President Asia Pacific for Exploration and Production and Renewables at Papua LNG stated that "the Papua LNG project is well positioned to contribute to growth in LNG supply worldwide, especially for customers in Asia seeking to decarbonise from coal to gas, in line with our strategy to lower global greenhouse gas emissions."

The Project's estimated footprint will cover approximately eight hundred and fifty hectares, which will include the central processing facility, wellpad access roads, flowlines and export pipelines. At the peak of construction, the Project will require a few thousand skilled and unskilled workers, generating significant employment opportunities within Papua New Guinea. The Project is expected to contribute to Papua New Guinea's exports, revenue and gross domestic product at local, provincial and national levels.



Papua LNG project map



Environmental Impact Statement (EIS) roadshow, Gulf Province, April 2022

Principles of Action



TotalEnergies and the Papua LNG project are committed to ***protecting the environment*** by placing sustainable development at the heart of all our projects and operations. We are structuring our approaches and strategies around the United Nations Sustainable Development Goals.



Foundations



Construction



Sustainable Development Goals

The Sustainable Development Goals provide a blueprint for achieving a better and more sustainable future for all. They address the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice. In Papua New Guinea, our contributions include:



We boost local income by regularly purchasing fruit and vegetables from neighbouring communities and employing local people at our logistics base (Herd Base).



We supported the development of a local sago processing facility, improving both production output and hygiene standards. Sago is a staple food source in Gulf Province and throughout Papua New Guinea.



We have provided ongoing logistical support to the Kapuna Rural Hospital upgrade project, improving health services for 20,000 people in the Gulf Province.



We support local schools through the provision and transport of building construction materials and personnel.



Fifty-three percent of the personnel employed by Papua LNG in PNG, including those in middle management positions, are female.



Understanding that poor sanitation is a key driver of school dropouts by female students, we supported the construction of toilet blocks to schools and aid posts in the community.





We provide solar lamps to communities at a subsidised price.



We support the development of community representative companies owned by landowners.



We support Digicel in their project to build telecommunications towers in the Petroleum Retention Licence block (PRL15) to provide local access to their network.



We consistently use the principle of free prior and informed consent by consulting with stakeholders and local communities.



In our commitment to safeguarding cultural heritage, we altered the initial pipeline route in order to avoid construction over a traditional sacred site.



We have a responsible waste management system in place, including a composting unit and an incinerator.



We will re-inject native CO₂ from the wells as soon as production begins, limiting our greenhouse gas emissions.



We will limit our disturbance to the physical environment by constructing temporary structures whenever possible (roads, bridges and jetties).



Through careful planning, we have reduced the total footprint area of the Project by 20 percent and are pursuing further optimisations.



We have partnered with Bel Isi to support our female employees who face domestic violence issues.



All societal projects we undertake are done so in partnership with at least one government entity and one civil society organisation.



EIS roadshow, Kavava village, Gulf Province, April 2022

Stakeholder Dialogue

Extensive and ongoing stakeholder dialogue is a key aspect of the Papua LNG project.

Our stakeholders include landowners, national, provincial and local level governments, local communities, Non-Governmental Organisations, business partners, companies and other interested parties. All relevant information about the Project is regularly presented to stakeholders through community leader forums and public awareness campaigns, both in English as well

as in local languages to ensure it can be understood by all. Particular attention is given to listening to women in order to develop their presence and strengthen the role of women in general in what remains a predominantly male dominated culture.

A team of Community Relations Officers visits the villages on a regular basis to listen to community expectations and discuss job opportunities, local development issues and other Project-related activities.



Question and Answer time during the EIS roadshow, Kavava village (L) and Muro Mission (R), Gulf Province, April 2022

“ Papua LNG is committed to investing in improving the livelihood of people in its Project area



EIS roadshow, Akoma village, Gulf Province, April 2022

Local Government Initiatives: Lida Kibung and Gulf Provincial Working Group

The 'Lida Kibung' Assembly is a forum where leaders and representatives of the local Petroleum Retention Licence block (PRL15) villages can meet with Papua LNG project delegates to discuss stakeholder engagement activities, community investment programs and the status of societal studies and other projects that are either underway or forthcoming. Updates on local business development and workforce training and development are also provided. The forum allows leaders to give feedback on community concerns and priorities, particularly those surrounding basic services relating to government matters. In a grassroots consultative approach, 'Lida Kibung' representatives are deployed to villages to explain and share information

about Papua LNG to community groups (clans, churches, ward representatives, youth, women), as well as to listen to and involve the people.

The Gulf Provincial Working Group is a committee representing various sectors of the Gulf Provincial Administration and Local Level Government. Both groups were established in 2016 to provide a formalised avenue of interface between the communities they represent and Papua LNG.

A Memorandum of Understanding between all parties ensures this interchange fosters consultation as well as information exchange and dissemination.



Community Liaison Officer in discussion with villagers, Gulf Province, November 2015

Community and Village Liaison Officers

In 2015, we established a mechanism dedicated to enabling community members to raise questions and lodge Project-related grievances with Papua LNG. This system has processed more than eighty-eight submissions since it was launched. A team of Community Liaison Officers (CLOs) ensures smooth and continuous dialogue with local communities. Thirty-three percent of the officers are women, and nearly half are from the local Project-area communities.

In 2018, Village Liaison Officers (VLOs) were introduced to further facilitate the communication of grassroots concerns between local village people and Papua LNG. One male and one female Village Liaison Officer were appointed per village. Community Liaison Officers coordinate and manage the Village Liaison Officers. As of today, 25 CLOs are in place, with 17 more to be active in 2023. There are 30 VLOs based in 15 villages.

Tok Save - A newsletter for the community

Tok Save is a quarterly production delivered directly to the villages. It is read out loud and explained by the Community Liaison Officers. The newsletter enables local communities to stay informed about activities undertaken by Papua LNG. The installation of a toll-free number in 2017 created an additional avenue for local stakeholders to communicate directly with the Officers.

Villagers can make enquiries ranging from questions about unidentified visitors in the area, to the communication of emergency situations. An average of seventy calls per month are received, demonstrating the value of providing this avenue of communication to people living in remote locations.



Free Prior and Informed Consent

The concept of Free Prior and Informed Consent (FPIC) is applied when adverse impacts on communities have been identified. Each engagement works to build on the previous to establish a level of understanding and trust necessary for the relevant community to fully comprehend potential impacts and their associated mitigation strategies. Consent does not need to be unanimous but it must be clearly and broadly representative of all those living in the communities concerned.

A law firm has been contracted by the Papua LNG project to provide independent legal and advisory support to local communities to ensure they are fully informed of their rights and obligations, and that they enter into agreements willingly and without duress.

FPIC is underway with the four main landholding clans of PRL15.



FPIC awareness at Peiho, Gulf Province, February 2023







EIS roadshow, Aivai village, Gulf Province, April 2022

The Papua LNG Roadshow

In 2022, we visited **13 villages** within local communities

In conjunction with the Conservation and Environment Protection Authority and Gulf Provincial Administration, Papua LNG conducted pre-awareness meetings followed by a 13-day Roadshow. We facilitated distribution of Project information and updates, communicated regularly with provincial authorities and assisted with logistics.

The Roadshow engaged with thirty-one communities gathered in thirteen locations, hosting question and answer sessions in each location. We took time to explain the Project to the communities, listened carefully and documented feedback and expectations. More than 2,870 people participated in the Roadshow.



EIS roadshow, Apiopie village, Gulf Province, April 2022



EIS roadshow, Wabo village, Gulf Province, April 2022

In Evava village, the Roadshow team was met by a sing-sing group who welcomed them with a shower of flowers. The team was generally well-received at all locations along the Purari river. The local communities appreciated the opportunity to engage in open dialogue, ask questions and raise concerns.

Some people were concerned about potential pollution of the river, which is such an integral part

of community life. Other concerns were voiced around the potential impacts of immigration related to the workforce needed for the Project.

The Roadshow team, using pictures and stories, explained the measures Papua LNG would put into place to protect the communities and contain any Project-related consequences.



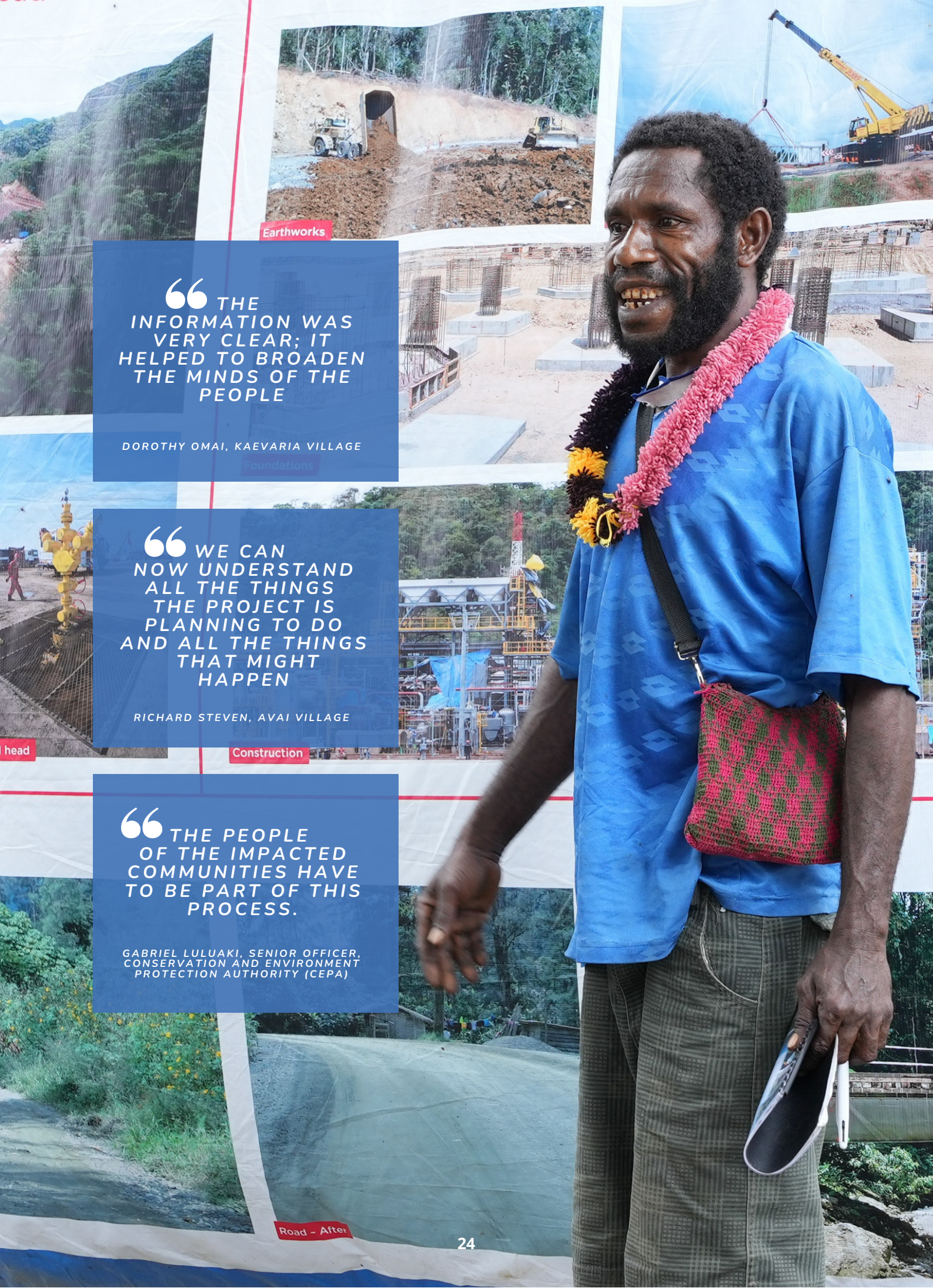
EIS roadshow, Kavava village, Gulf Province, April 2022



“

**HOW LONG BEFORE THE
ENVIRONMENTAL PERMIT IS
ISSUED AND WHAT IS THE
PROCESS?**

**-PAUNA KELLY LOWAEA, PAREVAVO CLAN,
KAIVAKOVU VILLAGE**



Earthworks

“THE INFORMATION WAS VERY CLEAR; IT HELPED TO BROADEN THE MINDS OF THE PEOPLE

DOROTHY OMAI, KAEVARIA VILLAGE

Foundations

“WE CAN NOW UNDERSTAND ALL THE THINGS THE PROJECT IS PLANNING TO DO AND ALL THE THINGS THAT MIGHT HAPPEN

RICHARD STEVEN, AVAI VILLAGE

Construction

“THE PEOPLE OF THE IMPACTED COMMUNITIES HAVE TO BE PART OF THIS PROCESS.

GABRIEL LULUAKI, SENIOR OFFICER, CONSERVATION AND ENVIRONMENT PROTECTION AUTHORITY (CEPA)

Road - After

Kapuna Rural Hospital

Kapuna Rural Hospital is located on the Wame River, a tributary of the mighty Purari River. Hidden deep in the interior, the hospital serves around 30,000 people per year.

It was founded in 1949 by the London Missionary Society, whose doctors set up and supervised fifteen village aid posts and created a radio network to communicate with and assist other mission stations. Effective village health 'patrols' were established and today, the hospital has electricity, email and telephones. Transport across the water has been made easier by outboard motors and flights are able to land at both Baimuru and Purari airstrip.

Kapuna hospital, however, remains formidably remote and continues to face multiple challenges.



Watch the video here



Engagement with Communities

About five hundred people live in villages scattered around the vicinity of the planned infrastructure. Less than seventy people actually live on the PRL15 block itself. The estimated population living alongside the Pipeline Export Route, Waterways and Orokolo Bay, is between 12,000 to 15,000 people.

Investment in social projects extends beyond the licenced area and the riverbanks into other areas of the Gulf Province and the Central Province. The Papua LNG project does not necessitate the displacement of any people from their land.

The primary expectations expressed by local communities, as gathered during consultations and recorded through the Environmental Impact Statement (EIS), are related to access to **health** (aid posts, health workers, medicines), **education** (schools, teachers, and training material) and **law and order** (presence of police).

The **empowerment of women** remains a key element in the development of the people (see page 47).



“ We provided significant logistical support for the delivery of construction materials, equipment and volunteers to a very remote location where access is difficult and costly.



Barge delivering supplies to Kapuna Rural Hospital



Medical supplies delivered to Kapuna Rural Hospital

Kapuna Rural Hospital Upgrade

The Kapuna Rural Hospital upgrade was a collaborative partnership between Gulf Christian Health Services, the Australian High Commission, the Government of Papua New Guinea, Curtain Bros PNG Ltd, Summer Institute of Linguistics, and Papua LNG. In 2019, Papua LNG agreed to provide Kapuna hospital with logistical support, including support for equipment and building renovation, medical evacuations, the transport of transferred or discharged patients, and fuel for health patrols. This agreement was renewed and extended in 2022. The completion of

the upgrade was celebrated when Prime Minister James Marape cut the ribbon on 28 January 2022.

The Project further finances a tuberculosis (TB) program by taking in charge the salary of two TB patrol officers, the training of two hundred TB volunteers, and the construction of a new tuberculosis ward.

The Project is also financing the construction of a mess and sanitation building and the renovation of a male dormitory for community health workers.

Other Health-Related Initiatives

Local communities can come to Herd Base for treatment, where a dedicated consultation room has been set up. A Health Extension Officer provides medical consultation and if necessary, patients are transferred to Kapuna hospital. In 2022, an average of one hundred patients were transported from Herd Base to Kapuna or Port Moresby by plane, helicopter or boat upon the doctor's recommendation and without charge. Since January 2023, sixty-six patients have been welcomed at

Herd Base for consultation and referred on to Kapuna. A Health Extension Officer also visits local communities, together with community liaison officers. Accommodation is provided on the Komodo (an accommodation boat).

Papua LNG is also in the process of implementing a Water Access Sanitation and Health (WASH) project that will start with the installation of ten water tanks in the Project area.



Community Health Worker student at Kapuna Rural Hospital



Three patients of Kapuna Rural Hospital



Pediatric care at Kapuna Rural Hospital

Poroi 2 and Evara Aid Posts

Papua LNG has assisted in the construction of both the Poroi 2 and Evara Aid Posts and toilet facilities, essential to supporting local village health needs outside of the hospital environment. In 2016, we signed an agreement with the National Volunteering Services to allocate two Community Health Workers to service the local clinics at Poroi 2 and Wabo.



Other contributions include the training of ten tuberculosis health workers and the donation of 6,000 treated mosquito nets to forty-one villages. We issued 8,250 health clinic books to twelve health facilities between 2015 and 2021, and 327 health manual books to Kapuna Training School. We supported Kapuna Rural Hospital in the vaccination of primary school aged female students through the

delivery of 1,170 human papillomavirus vaccines. We also donated 5,000 masks and 1,300 Rapid Diagnostic Test kits to the hospital to assist with Covid-19 prevention measures. Community Liaison Officers assisted in the sensitive and sometimes confronting task of communicating Covid-19 awareness during the height of the global pandemic.



Pediatric care at Kapuna Rural Hospital, Gulf Province

Education Assistance

Papua LNG, in partnership with Digicel Foundation and the Gulf Provincial Government, were responsible for constructing four new double classrooms within our Project Area between 2015 and 2019. Double classrooms were built at Poroi

2 Primary School (2015/16), Muro Primary School (2017/18), Arehava-Harevavo Primary School and Orokololo Primary School (2019). Both Orokololo and Arehava-Harevavo Primary Schools were also equipped with toilet blocks.

Digicel Foundation financed the construction contractor, while Papua LNG transported both construction materials and workers, as well as for other Digicel Foundation personnel.

In 2015/2016, Papua LNG donated three hundred reading books from Buk Bilong Pikinini to Poroi 2 and Wabo Primary Schools, 6,000 currently being distributed to six other primary schools. Other teacher resources were donated to four communities and over the following two years, we extended that distribution to twenty-three elementary and eleven primary schools.

In 2019, we entered a partnership with the National Volunteering Services to deliver an adult literacy program. Thirteen community volunteer tutors attended two weeks

of training under the Adult Literacy Community Volunteer Tutor Training Program.

These tutors now conduct adult literacy trainings in their respective villages. There are currently 185 adult and youth learners registered, 62 percent of whom are female. We plan to continue our support of these programs.



Buk Bilong Pikinini Executive Officer Leanne Resson and Jean Marc Noiray, MD TotalEnergies, November 2022



Memorandum of Understanding signing with Buk Bilong Pikinini, Port Moresby, November 2022

Other Contributions

Papua LNG supported the **National Identity campaign** rollout undertaken by the Papua New Guinea Civil Identity Registry.

Papua LNG installed five **Community Notice Boards**.

Papua LNG sponsored the **Port Moresby Nature Park Reptile House**, signing a Memorandum of Understanding in June 2022 to help protect Papua New Guinean frog species from the impacts of the chytrid fungus, a pathogen devastating frog populations across the globe. Although Papua New Guinea is home to six percent of all known frog species in the world, the pathogen is not yet present in the country. The program will support frog husbandry and genome collection. The frog species from PRL15 will be candidates for this work.



SVP Julien Pouget after the MoU signature with Port Moresby Nature Park representative, Port Moresby, June 2022



A Notice Board at Kaevaria village (L) and villagers reading the Toksave displayed on the Notice Board, Wabo village (R), Gulf Province



Land Access and Social Studies

In Papua New Guinea, customary land ownership, where the clan owns the land, is often poorly defined and poorly documented. Consequently, disputes over land ownership are common. Papua LNG is fully committed to a comprehensive consultative approach in relation to land access, working closely with a range of government bodies, landowners, partners and other stakeholders. Through participatory engagement, we are better able to comprehend, manage and integrate the multiple complexities involved and are thereby better positioned to achieve productive and beneficial outcomes that reflect the interests of all parties.



EIS roadshow, Muro mission, Gulf Province, April 2022

Social Mapping and Landowner Identification

Social Mapping and Landowner Identification (SMLI) is a legislative requirement representing a detailed sociological, organisational, genealogical and anthropological study of the landowners that will be impacted by the Project.

This mapping was conducted in consultation with the landowning clans of the Petroleum Retention Licence block (PRL15), an area belonging to the Pawaia and Kaura language groups, as well as with neighbouring groups that belong to the Iare, Koriki, Era Mapua, Ipiko and Vaimuru language groups. The fieldwork component of these studies

included specialist consultants and involved pre-awareness campaigns and community visits.

The Centre for Social Responsibility in Mining was invited to undertake an assessment of social risks linked to the Project. The Centre engaged in community consultation, incorporating an Indigenous People Study and organising separate focus group consultations with women and men. They produced a report summarising key social issues, risk and capability gaps, and recommendations for building strategic long-term plans for managing social risk.



EIS roadshow, Kavava Village, Gulf Province, April 2022

Our Commitment to Biodiversity

We are operating in areas of high biodiversity and ecosystem services values. We are committed to safeguarding these values for the long term and to achieving Biodiversity Net Gain. To this end, we are committed to mitigating the impacts of onshore and offshore activities on

biodiversity and applying the Biodiversity Mitigation Hierarchy.

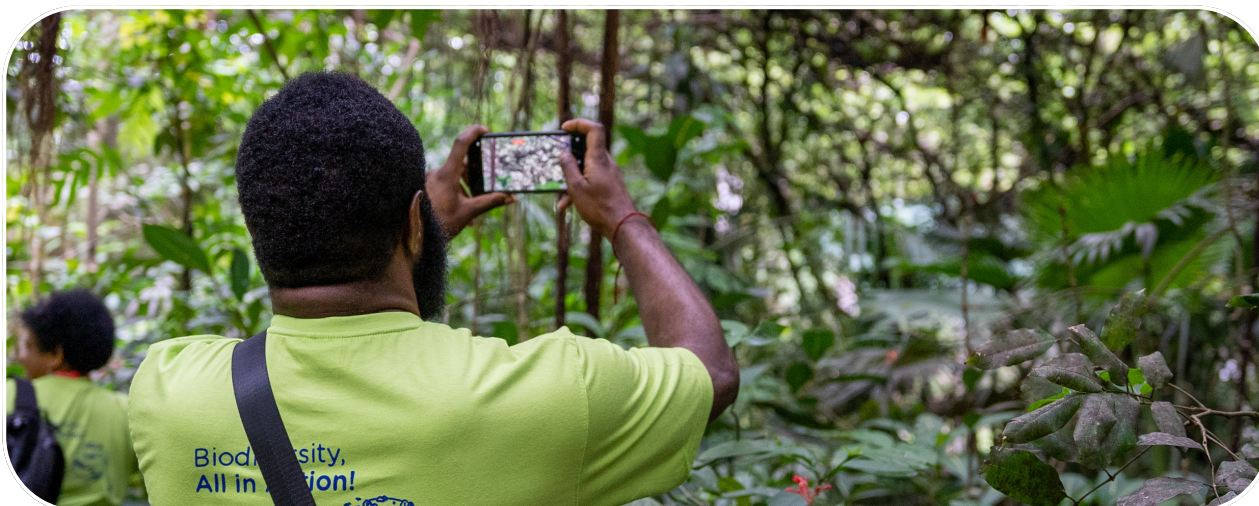
The Petroleum Retention Licence block (PRL15) and other Project areas alone are home to more than one thousand terrestrial plants and animals.

Our Approach

The protection of biodiversity and livelihood lies at the heart of our projects and operations. We will partner with local and international experts throughout the Project lifespan to maximise opportunities for stakeholder dialogue, participation and input. To facilitate this objective, we set up an Independent Advisory Panel consisting of six independent experts (see page 51).

The Panel provides recommendations on biodiversity as well as social performance topics.

The Biodiversity Action Plan will address requirements related to Natural Habitat, Critical Habitat, Invasive Species and Protected Areas.



Visit at Port Moresby Nature Park, World Environment Day, June 2022





Dragonfly, Gulf Province

Management Plans

Our Construction Environmental and Social Management Plan includes measures to implement, monitor and report on actions required to effectively manage Project-related impacts. Key considerations within the Plan include river traffic, waste, stakeholder dialogue and national content.



Aquatic surveys, Gulf Province, February 2023

Biophysical Characteristics



Freshwater and Estuarine Biodiversity

Focal habitats and ecologically sensitive sites are distributed throughout PRL15 and the pipeline corridor. The hills and alluvial forests support an abundance of species diversity as do aquatic ecosystems located within tributary streams, floodplain and estuarine wetlands, and large river systems. Significant habitats can be found in


mangrove forests and water bodies such as the floodplain of the Purari River delta which contains endemic and protected species like the critically endangered sawfish, the snub-nosed dolphin, the pig-nosed turtle, and river sharks.

Marine Biodiversity

Our offshore pipeline intersects the migratory path and spawning ground of the ornate rock lobster, ocean-going turtles and the Cape Suckling green turtle aggregation site. Caution Bay provides a range of coral reef systems and seagrass meadows.

Caution Bay also has significant mangrove habitats which are an important nursery for other marine species. Mitigating measures are being developed to reduce the impact on marine and coastal biodiversity to its minimum.

Biodiversity in Papua New Guinea



642 species of amphibians and reptiles (328 endemic)

740 species of birds (77 endemic)

150K 150,000 species insects

3RD largest expanse of tropical rainforest on Earth

314 species of freshwater fishes (82 endemic)

276 species of mammals (69 endemic)



Part of the Coral Triangle



Kuriva Project



Papua LNG in Papua New Guinea has a net-zero deforestation policy. This commits us to tree planting as a minimum equal to the area of our impact, for any land we have cleared. This policy aligns with the Papua New Guinea Forest Authority (PNGFA) program *"Painim Graun na Planim Diwai – Look for Land and Plant Trees"*.

Papua LNG partnership with the PNGFA and the scope of our collaboration is articulated in a Memorandum of Understanding that was executed on February 18th, 2022.



Tree planting at Brown River, Central Province, February 2023

The objective of the PNGFA to plant eight hundred thousand hectares of trees for commercial, community and conservation purposes by 2050 is demonstrated through a number of community outreach and extension pilot tree-planting plots initiated in the Central and Gulf Provinces. One of these plots is Kuriva Station, situated approximately an hour's drive north of Port Moresby where the Hiritano Highway crosses the Kuriva River. The Forest Authority manages approximately 1,500 hectares of teak plantations at Kuriva Station, which is also where Papua LNG runs its Zero Net Deforestation project. Our aim is to replace, via afforestation activities, any carbon displaced by tree felling and land clearing during the construction of the Papua LNG project.

Papua LNG is working with the PNGFA to establish over **one thousand hectares** of new sustainably managed plantations on degraded grassland in the region. To support this activity, we will be constructing a modern containerised forest nursery with a capacity to produce half a million forest seedlings per annum for planting. The plantation and nursery activities will provide employment and training opportunities to the local communities in the sustainable forestry sector. Papua LNG is working with the PNGFA to improve the management of their existing forest estate, which includes developing an enduring safety culture and ensuring benefits flow to the local communities. It further includes improved environmental management.



SVP Julien Pouget's visit at Kuriva Nursery, Central Province, Mars 2023





Lida Kibung (meeting of both men and women community leaders), Poroi 2 village, Gulf Province, May 2022

Permitting Q & A

with Marie-Alix Dognin
Biodiversity, Societal and Environment Director

Which environmental and social permits are required prior to commencing an industrial project in Papua New Guinea such as the Papua LNG project?

PNG's Conservation and Environment Protection Authority delivers three types of environmental permits, according to the complexities and environmental and social challenges involved. The main permit required to develop the Papua LNG project is a Level 3 permit. It comes with the most stringent rules.

This permit is granted by the Minister for Environment, Conservation and Climate Change in accordance with the Environment Act 2000. The Project has already been granted various Level 2 permits, such as the Herd Base Level 2 permit for our activities at the logistics base in the Purari River area. It was delivered in October 2016 for a period of thirty-five years.

What does a Permit Level 2 specify?

Each permit differs depending on the type of activity undertaken. For example, the permit for activities at Herd Base comes with a range of obligations, such as the development and implementation of a domestic wastewater treatment system as well as erosion control and sediment management. Papua LNG also has an obligation to minimise aerial emissions, control dust and to rehabilitate and/or reinstate the areas that are not required for further use or development over the lifespan of the base. If the conditions of the permit are not fulfilled satisfactorily, it can be revoked or suspended by the Authority.

What does the permit registration process involve?

Papua LNG is required to submit a range of baseline studies and impact statements which are prepared by external consultants. We receive regular guidance from the Conservation and Environment Protection Authority during this preparation process. Once finalised, these studies are submitted to the Authority, which then grants approval and issues the permit. The permits are entered into their register and the related fees are paid on an annual basis.

What does your day-to-day routine involve?

On a day-to-day basis, it involves checking that the conditions defined in the issued permits are respected and that reporting to the Authority is done in a timely manner. It also involves the preparation of various permit applications in conjunction with the relevant departments within Papua LNG. This includes gathering documents such as maps, construction blueprints and information on the nature of proposed activities, including an analysis of their potential impacts on the environment and the accompanying mitigation measures.

What is your viewpoint on the permit approval process and requirements?

It is a complex process but one that we take very seriously. Ventures that impact the environment and society should be carefully regulated and we are committed to working transparently with all relevant bodies involved. Following these processes ensures we fully understand the context and environment where we operate. We do not regard these permits as constraints but as opportunities.



Ground truthing surveys at Nemina, Gulf Province, 2022



Aquatic surveys, Gulf Province, February 2023



Villager sailing on the Purari River, Gulf Province



Dickson Tasi, Director of GFS Limited, a 100% PNG-owned company that provides landing craft services to Papua LNG

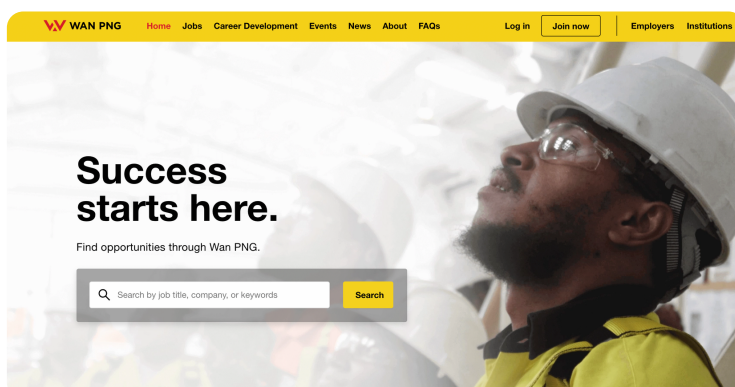
Workforce Development and National Content

Papua LNG is committed to ensuring that a skilled local workforce is established to sustain the on-going development of local business enterprises created during the construction of the Project, underpinning the economic and social development of Gulf Province well into the future. Our ultimate objective is to recruit approximately **three thousand locally and nationally sourced skilled workers** over the life-span of the Project. In order to gain a better idea of the potential employment market in Papua New Guinea, we designed a survey which we advertised through social media, newspaper and radio.

Papua LNG's approach to National Content includes Workforce Development, which

captures scholarships, on the job training and accredited certifications, and a commitment to maximizing opportunities for the PNG workforce, in the following order of priority: Project Areas (upstream and downstream), the Gulf and Central Provinces, and nationally.

To meet national workforce obligations, in 2023 the Project sponsored WANPNG, a national recruitment platform initiated by Kumul Petroleum Holdings Limited (KPHL). This platform is only available to PNG nationals and can be utilised for recruitment both within the Oil and Gas industry as well as without. All Project EPCs and subcontractors are encouraged to use this tool to engage their national workforce.





Marine Cadets from Gulf Province pose with the Governor of Gulf Province, Hon. Chris Haiveta, Managing Director of Pacific Project Logistics Limited (PPL) (now TWL Logistics Ltd), James Midgley, and representatives from Papua LNG, Port Moresby, July 2019

Scholarship Programs

The Technical and Vocational Education Training program is a two year scholarship program.

The focus is on courses offering technical skills such as carpentry, construction, maintenance fitting, electrical and hospitality. Two MoUs are in place with Port Moresby Technical College (POMTECH) vocational training centre and with Don Bosco Technical College. The target is to provide 1,000 scholarships in 5 years. Papua LNG has supported the training of more than 170 students from Gulf Province at the Port Moresby Technical College, many of whom have completed their Trade Certificate III courses. Thirty percent of the graduates are female. The first graduation ceremony took place at Sir John Guise Stadium, followed by a celebratory reception at Apec Haus, Port Moresby.

In 2019, twenty students sponsored by Papua LNG commenced a journey from Orokolo Bay and the Purari Delta to study at the Pacific Maritime College in Port Moresby.

The Pacific Maritime College trains and upsills seamen at all levels for the private sector and government as well as for the PNG Defence Force. The courses are nationally accredited and recognised throughout Papua New Guinea. The students completed a ten-week program. Following a mandatory probationary period, they attained a General Purpose Rating 2 Certificate, qualifying them as seamen able to work on vessels. They were then able to be transferred over to work with Pacific Project Logistics on the shipping vessels providing logistics services for Papua LNG. They returned home proud marine cadets.





IBBM PRL15 Directors Training KNRHL, Port Moresby, July 2019

Local Business Development

The Project is working upstream with the local Community Representative Company (CRC) Jerilai Pujari Holdings Limited (JPHL), to explore options for working with the landowners of the Petroleum Retention Licence Block (PRL15) and the landowners of the pipeline export route (PER).

To strengthen JPHL, the board of directors (21 members in total) has been trained by the local Institute of Banking and Business Management (IBBM) in leadership and board governance. In addition, the Project has a direct service agreement with the CRC to support JPHL's operating expenses during the early years of operation.

Business opportunities for the CRC include shipping, dredging and recruitment of unskilled and semi-skilled labour from the Gulf Province, including the Project area.

This year saw the launch of joint ventures between the CRC and national companies to provide camp management and equipment hire to Papua LNG. The joint ventures have undergone rigorous financial modelling and analysis to ensure the optimum partners are selected to achieve long term and successful commercial ventures.

Downstream, Laba International Holdings, a community-driven organisation established by Papua LNG, will continue to work with the Delegated Downstream Operator.

In addition, Papua LNG supports the Institute of Banking & Business Management IBBM Enterprise Development Centre (EDC) to transform its capacity to support local businesses and small and medium enterprises (SMEs) during and beyond the early works and construction phases of the Project.

The aim is for the support provided by IBBM to extend beyond the Project to include supplier development and improvement at a national level.

IBBM will manage the newly created Supplier Management Portal (SMP), where local suppliers will register to create opportunities to work with the Engineering, Procurement and Construction (EPC)

contractors and subcontractors. The EDC will conduct supplier assessments and provide training, development and guidance through the necessary governance structures, financial investment activities and regulatory obligations. It will also help facilitate successful working partnerships between EPCs, subcontractors and local suppliers.





Empowerment of Women

The Papua LNG project is a member of Bel Isi, a local non-governmental organisation which supports women who face gender-based violence. The affiliation supports the hiring and training of female Community Liaison Officers (CLOs), who provide secure links and a safety net for women at risk in communities. The female CLOs are able to assist in women being heard in the wider community, instilling trust in women to speak out and express their fears and concerns. Another initiative, the Days For Girls project, is organised by a women's group through the

Kapuna Rural Health Centre. Women distribute tote bags with female sanitary accessories and conduct female health hygiene awareness sessions in the hospital, schools and communities.

One of the primary obstacles for girls attending school is the absence of dedicated ablution facilities and toilets. In providing ablution blocks in four schools within the Project area, Papua LNG correspondingly encourages female school attendance.



Elimination of Violence Against Women Walk organized by Bel Isi PNG, November 2022





TVET Graduation Celebration event at APEC Haus, Port Moresby, April 2022

Student Testimony

Autu Kiri, Monitoring and Evaluation officer for the Papua LNG project.



What were you doing before you enrolled in the Technical and Vocational Education Training program?

I was working as an office cleaning assistant with Pro-Clean, a national cleaning company. My mother died when I was three years old and my grandparents raised me. After completing year 12, my grandparents did not have the funds to allow me to continue higher education, so I decided to find a job to save money so that I could fund my own studies. One of our clients was TotalEnergies and it was while I was working there that I found out about the scholarship program.

Why did you apply for the scholarship program?

I wanted to upgrade my qualification level in Technical Trades in order to be better prepared for any job opportunities that came my way.

“ Studying Maintenance Fitting and Machining was so useful because being a Machine Fitter is like you are the key for every machine on site

What motivated you?

The TotalEnergies staff back in 2018, when they were in their full Personal Protective Equipment to travel to Herd Base. I thought: one day I will become like them.

Did you find the course useful and why?

Yes. Studying Maintenance Fitting and Machining was so useful because being a Machine Fitter is like you are the key for every machine on site. It is an essential requirement in Mining/LNG and other Engineering Companies and also it is one of the most highly paid jobs or trades.

Did you experience any challenges?

Yes. It was very difficult to live without a job and it was not easy getting to know other students from other provinces. One of the most difficult things was living away from my family.

What is your long-term goal?

I would like to become a Mechanical Engineer.

What would you say to other students from the Gulf who were also beneficiaries of this program?

First of all, I would like to congratulate my fellow colleagues for their achievements at Port Moresby Technical College. What you have gained is not the end of education, it is just the beginning of a new chapter for a better tomorrow so do not give up on your goals, put your head down and always aim high in life.

Would you like to add any additional comments?

I would like to say thank you to my major sponsor TotalEnergies and the staff.



TVET Graduation Celebration event at APEC Haus, Port Moresby, April 2022

The Independent Advisory Panel

Established by TotalEnergies in November 2022, the role of the Independent Advisory Panel (IAP) is to advise Papua LNG on how best to achieve its ambition for best practice across the Project, with a focus on managing impacts on biodiversity and contributing to human development.

The Independent Advisory Panelists have all been selected for their high level of expertise in the domain of climate, biodiversity, human

development and community work. Recommendations provided by the Panel will build the confidence of the Papua LNG project in regard to best practice in the areas of environmental sustainability and local community engagement.

The Panel incorporates one anthropologist, four biologists engaged in the area of nature conservation and community engagement and the Cardinal of Papua New Guinea.

The Panelists



Dr. Nicolas Garnier

Anthropologist.
Research Director in
Social Sciences at
Divine Word
University, Madang,
Papua New Guinea



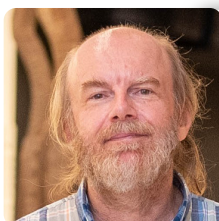
Dr. Pete Lowry

Garden Scientist.
Director of the Africa
and Madagascar
program at the
Missouri Botanical
Garden, Saint Louis,
USA



Dr. Miriam Supuma

Independent
Environmental
Conservationist. Co-
Director, PNG
Institute of Biological
Research, Goroka,
PNG



Dr. Vojtech Novotny

Tropical Biologist.
Research Director at
Binatang Research
Centre, Madang,
Papua New Guinea



Cardinal John Ribat

Archbishop of Port
Moresby. Member of
the Dicastery for
Promoting Integral
Human Development



Dr. Ray Victorine

Marine Biologist.
Director of Wildlife
Conservation
Society's Business
and Conservation
program,
Washington D.C, USA

Honorary Member



Dame Carol Kidu

Former member of
the PNG Parliament
and former Minister
for Community
Development



Dr. Claude Garcia

Professor, University
of Applied Sciences.
Forest Management,
Berne Eidgenössische
Technische
Hochschule, Zürich,
Switzerland

Facilitator







A Few Recommendations from the Panel

“

Continue engaging nearby local communities, including those who might not be declared as landowners of the Project by the government, both in the Gulf Province and in the Central Province.

“

Develop a scholarship program to encourage Papua New Guineans to pursue their university studies on biodiversity related topics, including post-graduate programs

“

Involve religious groups in community engagement and community development activities led by the Project

Recommendations from the Panel are published on the Project's website at www.papualng.com.pg



Read recommendations

“

On our journey towards sustainability, we never stop learning and adapting in our efforts to move forward in ways that benefit both the land and its people.

Key to our approach is partnering with and building the capacity of the communities across the regions where we work. Together with those communities, we will continue to grow understanding and broaden our perspective.

We look forward to continuing to share what we are doing and why, in parallel with what we are learning, and how that informs positive developments in our sustainability outcomes.

*Marie-Alix Dognin
Biodiversity, Societal and Environment Director*



Marie-Alix Dognin



Members of the BSE team at Herd Base, Gulf Province



Papua LNG project headquarters:

TotalEnergies EP PNG Limited
Deloitte Haus
MacGregor Street, Central Business District
NCD, Port Moresby, Papua New Guinea

email: contact@papualng.com.pg
(+675) 70 111 777
Toll Free number in Papua New Guinea



papualng.com.pg

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