

Government of
Papua New Guinea



Papua New Guinea REDD+ Finance and Investment Prospectus (RFIP)



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Message by

Honourable Wera Mori, MP

Minister for Environment & Conservation
and Climate Change



Papua New Guinea has a remarkable natural environment, with 36 million hectares of native forests that host 5% of the world's biodiversity in just 1% of global land area.

These natural riches have long been the cornerstone of our culture and economy. The harvesting of timber has delivered significant economic opportunities as well as support to rural communities. The natural and cultural riches of forests have also provided food and medicinal resources as well as sacred areas for those same communities. However, as global market patterns are changing, our population is increasing and our communities are seeking more development opportunities the pressure on our forests is becoming unsustainable.

Our constitution states that we must manage our natural resources for the benefit of current and future generations and as such we must ensure that our forest resources not only benefit us now but remain as a resource, through the provision of environmental services, as well as timber and non-timber products, for future generations. This commitment has been showcased by successive governments and forms a key element of Vision 2050, PNG's Strategic Development Plan and Third Medium Term Development Plan. They are also represented by our global commitment to action on climate change where PNG has been a vocal advocate for the inclusion of action on forests and reducing rates of forest loss in international agreements. Action that culminated in the inclusion of a mechanism for Reduced Emissions from Deforestation and Forest Degradation (REDD+) in the 2015 Paris Agreement under the UNFCCC. An agreement that was ratified by every country on earth.

As Minister for Environment, Conservation and Climate Change I see the challenges of achieving these goals on a daily basis as well as the difficulties of balancing our commitment to conservation and environmental stewardship with the needs of a developing nation and our rural communities. The commitment of our staff within both my ministry and those of forestry and other line agencies and subnational governments to address these challenges, however, inspires me with the potential that we do have to reach our goals.

The energy and commitment of our key agencies and through the leadership and facilitation of the Climate Change and Development Authority has seen the development of the National REDD+ Strategy, the SDG-13 Climate Action Roadmap and most recently the updating of PNG's Nationally Determined Contributions under the Paris Agreement. These are all key documents in charting our progress towards achieving a low emission, responsible and sustainable development pathway.

It is thus with great honour that I am able to present another key step in our approach to addressing climate change in the form of PNG's REDD+ Finance and Investment Prospectus (RFIP). The RFIP, prepared by the Climate Change and Development Authority in close partnership with other government agencies as well as private sector and civil society groups, highlights the opportunity for emission reductions from our forest sector as well as the potential benefits that investment in action to reduce emissions can help deliver to our economy, environment and most critically our rural communities.

I would like to thank the team at CCDA for their tireless work on moving this agenda forward and indeed the those staff and leaders within other agencies and outside government who have worked so hard to develop this document. I would also like to that our development partners who have contributed their technical and financial support to its development and have worked so closely with our teams across government.

Finally I would like to call on all of us in government, our partners in the private sector, NGOs international development partners and our land holding communities to see this not as the completion of the work but as the beginning. We must continue to work together to ensure that we are able to pass down the richness of our forests to future generations and that those forests can continue to help support and regulate our climate for many generations to come.

Honourable Wera Mori, MP

Minister for Environment & Conservation and Climate Change





Message by

Mr. Ruel Yamuna, LLB

Managing Director of the Climate Change
and Development Authority



Papua New Guinea is a global leader in the fight on climate change. Through the leadership of successive governments and now spearheaded by the Climate Change Development Authority (CCDA), which I am fortunate enough to lead, our country has helped drive the international agenda on climate action most particularly with regard to the links between climate change and forest loss.

This leadership comes from a recognition of both our vulnerability to the impacts of climate change, we rank within the ten most at risk countries by some metrics, and the important role that our natural environment can play in reducing the levels of climate change and indeed their localised impacts.

This dual need for domestic action to support our communities and our responsibility to contribute to global action is what motivates me and our team at CCDA to work across sectors, agencies and with as many partners as possible to ensure that we are able to fully respond to the challenges of climate change and indeed utilise what opportunities it also presents for the good of PNG. My office has spearheaded, in collaboration with other key agencies, a number of key initiatives that will bring climate action to the centre of our national and local planning frameworks. The establishment of Provincial Climate Change Committees to bring climate action to the provinces is one such example while at the national level we have led reviews on climate finance opportunities, developed a SDG 13 Climate Action Roadmap and are working on the development of a National Adaptation Plan of Action.

Action linked to Reduced Emissions from Deforestation and Forest Degradation (REDD+) however remains an area in which PNG is uniquely placed globally and one which my office and team have a very long standing commitment to. PNG's was one of the first countries to promote the concepts of support to developing countries to avoid the loss of forest as part of global action on climate change, and many of our team were instrumental in ensuring this was included within the global agreement on climate change – called the Paris Agreement.

Our action on the international stage has also matched our commitment at the national level with PNG taking early action on the initiation of pilot projects on REDD+ and then working to ensure the effective development of a National REDD+ Strategy, a National Forest Monitoring System, Safeguards Information System and Forest Reference Level – all key elements of a national framework for action on REDD+. These elements have not been developed in isolation but through close coordination between a number of agencies most notably, the PNG Forest Authority, Conservation and Environmental Protection Authority, Department of National Planning and Monitoring, Department of Lands and Physical Planning, and Department of Agriculture as well as colleagues within key commodity boards, subnational governments the private sector and civil society.

The current document represents the next step in this process and seeks to address the questions of how action on REDD+ can be financed and what benefits it will deliver. It is intended to help guide our domestic decision-making as well as support engagement with international investors and other partners. While it is not a specific plan of action it provides us with the information to take action and highlights the potential scale of opportunity that effective investment in action on REDD+ can deliver.

Critically it highlight that action on REDD+ that will deliver climate objectives, will also delivery real and tangible economic and social benefits to our rural communities and economy more broadly. Indeed the potential scale of benefits that investing in the proposed green development pathway can deliver fills me with excitement. Estimates show that sustainable investments and targeted actions can deliver:

- A plantation forest industry worth over \$2,billion
- Annual increases in revenue from palm oil of over \$100m
- Annual increases in cocoa and coffee production of close to 100% on current levels

Achievements that would not only deliver benefits within these sectors but have economy wide benefits. These actions would also be achieved while also helping to secure over 6m ha of land for conservation and deliver over 60m tCO2e emissions reductions.

While the investment needs to achieve these goals are high at close to USD1 billion over 10 years, they are also obtainable through brining together government, private sector and development partner finance to help deliver change and ensure long-term sustainability.

It is in this area that I wish to conclude. Action on climate change is something that we must all see as both a priority and an opportunity. If we work together to act we will achieve real benefits and safeguard both ourselves and others from the worst of its impacts, if we fail to we will be trapped in a cycle of worsening environmental, economic and social conditions. My office is fully committed to taking action forward but also recognises that while we can bring technical support and facilitate links between stakeholders it is our partners that will deliver change through the actions taken within line agencies, subnational governments, private sector businesses and our land holding communities. I thus call on all of us to join together to seize this opportunity to deliver change for the benefit of our communities, our environment and our climate.

Mr. Ruel Yamuna, LLB

Managing Director of the Climate Change and Development Authority





Message by

Mr. Dirk Wagener

Resident Representative, Papua New Guinea
United Nations Development Program



Climate change is the most significant global issue of our time, its impacts will be felt for generations to come. These impacts present a fundamental challenge to the achievement of global development objectives, as laid out in the Sustainable Development Goals.

The United Nations Development Programme (UNDP) is fully committed to, and has worked with, over 140 countries in development of plans and actions to mitigate emissions and adapt to climate impacts. Our experiences shows actions must be inclusive, gender-responsive, and prioritize the poorest and most vulnerable to ensure climate action is not an independent activity but mainstreamed into the work of all. Our approach fully recognises the importance of identifying priority areas based on country needs to help support transitions towards truly green, sustainable and equitable development pathways.

Papua New Guinea, supported by an active private and civic sector, has shown foresight and innovation in addressing climate action. Domestic policy commitments - including Vision 2050, the Strategic Development Plan, Medium-Term Development Plans, and Sustainable and Responsible Development Strategy (Stars) address significant emissions reductions and the adoption of a sustainable and responsible development pathway. At the international - level Papua New Guinea was the first country to submit its Nationally Determined Contribution (NDC), under the Paris Agreement, including domestic targets of a 50% reduction in emissions by 2030, and carbon neutrality by 2050.

It is a pleasure for UNDP to work with and continue to support the people of Papua New Guinea on this critical issue of climate change through our on-going collaborations - the provision of technical support and facilitation of key dialogues. Within this past 12 months, UNDP has supported the development of Papua New Guinea's SDG13 Climate Action Roadmap - as well as the development of the updated NDC - and we are continuing our support to the development of a National Adaptation Plan of Action.

In the area of Reducing Emissions from Deforestation and Forest Degradation (REDD+) our collaboration runs at a deeper level. Papua New Guinea has been at the forefront of REDD, proposing its inclusion under the United Nations Framework on Climate Change (UNFCCC) in 2005. In response UNDP with the Food and Agriculture Organization (FAO) and United Nations Environment Programme (UNEP) established UN-REDD as a collaborative programme. Support was operationalized in Papua New Guinea in 2011 at the forefront of early action globally on REDD+ and building on UNDP's early engagement with the country. While finance from the UN-REDD programme ended in 2015, Papua New Guinea was able to mobilise further finance through the World Bank's Forest Carbon Partnership Facility (FCPF) programme. Based on a strong partnership with UNDP, funds were operationalized through UNDP who also maintain their working relationship with FAO. Papua New Guinea was awarded further finance in 2017, continuing support to 2021.

Through these collaboration, UNDP and FAO together supported Papua New Guinea to establish a fully functioning system of REDD+ inclusive of four key elements of the Warsaw Framework:

- **A National REDD+ Strategy** – completed in 2017 and launched by 5 government ministers, represents cross- sector buy- in, achieved through its development.
- **A National Forest Monitoring System** – operationalized in 2017.
- **A National Forest Reference Level** – submitted to the UNFCCC in 2018.
- **A Safeguards Information System** – with the first Statement of Information on Safeguards submitted in 2020.

It is with great pleasure that I present, with my government counterparts, the current REDD+ Finance and Investment Prospectus (RFIP) which represents a culmination of support through the REDD+ process. In providing a summary of key options for investment, it draws on the information of levels of forest loss and growth, while also addressing key policy questions ofn how emissions can be reduced without creating negative social and economic impacts.

Critically, it highlights that action on REDD+ is an opportunity for PNG – an investment decision that, while significant, will play long- term dividends and help to support long- term sustainable growth.

In this context, I commit my Office to continue to work with our partners to ensure the support in delivery of these objectives. We have currently mobilised over \$20m in funding directly aligned with action areas of the National REDD+ Strategy and RFIP, and are committed to work with government in further scaling up access to finance and further action.

In closing I would like to commend Papua New Guinea for its leadership in the global fight against climate change, in particular the work to more effectively include forests in international agreements and to show how such global goals can be realised.

Congratulations.

Mr. Dirk Wagener

Resident Representative, Papua New Guinea
United Nations Development Program





Table of Contents



Papua New Guinea REDD+ delivering emissions reductions while safeguarding a global environmental and cultural hotspot	8
Multiple approaches to delivering impact:	10
Delivering targeted actions	10
Ensuring Effective Management – Safeguarding Actions and Ensuring Equitable sharing of benefits	11
Component 1 -: Action Areas:	12
1. Sustainable Land use Planning	12
Context	12
Early Action and planned investments	12
Investment Gap:	13
Indicative Impacts	13
2. Forest Sector:	14
Summary	14
Context	14
Early Action and planned investments	15
Investment Gap:	16
Impacts	16
3. Strengthening Environmental Management Enforcement and Protection	17
Summary	17
Context	17
Early Action and Planned Investments	18
Investment Gap	18
Impacts	18
4. Sustainable Agriculture	20
Summary	20
Context	20
Early Action and Planned Investments	21
Investment Gap	22
Impacts	22
Component 2 - . REDD+ Coordination and management:	23
Summary	23
Context	23
Early Action and Planned Investments	24
Investment Gap	25
Impacts	25
Blended Finance for Integrated Action	27
Indicative Framework for Investment	27



Conserving PNG Native Forests: a global priority, a national commitment and a local necessity

An irreplaceable natural capital asset

Covering 78% of the country, PNG's 36 million hectares¹ of native forests are some of the most biodiverse and unique ecosystems in the world, stretching from coral reef-lined coasts to the rare montane forests of the country's interior. PNG's natural capital underpins its immense cultural diversity, the livelihoods of its people, and is a cornerstone asset for its economic future.

PNG's forests are under threat

Increasing global demand for agricultural commodities, land speculation, commercial logging and population growth are putting increasing pressure on the country's forests.

Deforestation and forest degradation increased rapidly since the turn of the century resulting in annual emissions of over 40 million tonnes CO₂, which are projected to rise to at least 50 million tonnes CO₂ per annum in the next decade².

The investment required to protect PNG's native forests:

Over USD100 million per year, for the next 10 years, is required to support a range of activities.

The expected benefits of investing in protecting PNG's native forests

60 million tonnes of emission reductions

6.5 million hectares of forest under conservation

470 threatened species for which habitat has been secured

200,000 hectares native forest planted

USD75 million in sustainable forest products

A national commitment

The Government of PNG has committed to reduce these emissions. Reducing forest loss is a key indicator in PNG's Third Medium Term Development Plan (MDTP III) and its National REDD+ Strategy (NRS).

The NRS was developed through a multi-sector, multi-stakeholder process and approved by cabinet decision in 2017. It commits to action across the following areas:

- land use planning,
- environmental and forest governance,
- sustainable agricultural development, and
- strengthening action on REDD+ governance, monitoring, reporting and benefit sharing.

Current action across these areas include: halting over 3 million hectares of agricultural concessions that did not conform to due process; initiating a national reforestation and plantation development programme (Painim Garun Planim Diwai); developing a national timber legality standard; working to expand conservation areas; and, actions to increase agricultural productivity. These actions have supported PNG in delivering over 6 million tonnes of CO₂e over two years against their initial baseline³.

The Opportunity for Action

PNG's REDD+ Finance and Investment Prospectus (RFIP) sets out the potential opportunities that scaling up actions in line with PNG's National REDD Strategy (NRS) could deliver. These include emissions reductions of more than 60 million tonnes of CO₂e over the coming decade, while also delivering significant economic, social and environmental co-benefits. This information is intended to help inform decision makers and potential investors of the opportunities to achieve tangible returns from upfront investments in REDD+ in PNG.

Achievement of proposed action areas will also be critical in helping transform the livelihoods of PNG's rural communities, safeguard biodiversity and progress


1. PNGFA (2019) Forest and Land Use Change in Papua New Guinea 2000-2015, supported by FAO and UN-REDD
 2. Figures based on =PNG technically assessed FRL 2014 – 2018, as well as REDD+ Technical Annex within the PNG's First Biennial Update report – average figures based on emissions between 2009-13 with 50m tonnes projection based on FRL estimates through to 2018.
 3. PNG has submitted its First BUR with REDD+ Technical Annex including REDD+ results.

PNG towards establishing a sustainable and climate smart economy - capable of meeting the Sustainable Development Goals - while also helping to deliver sustainable deforestation-free agricultural commodities to international markets.

REDD+ refers to Reducing Emissions from Deforestation and Forest Degradation, and the sustainable management, conservation and enhancement of forest carbon stocks.

It is a mechanism under the UNFCCC with methodologies also existing within the voluntary carbon markets and some national and regional carbon markets.

REDD+ Links to the SDG's

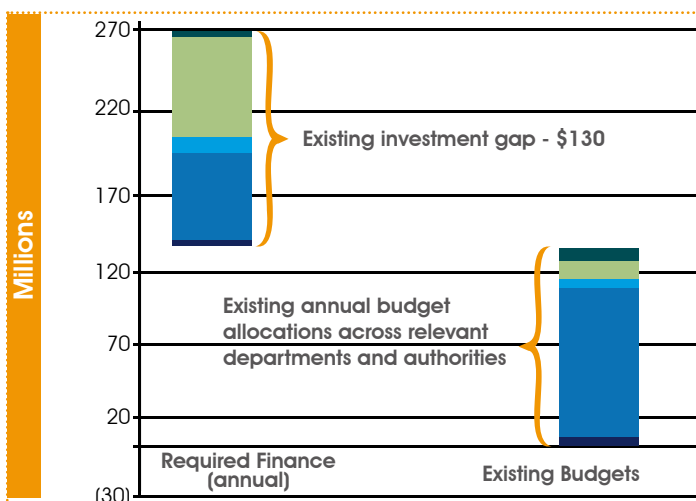
-  **8 Sustainable and inclusive economic development**
-  **12 Responsible Consumption and Production**
-  **13 Action on Climate Change**
-  **15 Life on Land**






What level of investment is required?

An in-depth analysis, provided in the separate technical report, estimates that delivering these actions will require an investment of close to USD 130 million per year over the coming decade.

This is close to double current levels of total government spending across the lands, environment, forestry and agriculture sectors (see Fig 1).

Figure 1. PNG's REDD+ Investment Gap - required finance vs existing government spending



-  Enhanced land use and development planning - USD2.2m
-  Strengthened forest management and production - USD39.6m
-  Strengthened environmental management and protection - USD3.1m
-  Enhanced agricultural productivity and livelihoods - USD68m
-  REDD+ Coordination and Management - USD4.7m

Phasing of Investments

It is anticipated that significant early investment will be required to establish a strong enabling environment and initiate key programme within the forestry and agriculture sectors (See Fig 2). Investment needs (in agriculture in particular) will then start to decrease following the adoption of improved techniques and increased access to improve planting stocks.

Figure 2. Projected levels of required investment over time

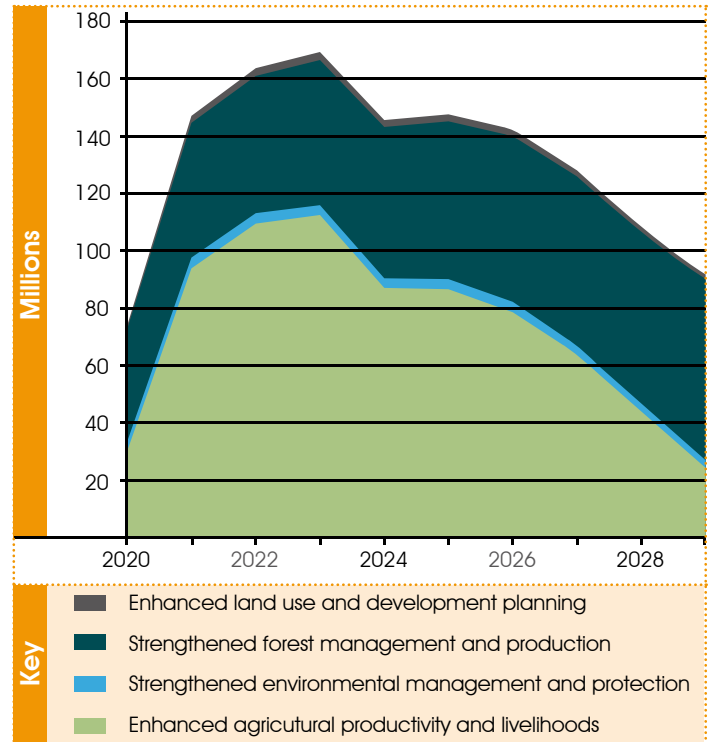
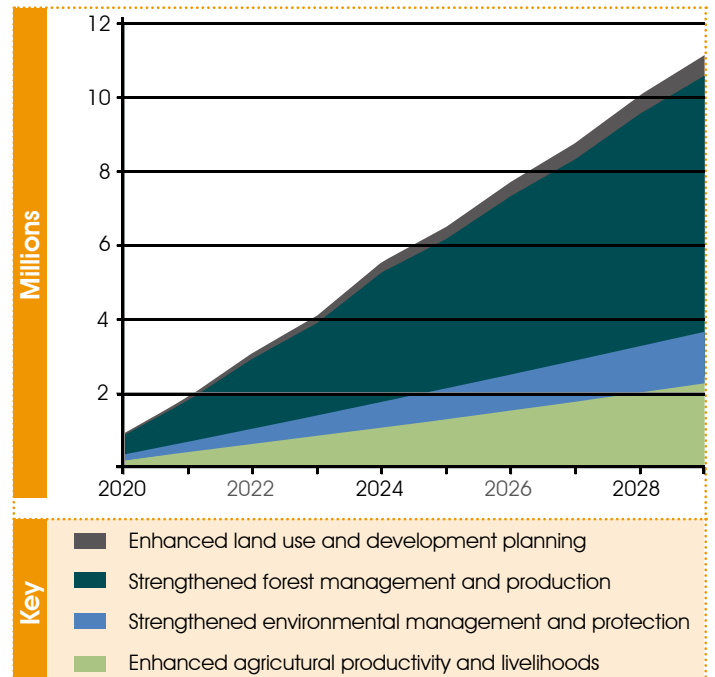


Figure 3. Projected levels of emissions reductions over time



This upfront investment requirement runs counter to estimated levels of emissions reductions, which increase over time as improved approaches spread across forestry and agriculture sectors and the area under plantation forests increases. These emission benefits will also be combined with economic and social benefits from timber products that are harvested from the thinning of

plantation areas, as well as improved productivity of agricultural products and potential price premiums linked to sustainable supply chains. As such, early commitments are required from government and the private sector to help PNG overcome the initial investment gap before significant returns are possible.

Where will this investment come from?

Mobilizing this level of investment will be possible through bringing together a blend of domestic public-sector finance, international development partner support (finance, technical support, risk guarantees), philanthropy and private sector investment. It can also include use of carbon markets, green bonds and innovative REDD+ impact investment models, which have been successfully implemented in other countries.

The averaged investment need of \$130m per year for the next decade will also deliver a multiplier effect across

PNG's economy helping to strengthen rural development and broaden PNG's tax and income base.

What is being done to strengthen PNG as an investment destination?

The Government of Papua New Guinea is currently undertaking several key actions to transform PNG into a more attractive investment destination. These include:

- Strengthening policy and legislative alignment towards delivering REDD+ outcomes
- Working to identify innovative public private community models for land- based development activities
- Strengthening measurement of monitoring and reporting systems to ensure that emission reductions are real and measurable.





Papua New Guinea REDD+ delivering emissions reductions while safeguarding a global environmental and cultural hotspot

A land of diversity

PNG's forests are among the world's most ecologically distinctive containing 191 species of mammals (over 80% are endemic), 750 bird species (over 50% are endemic), 300 species of reptile and 197 species of amphibian. They cover an extraordinary diversity of environments - from coastal atolls and islands combining karst limestone with volcanic deposits, and the main land mass of New Guinea, which rises from the coral reefs of the coast to the highland provinces at over 4,500m. The montane forests in this region are also significant for their levels of endemismⁱⁱⁱ.

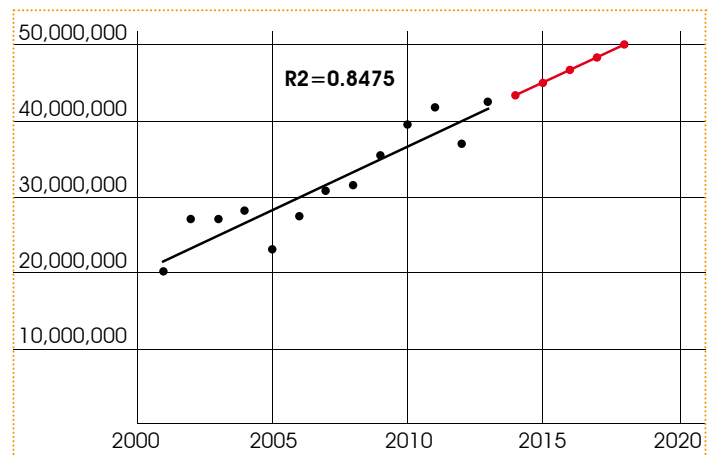
These forests play a central role in the social, cultural and economic livelihoods of PNG's 8m people whose diversity match that of the country's ecology, with over 850 languages spoken. Over 90% of PNG's land is under customary ownership and with over 80% of the population living in rural areas, the connections between land, culture and economy are critical. Rural communities rely on clean river systems for drinking water, over 500 species of wild plants are used for food, and the value of annual bushmeat consumption is estimated to be equivalent to US\$26m. These services are essential to the current resilience of communities to environmental shocks, as well as the impacts of climate change.

A global, national and local asset under threat

PNG's forests are under pressure. Population growth, increased international demand for agricultural commodities, land and timber are resulting in increasing levels of deforestation and forest degradation and associated emissions.

PNG's technically assessed Forest Reference Level reports annual levels of emissions of over 40mtCO₂e with emissions levels predicted to increase with ongoing demand for land and development activities. While PNG's recently submitted BUR REDD+ Technical Annex shows a slowing of the rate of increase, there continues to be significant risks of increased levels of emissions without further action.

This level of habitat loss and degradation not only results in significant emissions but also threatens other global, national and local assets. Habitat loss is the primary threat to over 470 threatened species identified in PNG. Loss of forest is also resulting in land degradation, pollution of waterways, sedimentation of coral reefs and impacts on the culture and livelihoods of forest-dependent communities. Many of these resources are central to the livelihood security of communities and the resilience of the country to shocks.



PNG is ranked as one of the 20 most vulnerable countries to climate and global change. Notre Dame Global Adaptation Initiative <https://gain.nd.edu/our-work/country-index/>

A commitment to emissions reductions

The GoPNG is committed to addressing forest loss and degradation as part of a transition towards a responsible, sustainable and climate compatible approach to development.

The Climate Compatible Development Policy was launched in 2014, and supporting Climate Change Management Act (CCMA) passed in 2015. These documents stress the importance of action on REDD+ and paved the way for strong cross-sectoral coordination in the development of

PNG's National REDD+ Strategy, Forest Reference Level and National Forest Monitoring System, with the Safeguard Information System also close to completion.

A global leader on Climate Change

PNG, with Costa Rica, were the first to propose a mechanism on REDD+ to the UNFCCC in 2005.

PNG has targeted a 50% reduction in emissions by 2030, and carbon neutrality by 2050, with a transition to 100% renewable power.

The National REDD+ Strategy (NRS) 2017-2017, approved by cabinet decision and launched in October 2017 by five ministers, is both a key part of the country's Green Growth Development agenda as laid out in the Strategy for Responsible and Sustainable Development (StaRS) and is central to PNG's approach to addressing climate change. The NRS provides the basis for coordinating actions on REDD+ across government sectors, the private sector and civil society. It contains:

- PNG's Vision for REDD+
- Information on the drivers of forest-cover change in PNG
- Policies and measures to address drivers
- Management arrangements for REDD+ implementation
- Options for financing REDD+ in PNG

The key Pillars of PNG's NRS include:

- *Effective integration of forests within land use and development planning* – led through action by the Department of Land and Physical Planning and Department of National Planning and Monitoring. This is coordinated with the Department of Provincial and Local Level Government as well as sub-national governments and sector agencies.
- Strengthened environmental management, protection and enforcement including action across:
- *Strengthened forest management and enforcement activities* – through action led by PNG Forest Authority.
 - Strengthening environmental management and protection – led by the Conservation and Environmental Protection Authority (CEPA) and including action on permitting of development activities as well as conservation actions.
 - Strengthening access to information and resource mechanisms.
- *Enhanced economic productivity and sustainable livelihoods* – focused on improved levels of agricultural productivity and adoption of sustainable practices – led through the Department of Agriculture and Livestock in coordination with relevant commodity boards, research bodies and authorities.





An Opportunity for Action, a Need for Investment



The actions identified through the NRS can deliver significant emissions reductions over the coming decade estimated at over 60mtCO₂e, while also delivering significant social economic and environmental benefits.

Delivering this level of impact will, however, require significant investment above current levels. This is estimated at over US\$1b over 10 years representing a nominal cost per tCO₂e of \$17.

These indicative costs are significantly in excess of existing government budgets with annualised costs close to double current spending across relevant sectors.

The current document provides an overview of projected spending needs as well as potential emission, economic, social and environmental benefits. It is intended to provide enhanced information to decision makers and investors to better understand the opportunities for adopting a low emissions development pathway and the projected returns that can be achieved over the medium term.

Multiple approaches to delivering impact

The NRS and current investment assessment recognises the need for different approaches to delivering action and a phased approach to transformation. This includes action across a number of key areas:

Creating the enabling environment for climate compatible development activities

It is recognised that government action is needed to create the enabling environment for key actors across private sector, civil society and government to take action to deliver emissions reductions. Key elements of this include:

- Establishment of policy, legislation and regulations to guide sustainable land use planning (Component 1. Action Area 1. Sustainable Land use planning)
- Establishing and strengthening the application of timber legality standards (Component 1. Action Area 2. Strengthening Forest Management)
- Strengthening processes for the allocation of concessions and environmental permits (Component 1. Action Areas 1. Sustainable Agricultural Development 2. Strengthened Environmental Management)
- Creating positive investment conditions for climate compatible development activities (Component 1. Action Areas 1 and 2)
- Establishing the supporting framework for REDD+ action (Component 2). -

Delivering targeted actions

Papua New Guinea is a unique and diverse country and

there is a need for a range of targeted actions to help deliver REDD+ results that are appropriate to the specifics of the area of PNG. These targeted actions should focus on development of integrated landscape scale approaches to land use planning and management and support to rural livelihoods, with key action areas including:

- Implementation of local, district and provincial level land use planning (Component 1. Action Area 1. Sustainable Land use planning)
- Plantation development and environmental planting (Component 1. Action Area 2. Enhanced tree planting for timber and environmental purposes)
- Strengthening agricultural productivity and integration of tree crops into agricultural systems (Component 1. Action Area 3. Sustainable Agricultural Production – Commercial and small scale)
- Conservation activities (Component 1. Action Area 2. Enhancement of Protected Areas).

Ensuring Effective Management – Safeguarding Actions & and Ensuring Equitable sharing of benefits

Papua New Guinea is committed to ensuring that REDD+ results are delivered in an effective, efficient and equitable way that does not cause undue social or environmental harm. Safeguards include and that any investment or results-based finance to be is managed through a fully transparent process to deliver benefits that help support PNG's transition towards a smart, wise and fair society that protects safeguards its natural and cultural assets.

To ensure this is achieved, the NRS requires all actions linked to REDD+ to be developed in line with requirements under the UNFCCC - including the Cancun Safeguards - with any sub-national action targeted towards agreements, under Article 6 of the Paris Agreement, or to the Voluntary Carbon Market needing to meet the highest levels of international standards, while also being in line with PNG's national REDD+ framework including its Forest Reference Level.

Ensuring that benefits flowing from REDD+ results- based finance are effectively and equitably shared will also play a critical role in the development of PNG's REDD+ process. To ensure that this is realised, approaches will integrate both global best practices and the extensive experience of approaches to benefit- sharing through resource and agricultural projects in PNG. Based on these experiences, the following principles for the benefits sharing system have been developed:

- **Transparency** – the system is transparent throughout ensuring clarity of information on financial flows into the system and how these are distributed to both the costs of implementing key activities and the sharing of any additional benefits.

- *Inclusiveness* – the system is fully inclusive of the diverse groups within PNG, as well as within clan and family groups, with options for direct transfers of both in-kind and any cash benefits to household or individual accounts to ensure that benefits reach those engaged in delivering REDD+ results as well as ensuring they deliver inclusive development outcomes.
- *Cost effectiveness* – the system is cost effective working with other national and sub-national systems to prevent duplication of operational costs or excessive transaction costs.
- *Promote transformative change and delivery of results* – the system should target provision of benefits (both in-kind and cash) towards actions that support

the continued delivery of REDD+ results and support long term transformational change within rural economies, and the way PNG's forest resources are used.

While it is still under development, the government of PNG is committed to establishing a system that meets international standards and provides opportunities to promote and support engagement of a range of actors and delivery approaches pathways within the framework of PNG's national REDD+ approach. This includes clear guidance for sub-national project development on nesting within the national system - with regards to emissions calculations, application of safeguards and benefit sharing, and the development of an effective registry to track performance of sub-national activities.





1.1 Sustainable Land Use Planning

Summary

Action towards sustainable land use planning will help to strengthen the rights of forest dependent communities, as well as improving the engagement of women, youth and minority groups within land use decision making. It will also help to improve long term resilience of rural communities through helping to safeguard key environmental services, as well as access to land by helping to prevent poorly planned development activities.

National and Global Linkages

MTDP 3 - KRA1 – **Increased Revenue and Wealth Creation**

SDGs



End Poverty in all its forms

Action will focus on development, strengthening and roll out the regulations under the draft Sustainable Land Use Planning Policy - developed by the Department of Lands and Physical Planning (DLPP) to create an inclusive land use planning framework that recognises areas of high social and environmental value, and strengthens both inclusion of all groups and the application of safeguards in land use development planning. Full implementation will require investment of over \$20m, over 10 years, with finance covering policy and regulatory development, land use planning systems and capacity, as well as practical roll out to rural areas. This level of investment represents a 20% increase in existing recurrent spending for the entire DLPP.

Context

Communities are at the centre of decision-making on how PNG's forests are used with 97% of the country's land under customary ownership.

Customary groups, however, are facing increasing challenges in the way land is managed with rapidly increasing populations, increasing demand to transition from a subsistence economy to a cash economy - and corresponding high international demand for land linked to timber products, minerals and agricultural commodities. These indirect drivers have resulted in significant levels

of deforestation linked to the expansion of shifting agriculture and poorly planned commercial agricultural developments, as well as forest degradation through logging activities.

While PNG's existing legislation provides strong protection for customary land rights there are significant barriers in effectively ensuring that these rights are fully respected, due to:

- Limited information on current land uses and ownership
- Logistical difficulties in verifying consultation processes on land use change
- Limited capacity and awareness within rural communities of the potential benefits and challenges of development activities.
- Fragmented legal framework and absence of a central land-use planning framework.

Safeguarding Action

In line with commitments within the NRS and the current investment proposal all action will be developed in line with Cancun Safeguards, as well as relevant domestic and international safeguards including the full and effective participation of forest dependent communities, women, youth and minority groups and a commitment to maintain FPIC processes with relation to decision-making on customary land.

Early Action and planned investments

In effort to address these challenges, the Department of Lands and Physical Planning (DLPP) have taken steps to develop a draft Sustainable Land Use Policy (SLUP) that is currently under consultation. The draft policy will provide a guiding framework for development of sub-national and national land use plans utilising a simple set of land use zones.

Further work is also being undertaken to develop an integrated programme to pilot land use planning actions linked to sustainable commercial agricultural development, and conservation, in partnership with GEF.

Further investment, however, is needed to fully develop the planning system and to move from draft policy to a practical framework on the ground that can help to deliver

tangible improvements that safeguards the rights of land-owning communities, and, enhance environmental sustainability, while also helping to support PNG's development activities. Key investment areas include:

Action Area	Implementation cost over 10 years
Development of National Sustainable Land Use Policy and Regulations and means of implementation:	20,533,00
Development of Sustainable Land Use Policy and Regulations including policy, legislation, regulations and guidance, information materials	1,132,000
Development of National Land Use Information System - brings together information from across sectors and can increase transparency and effectiveness of land use decision making	3,076,000
Development of Ward, LLG, District and Provincial Plans to include spatial elements - under the Planning and Monitoring Responsibility Act (PNGPMRA), (2016) that provide guidance on the desired uses of land bringing together PNG's bottom-up and top-down planning processes.	16,333,000

Investment Gap:

Costs of implementation are estimated to be over \$20m over a ten-year period. Such additional spending would equate to an increase of close to 20% of the total budget of the Department of Lands and Physical Planning - although expenditure could be spread between DLPP and sub-national governments as part of their development planning process.

Indicative Impacts

Investment across this action area will deliver:

- An effective regulatory framework and capacity for national land use planning
- Enhanced tenure and land use security for land owning communities
- Enhanced engagement for women, youth and disadvantaged groups in land use decision making
- Improved land use planning and management strengthening the effective and equitable use of land

National and Global Linkages

Effective delivery of impacts will help to achieve key national and international development objectives including:

Medium Term Development Plan: KRA1 – Increased Revenue and Wealth Creation

1.4 Increase bankable land for productive utilisation, to unlock its economic potential and engage land-owners in the formal market.

SDGs



1.4.2 Proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure.





1.2

Enhanced forest management and plantation development



Summary

Action within the forest sector will support the transition to a sustainable and internationally recognised industry with high levels of market access, ability to deliver premium products and with increased levels of value addition.

Extensive tree planting across 220,000ha will help to rehabilitate degraded areas, reinstating key environmental services, while also developing a strong plantation sector that could deliver US\$70m in forest products over the next decade and create a future asset worth close to US\$2b.

Actions cutting across timber legality, tree planting, research and enhanced approaches to forest management will be undertaken that will help to safeguard key environmental services, improve engagement with, and respect for, the rights of forest dependent communities and deliver over 39mtCO₂e in emissions reductions.

Achievement of these targets will, however, require investment in excess of \$540m over 10 years which would represent a five-fold increase in existing central government spending on forests. To meet these investment needs, the GoPNG is committed to increased action within the sector, in partnership with key development partners, while also seeking to enable and promote strong private sector investment that supports land-owning communities to build sustainable enterprises - while also catalysing the skills and experience of international firms and investment bodies.

Context

PNG's timber industry has been a central element of the national and rural economy for over 50 years. The industry contributes an estimated \$100m per annum in export taxes, and \$30m in royalty payments, directly to land-owning communities - as well as a range of additional fees and levies. It also contributes to the development of rural infrastructure.

The direct actions by logging companies, however, result in the degradation of significant areas of primary forest with 140,000ha - 180,000ha estimated to be degraded per annum, between 2006-2013. Some key strategies - to help reduce these levels of degradation - have been identified, including:

- Strengthening policy dialogue
- Strengthening application of legality standards
- Enhancing levels of planted timber
- Enhancing knowledge on PNG's forests

Key barriers, however, exist to delivering these changes including:

- *Barriers to strengthening application of legality standards* - limited information on the nature of

PNG's timber resources, limited capacity of PNGFA to effectively monitor concession areas, limited awareness of key stakeholders (local and provincial governments) on legality standards and value of standing forests, and limited transparency in allocation of timber permits.

- *Barriers to plantation forests* - challenging national investment environment, limitations on long-term land tenure security, access to land (with secure title, and that does not contain high value biodiversity or existing forest)
- *Barriers to strengthening transitions from primary forest harvesting to mixed livelihoods* - limited alternative livelihoods options, high value of timber industry.

Early Action and planned investments

Strengthening Policy Dialogue

PNG's forest sector has significant opportunities to contribute to the economy but requires further policy coherence, and evidenced-based targets, that will help the sector meet multiple economic, environmental and social objectives. Further work to review the economic and financial realities of timber production, and to identify areas in which changes can be made to strengthen the investment environment for companies, will be critical to developing a long-term sustainable industry - as well as strengthening the authorities' capacity to provide effective policy guidance.

Estimated implementation costs: \$3m

Timber legality standard

PNG has developed a draft timber legality standard through a multi-stakeholder process. Once approved this will provide a basis for improved standards across the sector. Support has been provided to this through the EU-National Forest Inventory Project, as well the RAFT project. Planning is underway to establish an industry-supported, third-party verification system that will also help to increase international acceptance of the standard.

Further investment is, however, needed to identify how PNGFA can effectively monitor and assess existing and planned concessions to ensure that they are meeting standards. Key investment areas include:

- *Need for field-level operational capacity* - including increased staffing, equipment, and operating costs, as well as key remote sensing tools, such as a remote deforestation monitoring system.
- *Need for information systems* - PNGFA have developed a range of information systems to capture data on forest use and application of standards. These systems require further development and strengthening.

- *Establishing approaches to effectively supporting and regulating small scale timber operations –* development of approaches that can enable the effective participation of land- owning communities and local business in the industry, while also providing effective environmental and social safeguards to ensure the sustainability and social benefits of the industry are fully realised.

Estimate implementation costs: \$100m

Enhancing planted timber

PNGFA have developed the Painim Groun Planim Diwai (Find land, Plant trees) programme focused on increasing levels of planted forest. Information materials have been developed, along with early support to land-owning groups responsible for 20,000ha of land. Further investment is needed to expand the scale and impact of operations to meet targets of 800,000ha, including:

- Increased awareness - raising of opportunities, and support, to establishing secure agreements for plantation development
- Establishment of nurseries, and support, to plantation establishment
- Ongoing management and maintenance of plantations

Estimate implementation costs: \$405m

Safeguarding Action

In line with commitments within the NRS and the current investment proposal, all action will be developed in line with Cancun Safeguards with new plantations being developed in line with international standards and avoiding the conversion from natural forest. Equally, action on legality will ensure to consider impacts on small-scale producers and avoid undue impacts on those most vulnerable.

Enhancing knowledge on PNG forests

Enhancing knowledge on PNG's forests will play a critical role in strengthening the quality of forest management and improving standards for production. This work will be linked with action under Component 2 on strengthening MRV, and reporting capacity, which will include expansion of the National Forest Inventory. The current action will focus on integrating this information into improved approaches to forest management.

Estimated costs: \$5m

Investment Gap:

Estimated costs for implementation are over \$540m, over 10 years, equating to just over \$54m per annum. This level of expenditure is close to five times existing levels of recurrent

spending by PNGFA, at almost \$11m - although the total budget rises to approximately \$26m when income from forestry levies is added⁴. While many of these additional costs do equate to transformational elements, a large proportion are also recurrent and linked to increased staffing and operational costs from improved monitoring. For example, ongoing staff costs within enhancing timber legality (\$2m per annum by the end of 10 years when all staff are on board), forest rehabilitation (\$2m per annum) and engagement of a third party verifier (close to \$3m per annum) equates to costs of \$7m in additional recurrent expenditure. This is close to the existing centrally allocated annual budget of PNGFA.

Impacts

Action within these areas will have significant impacts including:

- Increasing market access for PNG timber and potential price premiums for sustainably produced timber
- Enhanced production from planted forests and potential linked investment in downstream processing
- Planting of over 220,000ha of trees within an indicative split of 60,000ha of environmental planting, 60,000ha of community planting and 100,000ha of commercial plantations
- Creation of estimated \$70m in wood products, within a 10-year period, and a future asset worth close to \$2billion if effectively maintained and harvested
- Options for improved approaches to forest management and sustainable revenue generation from the sector.
- Cumulative emissions reductions of over 39mtCO₂e

National and Global Linkages

MTDP3

KRA1 – Increased Revenue and Wealth Generation

Increase value of forestry exports through encouraging reforestation and afforestation projects as well as higher prices for fully legally compliant timber

KRA7 – Promote PNG's Environment Sustainably

Through reducing rates of forest depletion.

SDGs



- 15.1 Conservation and rehabilitation of forest areas
- 15.2 Sustainable use of forest resources

4. Note that the estimated additional income from levies is based on estimated 'average' levies for three fees collected – Reforestation Levy, Forest Management Levy and Log Export Development Levy.



1.3

Strengthening Environmental Management Enforcement and Protection



Summary

Action on environmental management enforcement and protection will help to conserve over 6mha of biodiverse forest, while also safeguarding from the impacts of development across the country by helping to maintain key environmental services, protect the 400 Red List species present in PNG and deliver over 25mtCO₂e in emissions reductions.

Actions will focus on strengthening the application of environmental safeguards and placing areas of social and environmental importance under conservation agreements with a focus on community based conservations areas which provide a clear mechanism for sustainable community use of forest resources, thus both helping to conserve global biodiversity, and local environmental services while also strengthening the rights of communities over their land and empowering decision making on sustainable land use.

The action area will require investment of over \$32m to enhance environmental permitting and monitoring systems, and their application - as well as development of PNG's Protected Areas network, in line with the PNG Protected Areas Policy, with a focus on development of community - based conservation areas. This investment would represent a 50% increase against recurrent government spending on the sector.

The Conservation and Environmental Protection Authority (CEPA) is responsible for implementing two key action areas with relevance to this – the application of environmental safeguards that control development activities (administered under the Environment Act 2000), and the development of conservation activities to conserve PNG's natural environment (a new Protected Areas bill is currently in the final stages of submission to the Cabinet).

Support to action in these areas will help to address levels of deforestation and degradation by strengthening the way environmental safeguards are applied to development activities, helping to reduce environmental damage and expanding areas under conservation agreements that help to reduce levels of land clearing and degradation.

Implementation of these action areas face a number of significant barriers, including limited capacity to effectively assess and monitor development activities, limited transparency of environmental assessment and monitoring, limited financing and capacity to implement conservation activities.

Early Action and Planned Investments

CEPA is working to strengthen the application of environmental permits and is undergoing a review of how permits are issued and financed. The recent approved Protected Areas Policy, and existing Protected Area Bill, provides a framework for the expansion of a protected areas system including the development of Community Conservation Areas (CCA's). The CCAs, provide land owning communities with increased opportunities to safeguard their land from development while also maintaining livelihood options linked to small-scale agriculture. Planned investments through GEF and USAID are already looking to provide support to establish a sustainable financing system for Protected areas, and to strengthen the development and implementation of PAs across PNG. These projects and actions will help to meet existing financing needs, but further support is needed in the development and implementation of key actions.

Strengthening Environmental Safeguards


With action focused on increasing awareness of communities, private sector and provincial governments of environmental permitting processes, strengthening national capacity to manage permitting process and build capacity of provincial governments to operate with designated authority for environmental monitoring. As well as development of innovative tools, such as remote deforestation monitoring systems, to allow for timely monitoring of incursions in forest areas – this is also linked with work on timber legality noted above.

Estimated implementation costs - \$14.3m

National and Global Linkages

MTDP3
 KRA7.1 – Promote PNG's Environment Sustainably
 KRA7.2 – Manage and reduce the risk of natural disasters

SDGs



15.1 Conservation, restoration and sustainable use of biodiversity

Context

PNG is one of the world's most biodiverse countries. With current high levels of natural forest cover and relatively low population densities, the country is home to a wide range of endangered species as well as unique habitats. The wealth of biodiversity and relatively undisturbed natural habitats also play a critical role in the country's economy with 85% of PNG's population rural and highly reliant on goods and services provided by the natural environment.

Ensuring that these key resources are conserved and managed is critical at a global, national and local scale.

Enhanced Protected Area Development and Management *(through implementation of the Protected Areas Implementation Plan)*

With action focused on developing the governance and Management of Protected Areas, support to sustainable community livelihoods, effective and adaptive biodiversity management, strengthening the management of the protected areas network and development of sustainable and equitable financing systems.

Estimated implementation costs - \$18.4m

Investment Gap

The total costs of implementation are estimated to be \$32.8m, over the ten-year period. This equates to an annual expenditure of \$3.2m if a basic average is taken a significant addition to CEPA's existing \$7-8m budget. While a large percentage of costs are recognised as transformation, for example - e.g. establishing of EMIS or training of staff - a significant level also related to recurrent financing, including sub-national elements linked to the ongoing monitoring of development activities or support to protected areas. Indeed, within both costing areas it is anticipated that high levels of expenditure will be based at the sub-national level and will require the designation of authority for action from CEPA to sub-national government officers and effective financial arrangements to support these processes.

Impacts

Action within these areas will have significant impacts, including:

- Over 6m ha of forest placed under protection
- Increased protection for PNG unique biodiversity, including the over 400 species identified on IUCN the Red List
- Potential avoided emission of 23.8mtCO₂e over 10 years – 4.3mtCO₂e per annum in 2030 from conservation
- Potential avoided emissions of 1.6mtCO₂e over 10 years – 0.3mtCO₂e per annum by 2028 through improved application of environmental safeguards
- Maintained provision of environmental services as well as access to non-timber forest resources
- Opportunities for enhanced tourism development linked to conservation areas

National and Global Linkages

MTDP3

KRA7.1 – Promote PNG's Environment Sustainably

KRA7.2 – Manage and reduce the risk of natural disasters

Through conserving forest areas to maintain biodiversity as well as key environmental services.

SDGs



15.1 Conservation, restoration and sustainable use of biodiversity





1.4 Sustainable Agriculture



Summary

The investment area has potential to contribute towards government targets of increased revenue, from agricultural exports, while also significantly increasing productivity and earnings per ha. Strengthened sustainable agricultural supply chains will also feed into supporting global progress towards sustainable consumption while improved productivity and adaptive capacity in PNG will help to reduce hunger and vulnerability to climate fluctuations and natural disasters.

Avoided expansion of agricultural areas also has the potential to deliver significant avoided emissions of over 23mtCO₂e over 10 years while supporting the maintenance of biodiversity and environmental services within production landscapes.

An indicative investment level of over \$500m is required targeted as technical support, supply chain development, provision of improved planting stock and relevant materials. An investment need that is equivalent to a 50% increase in current government spending.

while coffee and cocoa production is estimated to support the livelihoods of over 60,000 families.

Production approaches vary by commodity - with oil palm and coconut historically dominated by a few large estates, that are predominantly on state land, with a gradually expanding level of small-holder production. Coffee and cocoa conversely have had a more significant smallholder production approach with some linked to central nuclear estates for processing and export. Within the oil palm sector, the two major companies have obtained international certification for sustainability and quality in order to maintain global market access, with over 90% of palm oil exported previously meeting Roundtable on Sustainable Palm Oil (RSPO) standards. Certification within the coffee and cocoa markets are more varied with a small number of producers certified and selling through specific supply chains.

Desire for more rapid commercial agricultural development, however, has led to a rapid expansion in concessions with over 4m ha of Special Agricultural Business Leases (SABL) issued. The vast majority of these were issued in a three- year period between 2008 and 2011, following amendments to the Forestry Act 1991 (Sec90a and 90b) that made logging of these areas easier. These leases have faced significant legal challenge and indicate the potential risk of the rapid expansion of commercial agriculture into forest areas with 800,000ha of forest subject to Forest Clearance Authorities (FCAs), as of 2013, with majority of this area linked to clearing of forest for commercial agriculture⁶.

Linked to this increase in forest clearing has been an increase in levels of emissions linked to deforestation with PNG's Biennial Update Report (BUR) REDD+ Technical Annex indicating that emissions from deforestation have increased from an average of 3.8mtCO₂e between 2001-2010, to just over 9mtCO₂e, between 2011 and 2015.

It is recognized that commercial agriculture is a critical part of the economy and its development is important in providing improved livelihood options to communities. Target activities thus focus on the sustainable development of the agriculture sector and effective assessment of proposed agricultural developments to ensure that any forest clearance results in sustainable development. Key action areas include:

- Strengthen review of agricultural development proposals
- Support to sustainable palm oil development
- Support to development of sustainable cocoa, coffee and copra development
- Development of conservation commodities

National and Global Linkages

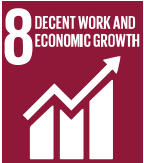
MTDP3

KRA1 – Increased Wealth Creation

- Value of exports of all commodities
- Create more employment
- Reduce imports
- Create wealth by promoting SME development and direct investments

KRA7.2 – Manage and reduce the risk of natural disasters

SDGs



13. Action on Climate Change
15. Zero Hunger

Context

Agriculture is central to PNG's rural economy with 85% of the population living in rural areas and depending largely on subsistence practices combined with small-scale production of coffee and cocoa.

The commercial agricultural sector in PNG forms a key part of the economy despite a relatively small area under cultivation (0.65m ha in 2013). The sector exported close to \$1b in 2016⁵ and provides employment for large numbers of people, with one of the two largest palm oil producers employing over 10,000 people and 8,000 smallholders -

5. Observatory of Economic Complexity – Papua New Guinea

6. PNGFA Draft National Forest Plan (2013) unpublished

The action areas also seek to engage in global trends for deforestation-free commodities with over 447 companies making zero-deforestation commitments around their commodity sourcing.

Significant barriers, however, exist to achieving these actions, including: limited awareness of options for sustainable agriculture, limited market access, high costs of production, weak extension services, and existing policy and regulatory frameworks that present challenges to agricultural commercialization.

Agriculture an opportunity for low carbon growth

Over 80% of PNG's population is engaged in agriculture - the majority through small-scale family and commercial systems. Limited investment in the sector however has resulted in low levels of productivity improvements in planting stock and production techniques could deliver significant increases in production as well as opportunities to access premium markets:

Cocoa – current smallholder yields are as low as one 10th of potential – improvements raising 50% of PNGs production areas would deliver an additional 200kt of cocoa per annum

Coffee – current smallholder yields are 50% of global average – improvements raising 50% of PNG's production areas to global average would deliver 34kt of coffee per annum

Copra – improvements in copra

Oil Palm – current small-holder yields in many areas are below potential - with initial assessment of potential impacts of support to 20,000 small-holder plots could result in:

- Increased income of for small-holders of \$4,500 per household per annum (due to increases in yield from 15t/Fresh Fruit Bunch (FFB) per ha to 26)
- Increased income from mills of \$10m per annum
- Avoided emissions of over 10mtCO_{2e} due to avoided deforestation of forest areas to meet the levels of production increase.

Figures for economic income are taken at year 15 after replanted trees have matured - while emissions reductions is calculated over the full 15- year period.

Early Action and Planned Investments

Papua New GuineaNG has taken action to address rapid expansion of commercial agriculture, including the cancelling of SABLs and the establishment of a Sustainable Palm Oil Platform.

It is also working with partners to strengthen levels of support to farmers, with a number of projects supporting provision of technical support to farmers as well as allocation of planting stock. These actions, however, require further expansion and ongoing support to help deliver target increases in productivity while also limiting the expansion of agriculture into forest areas.

Investment Gap

Indicative figures for investment needs are in excess of \$500m based on initial assessments of required technical support and roll out of replanting, extension and market access programmes, with opportunities for figures to vary considerably based on crops, locations and implementing partners.

Impacts

Action within these areas will have significant impacts including:

- Improvements in food security
- Improvements in revenue from agricultural production including enhanced value per unit
- Enhanced productivity per unit area

- Potential avoided emission of 18.5mtCO_{2e} over 10 years – 3.4mtCO_{2e} per annum in 2030 based on avoided deforestation from agriculture

Case Study: Creating Impact in the Cocoa Sector*

Cocoa is largely a smallholder crop in PNG, so support in this sector has the capacity to benefit many rural Papua New Guineans. According to the 2000 Census, **16% of all PNG households, estimated at around one million people, depend on cocoa for their livelihood.**

Cocoa is so significant in rural areas that it is a major driver of the rural cash economy. Beyond its direct value add, **the cocoa industry generates an indirect value add of about 15%** (estimated at 30b PGK).

PNG is heavily reliant on cocoa, but it needs help: **the industry decreased by 20% between 2008 and 2018**, largely due to the devastation caused by the cocoa pod borer. Simple interventions could have a huge impact, **raising production by 50%** and delivering an additional 200kt of cocoa per annum.

In addition to increased quantity of production, sustainable agriculture interventions can also drive an increase in quality, facilitating access to certification mechanisms. **Certified cocoa provides benefits such as higher return for smallholders and fermentaries, technical support for fermentary owners and the reinvestment of part of the profits in community development projects.** Certification is also increasingly important for market access, as the world's major cocoa buyers are trending towards only buying certified cocoa.

*Data in this section from Lescuyer et al 2018 Value Chain Analysis of the cocoa industry in Papua New Guinea (CIRAD).

2.1



Summary

Establishment of an effective REDD+ coordination and management structure will enable PNG to effectively account for emissions from the forest sector - as well as manage different projects and programmes working to support these.

While PNG has made significant progress in this area further investment is needed estimated at over \$21m, representing a 70% increase in spending against CCDA's existing spending.

KRA 7 – Responsible Sustainable Development

7.2 Adapt to the Domestic Impacts of Climate Change and Contribute to Global Efforts to Abate Greenhouse Gas Emissions

SDG



13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions.

Context

Papua New Guinea has made significant progress in developing its framework for action on climate change and REDD+ specifically. PNG has developed a Climate Compatible Development Action Plan (2010) and subsequent policy, the Climate Compatible Development Management Policy (2014) which identified key areas for action on climate change - including targets of a 50% reduction in GHG emissions by 2030, and to reach a point of carbon neutrality by 2050.

Supporting legislation has also been established in the form of the Climate Change Management Act (CCMA) (2015) and Paris Agreement (Implementation) Act (2016).

Globally PNG was one of the first countries to submit a Nationally Determined Contribution (NDC), in 2015, within which action on REDD+ was noted as a potential action area. PNG's has recently completed its second NDC which includes more specific targets for the forest sector including:

A reduction in reported emissions of 10mtCO₂e per annum against 2015 levels by 2030, which will be achieved by a 25% reduction in land impacted by deforestation and forest degradation. These represent significant targets given the recent historical trend of annual increases in deforestation and forest degradation.

Linked to this process of target development has been significant action on REDD+ readiness within PNG. Significant progress has been made on developing the

elements of the Warsaw framework on REDD+ with PNG submitting its Forest Reference Level to the UNFCCC, launching its National Forest Monitoring System (NFMS) Portal (<http://png-nfms.org/portal/>) and approving the National REDD+ Strategy (NEC Decision 126/2017) all in 2017. Work ongoing on the development of the Safeguard Information System (SIS). PNG also has developed its first Biennial Update Report (BUR) including REDD+ Technical Annex/REDD+ Results, which was submitted in 2019.

The current document represents one of the next steps in this work, and notes the need for increased capacity for decision- making, coordination, monitoring, reporting, and management in key areas with key actions required, including:

- Establish and strengthen coordination mechanisms for action on REDD+
- Integration of climate relevant indicators into the development planning framework
- Strengthen management and reporting of emissions from land use and forestry
- Establish and Strengthen a Safeguard Information System
- Development of a registry of activities linked to forest carbon
- Establish system for management of RBPs, including an equitable benefit sharing system

Box 9. Modification to Action Area

The action area has been adapted from:

- Strengthening climate change legislation, financing and management and
- REDD+ Coordination and Reporting

That are outlined in the NRS as there are strong linkages between these areas and as such they have been combined. Integration of climate change targets within the development, planning framework has also been added under this action area.

Early Action and Planned Investments

Establish and strengthen coordination mechanisms

PNG is working to establish a central coordination mechanism for climate finance. The mechanism will strengthen links between key government agencies, in particular the DNPM and CCDA. This central decision making structure will also be supported by technical input from existing technical working committees (TWC) that have supported REDD+ development, including the National REDD+ Strategy TWC, FRL/NFMS TWC and REDD+ Safeguards TWC.

Early Progress

CCDA has been working with other government partners to identify options for a National Climate Finance Committee that would provide a central cross sector body for climate decision-making and would build on existing technical committees on REDD+ as well as other sectors.

Support has been provided through GCF Readiness projects to build the capacity of CCDA, as an NDA to the GCF, with elements such as development of a process for providing a No Objection Letter (NOL) for new projects a potentially transferrable element of institutional capacity that can help manage development of future REDD+ actions.

Integration of climate relevant indicators into the development planning framework

Climate and land use relevant targets and indicators will be integrated into the development-planning framework through creation of sector-based climate mitigation and adaptation plans - in line with Sections 70 and 74 of the CCMA (2015), and in close coordination with DNPM. Sub-national plans will also be developed as part of sub-national development planning required under the PNG Planning and Monitoring Responsibility Act (PNGPMRA) (2016) with spatial elements of planning (including maintenance of forest loss able to be integrated as part of a target framework linked to provision of budgets). Early action will focus on developing the planning framework for this integration, capacity building of target provinces and sectors, and its early roll out in a number provinces and sectors most relevant to REDD+.

Estimated implementation costs: \$1,447,540

Early Progress

Support being provided through GGGI to initial development of sector mitigation and adaptation plans.

Strengthen management and reporting of emissions from land use and forestry

PNG's national FRL, has been technically assessed by the UNFCCC and was submitted in 2017. A first Biennial Update Report (BUR) with REDD+ Technical Annex was also submitted in 2019. The country's NFMS (<http://png-nfms.org/portal/>) is operational and provides information on forest and land use concessions.

The FRL identifies areas in which information on forest reporting can be strengthened. A key element of this is completion of PNG's National Forest Inventory (NFI) with data from this seen as central to improvements in quality of data and reporting towards Tier 3 levels - as well as enhanced information for domestic policy making. Inclusion of additional information within the NFMS and linkages between this system and that of other government agencies is also possible to improve efficiency of data management, at local level, as well as improved transparency of information and reporting. Integration with remote deforestation monitoring systems noted under that and other forest data systems (linked to timber legality) will also be possible.

Further investment is needed to strengthen reporting standards, and the ongoing management of the process of reporting. This will require increased investment in understanding the nature of PNG's forests, including ongoing roll out and development of the NFI - as well as revisiting of existing permanent sample plots.

Estimated implementation costs: \$15m

Early Progress

PNG has received support through the GEF for the Preparation of Papua New Guinea's Initial Biennial Update Report to UNFCCC and the Third National Communication Report to the UNFCCC, and is currently developing its project Strengthening capacity in the agriculture and land-use sectors for enhanced transparency in implementation and monitoring of Nationally Determined Contributions (NDCs) under the Paris Agreement in Papua New Guinea, the country is also receiving support from JICA in the development of its National Communications to the UNFCCC.

Regarding specific forestry emissions reporting, support has been provided by the UN-REDD Programme, as well as FCPF project and JICA, through multiple projects. Work is also being developed through FAO on approaches to development of a project registry to strengthen accounting.

Establish and Strengthen a Safeguard Information System

PNG has developed its first Summary of Information on how the Cancun Safeguards for REDD+ are being addressed and respected with this summary submitted to the UNFCCC. The summary builds on work in the development of a national Safeguard Information System (SIS), with a framework for a fully operational SIS developed as part of the development of the first summary of information.

Further resources are required to fully develop the SIS and ensure that it is managed and updated over time with requirements for both IT systems (including website hosting), staffing and capacity building of key stakeholders to engage with the system.

Estimated implementation costs: \$424,380

Early Progress

Support was provided through the FCPF project to the development of the initial Summary of Information and SIS Framework.

Development of a registry of activities linked to forest carbon

PNG has initiated work on the development of a registry to clearly track and account for how any emission reduction units produced are utilized. A phased development process for this has been identified, with capacity of the system being increased, as PNG becomes increasingly engaged in international action to reduce emissions through both voluntary mechanisms and agreements under Article 6 of the Paris Agreement.

Early Progress

GoPNG is working with FAO in the development of a GCF Readiness proposal to support action on development of a REDD+ registry for PNG.

PNG through its role in the Coalition for Rainforest Nations is also collaborating in the development of integrated approaches to registry development.

Establish system for management of RBPs

A transparent system to manage RBPs is required to ensure that funds are effectively managed and that RBPs can promote further emissions reductions. The system should be linked with the registry and reporting under the UNFCCC to ensure clarity on how any RBPs are obtained and distributed. It will also require development of a clear benefit distribution mechanism.

Estimated implementation costs: \$1,135,440

Early Progress

CCDA are receiving support from the FCPF project in the development of the current RFIP as well as further work on the development of an effective financing structure for the management of RBPs.

UNDP are also working with CEPA under the GEF6 project on Protected Areas finance on the development of an environmental finance trust fund that may have applications for REDD+ financial management.

GoPNG is also working with FAO in the development of a GCF Readiness proposal to support development of a RBP process linked to work on a national registry.



Investment Gap

Overall costs of development are anticipated to be over \$20m, over 10 years, equating to approximately \$2m per annum. This equates to approximately a 70% increase in spending compared to CCDA's existing recurrent budget.

Impacts

Action within these areas will have significant impacts including:

- Enhanced capacity to monitor and report on emissions
- Improved opportunities for revenue generation and management
- Enhanced knowledge and potential to inform policy on forest and land use management.

National and Global Linkages

MTDP3:

KRA 7 – Responsible and Sustainable Development
7.2 Adapt to the Domestic Impacts of Climate Change and Contribute to Global Efforts to Abate Greenhouse Gas Emissions;

SDG



13.2 Integrate climate change measures into national policies, strategies and planning

13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100b annually, by 2020 from all sources, to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation - and fully operationalize the Green Climate Fund through its capitalization as soon as possible.

13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in Least Developed Countries and small Island Developing States, including focusing on women, youth and local and marginalized communities.





Blended Finance for Integrated Action



The GoPNG is committed to delivering significant emissions reductions from the forest sector while also supporting the transition to a truly responsible, sustainable and climate smart development pathway. It recognises this will require an integrated approach to rural development that brings together elements of land use, forestry, environmental protection and management and agricultural development, with forest- dependent and land- owning communities at the centre of all actions, to ensure an equitable and effective approach to delivering REDD+ results.

In order to match this integrated pathway, the GoPNG seeks to develop an integrated approach to finance. This will:

- Bring together action across sectors
- Provide opportunities for investments and partnerships that are best targeted towards the interests and skills of different investor groups
- Ensure that finance provided builds real and long- lasting transformational change in PNG through development of a strong, equitable rural economy - as well as returns on investment.

Indicative Framework for Investment

The government of PNG recognises the key role of domestic government finance in creating the right enabling environment for private sector investment in PNG, and that this process can also be supported through technical advice, risk guarantees and low- cost loans from development partners. The below diagram provides an indication of areas in which different types of finance will be sought.



The GoPNG has already sought to mobilise additional domestic finance to support action on climate change and is currently reviewing opportunities to increase levels of domestic revenue targeted to climate action. This finance has been identified as a critical base level of investment on which the GoPNG seeks to build a diverse range of investment partners to help existing financing gaps.

Sharing Benefits and Delivering Returns

Implementing the proposed actions could deliver significant emissions reductions that could be monetised through performance- based payments under a range of mechanisms, including the Green Climate Fund, bilateral, market or non-market mechanisms under Article 6 of the Paris Agreement, or engagement with the voluntary markets or agreements outside of the UNFCCC such as those for international air traffic (CORSIA) and shipping.

The financial value of such a level of emission reductions is however difficult to estimate given the significant variations in estimates of a future carbon price (at present, prices range from less than 1USD to over USD150 per tonne of CO₂e).

If a conservative price is taken, potential income would fall significantly short of potential revenue. With increasing prices there is the potential for levels of revenue to cover all indicative costs but will struggle to deliver significant levels of additional returns above the costs of implementation. This does not mean that those committing to action on their land - and the broader PNG economy, will not benefit, as the proposed investments are directly targeted at supporting the livelihoods of rural communities - as well as strengthening economic activities to deliver long- term sustainable growth.

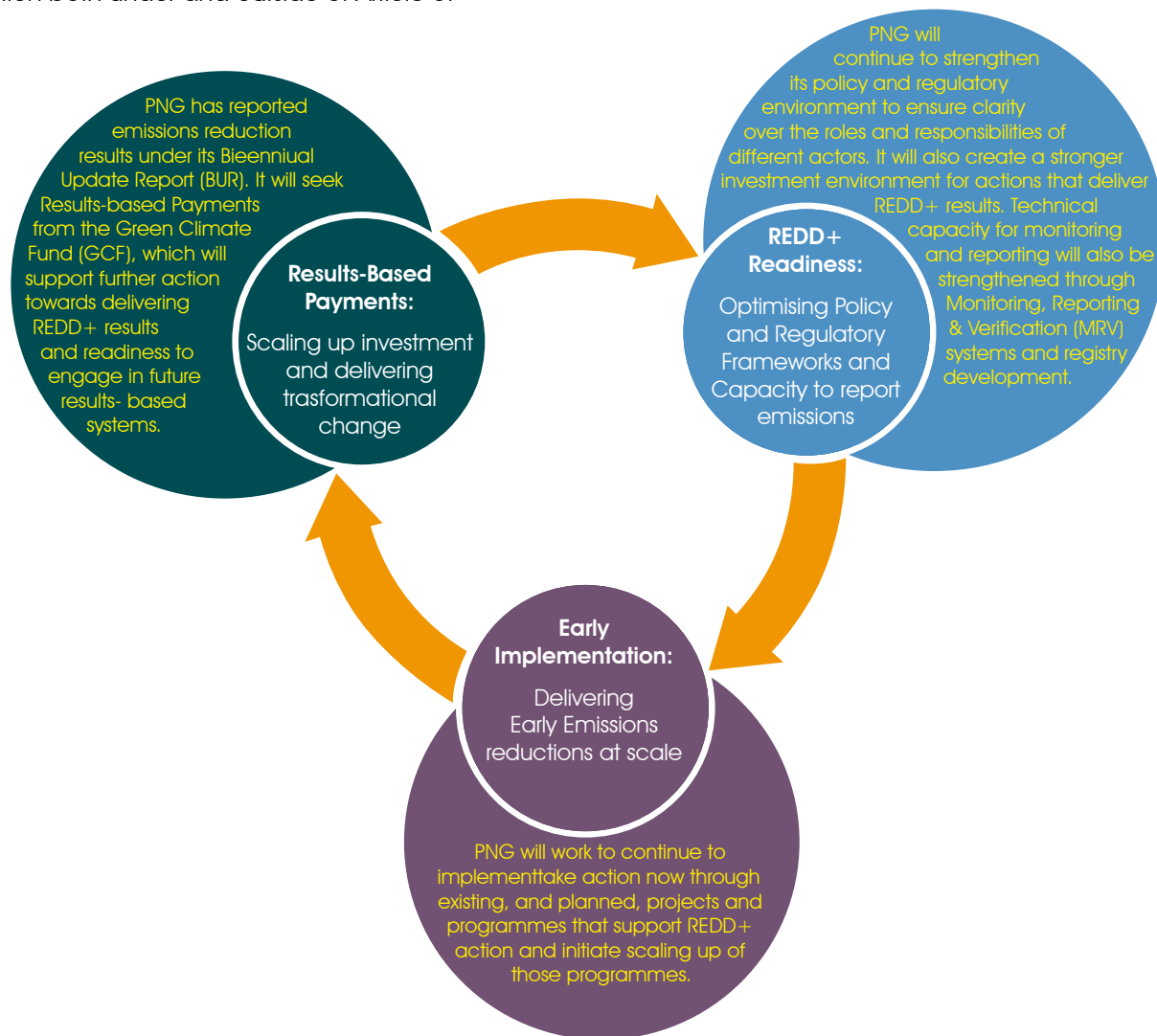
For example, estimations of plantation forest development cover the full costs of development of plantation areas. Some of these costs should be borne by private sector (including community) investment, as those plantation areas developed for timber production would also provide an economic return. As such, carbon finance would not be required to cover the full costs of planting but rather help to provide a positive investment environment that encourages communities,

and the private sector, to invest in planting. The investments would also help to deliver early income for communities through planting activities as well as future revenue from the timber stocks planted. These elements would have broader economic benefits based on taxes on business operations, and the incomes from future timber.

The Road to Transformational Change

Mechanisms on REDD+ are continuing to evolve globally in line with negotiations under the UNFCCC - as well as mechanisms such as CORSIA and the adoption by large multi-nationals of science-based targets that go beyond regulatory requirements.

Based on this, Papua New Guinea is working to develop approaches to delivering REDD+ results, that meet the highest international standards, while also delivering on national objectives. This is being achieved through an evolving policy and technical capacity building cycle that is in line with the phased approach identified internationally for REDD+ development. It focuses on an concurrent process of developing and scaling up investment in partnership with key development, and private sector partners, to ensure that PNG's approach, systems and capacities can effectively deliver REDD+ results, and engage with both existing results- based systems under the GCF and emerging markets, and areas for voluntary cooperation both under and outside of Article 6:





Papua New Guinea REDD+
Finance and Investment Prospectus (RFIP)

