



The state of voluntary carbon markets in the Pacific



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Cover photo: © Jürgen Freund / WWF. A virgin forest in Mt. Rano high up in the clouds (with Imbu meaning mist or fog) at 380 meters above sea level in Kolombangara Island. Kolombangara is a crater mountain that peaks at 1,770 meters with 80 rivers and streams running through it. Western Province, Solomon Islands.

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Glossary of key terms and concepts

To understand voluntary carbon markets, there are some key concepts that need to be unpacked:

Additionality refers to the requirement for carbon projects to prove that the emissions reduction, removal, and avoidance activities would not have occurred without the carbon finance provided by the project.

Article 6 of the Paris Agreement establishes a framework for voluntary international cooperation between countries in the implementation of their nationally determined contributions (NDCs). Article 6 opens the door to carbon market transactions that may overlap, integrate, or compete with VCM activities.

Co-benefits are the non-carbon benefits from carbon projects such as community development, empowerment of women, and improved biodiversity.

Corresponding adjustments refers to when mitigation outcomes are traded internationally, and the emission reduction is removed from the national GHG account of the selling country and added to the account of the buying country to avoid 'double counting'.

Free, prior, and informed consent (FPIC) refers to the rights of Indigenous Peoples to give or withhold their consent to any activity that affects them or their territories, as recognised in the United Nations Declaration on the Rights of Indigenous Peoples. It provides best practice for the involvement of landowning communities in decision-making on voluntary carbon projects. Demonstrating FPIC is often required by voluntary carbon standards.

Leakage refers to a situation in which efforts to reduce emissions in the project location (e.g. stopping logging in Forest A) result in an increase in emissions outside of the project site (e.g. starting logging in Forest B).

Measurement, reporting, and verification (MRV) refers to the processes required to certify emissions reduction, removal, and avoidance activities.

Nationally Determined Contributions (NDCs) are where countries set targets to reduce national emissions and adapt to the impacts of climate change under the Paris Agreement.

Offtake agreements are legal contracts in which a buyer agrees to purchase a set amount of carbon credits at set price points several years into the future.

Permanency obligations require project developers to provide a level of assurance that the carbon sequestered from the project will not be released back into the atmosphere for a given period of time.

Social and Environmental Safeguards policies, procedures and activities aim to ensure that participants' human rights are respected and that any human or environmental risks of non-intended negative project impacts are managed and addressed. Adherence to particular safeguards is often required by voluntary carbon standards.

Voluntary carbon standards administer procedures for crediting emissions to ensure the integrity of VCM carbon credits. The choice of voluntary carbon standard can affect the project governance requirements.

KEY LEARNINGS

- ❖ Voluntary carbon markets (VCMs) in the Pacific are small and nascent but have been growing rapidly in the context of the region's significant carbon mitigation potential.
- ❖ The majority of registered projects are in forestry and energy production/conservation and have employed ad hoc approaches to project development that have achieved mixed results.
- ❖ There are opportunities for VCMs to support, conserve, and recognise the added value and contribution of Indigenous people, knowledge, and places in the Pacific.
- ❖ Successful voluntary carbon projects in the Pacific have a strong emphasis on partnerships between international organisations and local in-country partners (often these are NGOs or CBOs). These partnerships are critical for leveraging the required technical expertise and ensuring culturally appropriate community engagement and capacity building.
- ❖ Mobilising increased private sector investment is required to scale VCMs in the Pacific. However, many projects rely on donors and grants to cover upfront project development costs. Public finance also plays a critical role in building the enabling environment for VCMs, particularly through support for Pacific government regulatory capacity and establishment of safeguards.
- ❖ The commercial imperative to develop scalable carbon projects, coupled with the resource-intensive nature of measurement, reporting, and verification requirements, can incentivise taking shortcuts on community engagement activities, including understanding local land tenure and governance arrangements.
- ❖ Meeting 'additionality' and 'leakage' requirements can be challenging in Pacific contexts due to the absence of official records and the widely dispersed patterns of land ownership in some places.
- ❖ The prevalence of customary land tenure across the Pacific can create additional complexity when it comes to defining carbon property rights. However, a range of mechanisms are being used to meet ownership and 'permanency requirements' in the Pacific.
- ❖ The non-carbon benefits of carbon projects, known as 'co-benefits', are increasingly recognised as the core value of voluntary carbon projects. These include community level social and economic benefits, as well as broader environmental benefits such as biodiversity.
- ❖ The increasing demand for co-benefits provides an opportunity for more inclusive approaches to VCMs that can empower women and other groups who may be susceptible to violations of their rights.
- ❖ Carbon credits are a novel and largely foreign concept in the Pacific. Significant time and resources are required to inform and engage local communities in a manner that upholds principles of free, prior, and informed consent (FPIC) and does not create unrealistic expectations.
- ❖ Article 6 of the UNFCCC Paris Agreement provides a mechanism for facilitating closer alignment between VCMs and Pacific governments' Nationally Determined Contributions (NDCs). However, there is still uncertainty over how this will be implemented by Pacific governments.
- ❖ Pacific governments are in the process of establishing formal approaches for engaging with VCMs and possess varying levels of capacity and inclination to regulate it.

1. Overview of voluntary carbon markets in the Pacific

What are voluntary carbon markets?

The dire need to reduce global carbon emissions has led to a rapid rise in pledges by governments, corporations, and civil society organisations to reduce their carbon footprints, often by committing to transitioning to carbon neutrality. A key mechanism underpinning such pledges is carbon offsetting; the purchasing of carbon credits to counter or offset emissions produced. The carbon markets for offsets are made up of voluntary and compliance components.

In voluntary carbon markets (VCMs), carbon credits are traded outside of regulated or mandatory carbon pricing instruments. In this way, VCMs differ from compliance markets, which are established as part of national, regional, and international carbon reduction regimes that require participants, by law, to account for greenhouse gas (GHG) emissions to meet binding targets. In VCMs, project developers can implement activities that remove, reduce, or avoid GHG emissions, which are recognised through carbon credits that are certified by a voluntary carbon standard. Each credit represents one tonne of carbon dioxide equivalents (CO₂e) which can be purchased by governments, corporations, organisations, and individuals seeking to offset their carbon footprints.

While VCMs are small relative to compliance markets, they have grown rapidly in size and value. As of 2022, VCMs globally were worth around USD 2 billion, and it is estimated that this could increase to as much as USD 50 billion by 2030 (Forest Trends' Ecosystem Marketplace 2022; Carbon Market Institute 2021). The growth of VCMs has been driven by a focus on nature-based solutions (NbS), with forestry and land use accounting for the largest sector of VCMs. Most of the credits supplied to VCMs are produced in developing countries and sold to buyers in developed countries. It is important to note that criticisms have been raised around the ethics of VCMs as a mechanism for 'greenwashing' and the integrity of the methodologies used to ensure that carbon credits represent real and additional emissions reductions.¹

What is the state of voluntary carbon markets in the Pacific and why are they important?²

VCMs in the Pacific are small and nascent but have been growing rapidly in the context of strong global demand and increasing interest in developing voluntary carbon projects that support Pacific ecosystems and livelihoods. The Pacific houses considerable terrestrial and marine ecosystems that are globally significant for their biodiversity and carbon mitigation value. Pacific communities are custodians of a "higher ratio of carbon sequestration potential per capita than any region of comparable size" (Carbon Market Institute 2021 p.16). The

¹ An [investigation by Source Material, The Guardian, and Die Zeit](#) of 95 million carbon credits issued by Verra for avoided deforestation found that only 6% of these credits represented real emissions reductions.

² This Brief focuses on Pacific countries for which there are known registered or planned voluntary carbon projects – Fiji, New Caledonia, Papua New Guinea, Solomon Islands, and Vanuatu – and also includes Timor-Leste but excludes New Zealand (hereafter collectively referred to as "the Pacific").

carbon mitigation potential of Papua New Guinea (PNG), Fiji, and Solomon Islands is especially significant due to their large forest and mangrove habitats.

VCMs thus offer significant potential for leveraging climate finance for NbS in the Pacific, including biodiversity conservation, and for providing development benefits for Indigenous and customary resource owners. However, in many cases, VCMs in the Pacific have been problematic, with ad hoc approaches to project development that have achieved mixed results. Against this backdrop, country-level regulatory arrangements are variable, but largely nascent, as Pacific countries grapple with how they will engage with VCMs.

The Pacific region only accounts for a fraction of VCMs globally. According to data recorded in carbon standards' registries, there are currently **only 12 registered voluntary carbon projects in the Pacific**, which amount to a total of 2,866,265 credits issued (see Figure 1), with a further seven projects currently under development.³ PNG (four projects) and Fiji (three projects) account for most of these, and PNG accounts for almost three quarters of total credits issued in the Pacific.

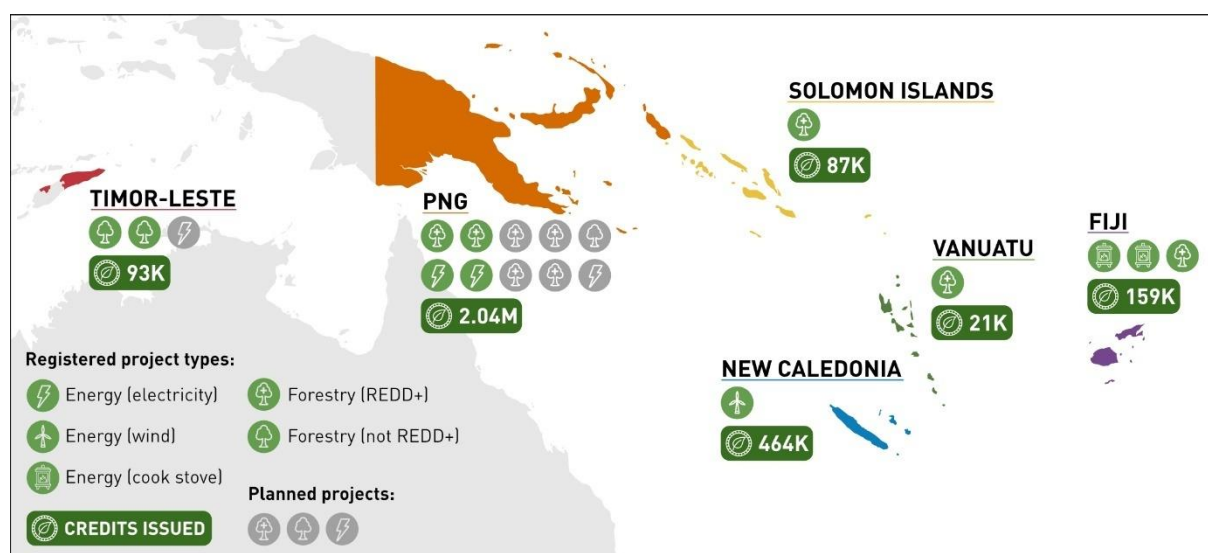


Figure 1: Map of registered and planned voluntary carbon projects in the Pacific and Timor-Leste

VCMs in the Pacific only cover a narrow scope of project types. The majority of registered projects are forestry (58.3%, seven projects) and energy production/conservation (41.7%, five projects). Of the forestry projects, the majority are REDD+ (71.4%, five projects).⁴ Despite this narrow focus, there is growing interest in other project types across the Pacific, with projects in early stages of development in agro-forestry and blue carbon.

³ This figure only uses publicly available data from voluntary standard's registers and project databases on projects that are either established or listed as under development. Data on credits issued may not always represent the most up to date figures. There are also several projects under development in the Pacific that are not listed on voluntary standard's registers and are subsequently not included in this analysis. There is considerable interest in Pacific VCMs – for instance the REDD+ Client Database in PNG records 193 parties interested in pursuing REDD+ projects- indicating the potential for rapid growth in Pacific VCMs. See the Reference list for a list of sources used to collate and corroborate the data presented in this figure.

⁴ This stands for Reducing Emissions from Deforestation and forest Degradation, and sustainable management of forests and the conservation and enhancement of forest carbon stocks in developing countries.

2. What does a voluntary carbon project in the Pacific look like?

How is a typical voluntary carbon trading project structured?

While there is variation across countries and projects, there are some common characteristics shared by registered projects in the Pacific. There is typically minimal involvement of government stakeholders, though it is likely there will be increasing government oversight in the future (see section 5). At the community level, landowners and project participants may be organised through a cooperative, farmer association, local business entity (see case study 1), or represented through elected village coordinators. It is common for a local non-governmental organisation (NGO) to take care of day-to-day project management, support the participants, and liaise with a project developer.

The project developer is typically a national or international organisation responsible for coordination, which can include overseeing the financing, business, and scientific components of the project, including the certification process, as well as the marketing and selling of credits. Finally, all project members need to work together to meet the requirements of the chosen voluntary carbon standard. Often underpinning these project models is a strong emphasis on local partnerships for culturally appropriate community engagement. Project developers and coordinators can use these partnerships with local communities and organisations to understand local governance structures and better represent the needs of local participants.

Case study 1: Facilitating local ownership

A cornerstone of the Nakau Programme's projects in the Pacific is supporting customary landowners to legally become project owners. Under their Babatana Rainforest project in Solomon Islands, Nakau supported the Sirebe Tribe they are working with to form a community company, the Sirebe Community Company Ltd, which represents the tribal group in the conservation and business activities as part of the project.

The Sirebe Tribe provides the mandate for the Sirebe Community Company Ltd to manage the project on behalf of and in close collaboration with customary landowners. The Sirebe Community Company Ltd has the primary say in how the revenue from carbon credits flows back to the community but appoints the Nakau Programme as their agent to sell credits on their behalf.

As the project expands, future tribal groups who join will follow this model of forming a tribal association and a community company to represent landowners in the

Financing project development and implementation

Voluntary carbon trading projects tend to incur high upfront costs, and it can take significant time until income is derived from the sale of carbon credits. Accordingly, it is often necessary for project developers to secure up-front finance to cover these initial costs. While there is a growing push towards securing private sector investment, which can help with the

development of voluntary carbon projects, many projects currently rely on other funding streams such as grants to cover the upfront costs associated with project development. Beyond the project implementation phase, designing additional income streams through community livelihood activities can also help to supplement income from the sale of carbon credits as well as generate co-benefits.

Increased private sector investment is required if VCMs in the Pacific are to support large scale NbS for climate adaptation and mitigation. Private sector actors are increasingly interested in Pacific voluntary carbon project investments to secure a financial return, and to support broader environmental and social benefits (see section 4). However, private sector investors typically have risk/return appetites and expectations around timing that are at odds with the realities of VCM project development in the Pacific. Offtake agreements for a supply of credits at an agreed price is one mechanism for managing some of this risk, as they can increase investor certainty.

The public sector and donors can play an important role in enabling private sector investment. A range of blended and co-financing options – whereby government and development finance is used to de-risk and attract commercial investment – can incentivise private sector investment. Financial structures such as grants, profit sharing, and co-finance can be used, especially in the early stages of project development. Other financing strategies include channelling private sector investment into carbon benefits that can be more easily monetised and using public sector investment in co-benefits or less profitable components of a project.

There is a critical role for public sector and donor finance to play in ensuring effective safeguards are established in the Pacific. A lack of safeguards due to the low institutional capacity of some Pacific governments can be a barrier to scaling investment in VCMs. Donors can help to address this challenge by supporting the establishment of safeguards that Pacific governments currently lack, improving the broader enabling environment for private sector engagement with VCMs. Public sector funding can also play a useful role, allowing greater flexibility on timelines and costs needed to safeguard human rights and fully ensure free, prior, and informed consent (FPIC) in a cross-cultural context during the project development stage. This is an area that REDD+ projects have been heavily criticised for, particularly when working with Indigenous landowners and other groups who may be especially susceptible to violations of their rights. Where addressing these issues are a priority, the rights-based values and longer timelines permitted by most public sector funding may be more suitable than many commercial investment funds, especially at the early stages of a project.

How do voluntary carbon standards' compliance requirements work?

Voluntary carbon standards act as regulators of voluntary carbon projects. The standards administer procedures for crediting emissions to ensure the integrity of VCM carbon credits. To generate carbon credits, emissions reduction, removal, and avoidance activities need to be certified through a process of measurement, reporting, and verification (MRV). This involves establishing a robust baseline and routine monitoring and reporting. Compliance with the standard is verified by independent auditors who check that the requirements of the standard's methodology have been met by conducting site inspections and verifying project documents.

A challenge for developing high-integrity projects in the Pacific is that MRV requirements are time consuming and expensive to implement, creating a tension between achieving economies of scale and ensuring integrity. This can inadvertently incentivise the cutting of ‘soft’ activities, such as effective and inclusive community engagement, processes of FPIC, and understanding local land tenure and governance arrangements – which can lead to project breakdowns and damage the reputation of carbon projects across the region. These activities are particularly important in the Pacific given the nascent and weak regulatory environments, and the acute asymmetries of knowledge and capacity that have characterised the relationships between communities and project developers in the natural resource sectors, such as logging, mining, and oil and gas.

What are additionality and leakage requirements and how can they be met in the Pacific context?

Voluntary carbon standards require that projects meet an ‘**additionality**’ test. Projects must prove that the emissions reductions would not have occurred without the carbon finance provided by the project. Additionality is essential for ensuring integrity but can be challenging to prove, especially for avoided deforestation projects, where claims are based on a counterfactual scenario (i.e. without this project the forest would have been logged). Projects must also account for ‘**leakage**’, whereby the causes of emissions are simply moved outside of the project site to a new location. For example, a community may set up a conservation area as part of a voluntary carbon project, only to then go and log forests on another part of their land.

Additionality and leakage requirements are key elements of MRV, but both can be challenging in Pacific contexts. Demonstrating additionality requirements for avoided deforestation projects can be complicated by the absence or poor quality of official records on proposed logging operations, while leakage can be difficult to monitor in situations where landowning groups own parcels of land that are widely dispersed. Furthermore, recent developments with Nationally Determined Contributions (NDCs) are increasingly requiring government-led policy coordination that incentivises voluntary carbon projects in sectors and regions where they are clearly additional and complementary to NDCs, which is adding an additional regulatory and administrative burden in the capacity-constrained context of many Pacific countries (detailed further in section 5).

What are the capacity levels of stakeholders in the Pacific for implementing voluntary carbon trading projects?

Despite variation between countries, capacity to develop, monitor, and regulate VCMs in the Pacific is generally limited, reflecting the nascent VCMs across the region. Capacity levels at both the institutional and community levels vary across the Pacific. At the institutional level, Fiji and Samoa are generally seen as leading the region across a range of governance factors, such as government effectiveness, regulatory quality, and control of corruption.⁵

Effective partnerships between project developers, government, and local communities are essential. Voluntary carbon projects require specialist knowledge and technical expertise, meaning local communities often lack the capacity to undertake projects autonomously. Across the Pacific, the enabling environment for promoting VCMs – including policy

⁵ See for example the World Bank’s 2021 data on governance indicators: <https://info.worldbank.org/governance/wgi/Home/Reports>.

development, institutional readiness, and the implementation of social and environmental safeguards – is generally weak. Consequently, project developers have to shoulder a high administrative and governance burden. Examples of this can be seen across cash crop and resource sectors in PNG, where private companies engage directly with landowners, and play a key role in the provision of extension services in the absence of state support services.

While all 12 registered voluntary carbon projects in the Pacific involve a foreign project developer, some have placed a stronger emphasis on local capacity development than others. For example, the Nakau Programme's three projects in Fiji, Solomon Islands, and Vanuatu all utilise a local NGO who plays the role of project coordinator. Similar models are used in Timor-Leste where local NGOs develop and coordinate the project in partnership with international organisations that provide support and technical assistance.

Can customary forms of land governance and tenure in the Pacific meet permanency obligations?

Carbon projects are subject to permanency obligations. **'Permanency'** requires project developers to provide a level of assurance that the carbon sequestered from the project will not be released back into the atmosphere. For NbS type voluntary carbon projects, permanency obligations become intertwined with property rights. Proof of secure land tenure is often required by voluntary carbon standards as a guarantee that permanency obligations will be met. To demonstrate the security of land ownership, formal long-term land titles are often required.

In the Pacific, a significant portion of land is held under customary tenure, often without formal titles. Customary land tenure can create additional complexity when it comes to defining carbon sequestration property rights. Across the Pacific, and especially in Melanesia, use of customary land is often fluid, and there can be competing claims to land. In this context, customary land ownership, resource usage, and rights to benefits from the land are complex and a key source of local disputes that have the potential to escalate into broader conflicts.

A review of registered NbS voluntary carbon projects in the Pacific shows that there is variation in how permanency obligations are defined and managed. Landowners typically enter into 30-year agreements with a project. A common approach is for the customary landowners to establish a carbon trading entity which holds the rights to the carbon and forms an agreement with the project developer to sell the carbon on their behalf. To mitigate risks of conflict, projects can undertake land boundary mapping and beneficiary mapping, and avoid the use of land where there are known disputes. A range of mechanisms have been used to meet ownership and permanency requirements, including signing a memorandum of understanding (MOU) with the Government recognising that ownership of the trees resides with farmers, landowners signing declarations on agreed land boundaries, and establishing legal protected areas or conservation leases for the project sites. Some voluntary carbon standards are more flexible than others when it comes to accommodating the particular land tenure contexts observed in the Pacific.⁶

⁶ While some standards do not accept customary forms of land tenure, the Plan Vivo standard, for example, recognises customary land tenure "so long as steps are taken to minimise the risk of local disputes over land

3. How can voluntary carbon market projects deliver positive impacts for Pacific communities?

What are co-benefits and why are they important?

Non-carbon benefits of carbon projects, known as ‘co-benefits’, are increasingly recognised as core components of the value of carbon credits. This is in large part demand driven: buyers of high integrity credits do not just want to offset their carbon footprint but also want to contribute to social impact aligned with their environmental, social, and governance (ESG) goals and the broader mainstreaming of Sustainable Development Goals (SDGs). Consequently, credits produced from projects that also generate co-benefits can receive a significant price premium.⁷

It is important to note that the generation of co-benefits usually relies on the sale of carbon to finance them, and investment in VCMs in the Asia-Pacific region is still primarily carbon-driven. That said, the increasing market value of co-benefits is a positive development for Pacific VCMs given the region’s dependence on ecosystem services for local livelihoods, the globally significant value of its environmental resources, and its vulnerability to the impacts of climate change. Project developers are increasingly emphasising the non-carbon development impacts that voluntary carbon projects can deliver for communities and environments in the Pacific.

While market demand for co-benefits is increasing, project developers also have agency over the design and implementation of approaches that can generate co-benefits from voluntary carbon projects. Indeed, emerging research shows that projects in the Pacific generating co-benefits early in the life of a project can increase the likelihood of local buy-in and maintaining permanence over the long term. This imperative is heightened in the Pacific where government regulation of VCMs is typically poor.

Co-benefits can take an array of different forms (see Figure 2). In the Pacific, the most common types of co-benefits for registered projects include:⁸

- **environmental benefits** – reduced deforestation, improved conservation and biodiversity, and watershed protection.
- **social benefits** – investment in infrastructure and services (e.g. education) at the community level, capacity building, improved community governance, and empowerment of women.
- **economic benefits** – local employment opportunities, development of micro enterprises, income from payment for ecosystem services (PES).

tenure and on the condition that the project works with the government to help participants to acquire official recognition of their land tenure” (Plan Vivo n.d.).

⁷ Data from Forest Trends’ Ecosystem Marketplace for 2021 shows that compared to the Ecosystem Global Price Benchmark of \$4.00/tCO₂e, credits from Gold Standard and Plan Vivo that generated co-benefits achieved a 26% increase (\$5.00/tCO₂e) and 133.5% increase (\$9.34/tCO₂e) respectively.

⁸ Project design documents of the 12 registered voluntary carbon projects in the Pacific and Timor-Leste were reviewed for their co-benefits.

- **technical benefits** – technology adoption and generation of renewable energy.
- **cultural benefits** – strengthening Indigenous knowledge and culture.⁹

Offsets are more than just carbon.

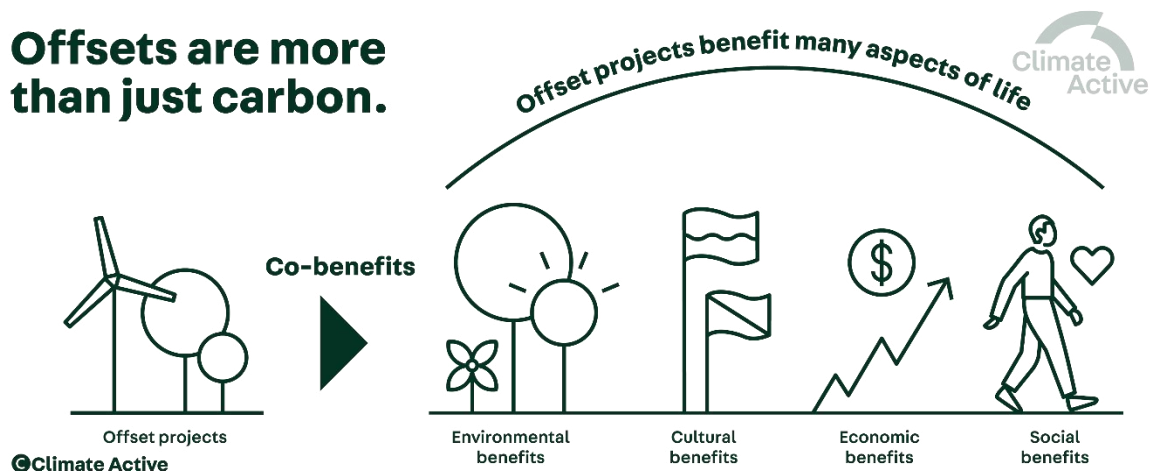


Figure 2: Understanding co-benefits (Source: Climateactive.org.au)

In the Pacific, it is important to note that some projects generate more societal-level impacts, such as wind farms that reduce air pollution, while others generate far more localised impacts, such as job creation for local communities. At the local level, benefit sharing arrangements are critically important for ensuring equity and inclusion in the distribution of social and economic co-benefits (detailed further below). Co-benefits are difficult to measure, and the level of rigour behind claims of co-benefits generated varies. A greater focus on developing and standardising methodologies and approaches used to measure, report, and verify co-benefits in the Pacific will likely enhance their value in the future.

How can we ensure that voluntary carbon trading projects in the Pacific are inclusive?

Across the Pacific, it is well known that women are chronically underrepresented in all spheres of economy and society. While this can be a challenging context in which to use VCMs to support the empowerment of women and other socially disadvantaged groups through VCMs, the increasing demand for credits that can demonstrate co-benefits provides incentives and opportunities for more inclusive approaches.

Voluntary carbon standards establish the basic social inclusion requirements that projects must meet, which individual project developers may build upon or extend in their own methodologies. Some carbon standards' social inclusion requirements are more extensive than others. For instance, Plan Vivo requires the implementation of robust FPIC processes, with a strong focus on Indigenous peoples, and social safeguards based on the principles of inclusion and non-discrimination because of gender, age, ethnicity, religion, or social status. Social inclusion elements of individual voluntary carbon projects in the Pacific have included savings initiatives for women and including women in project leadership positions. A project currently under development in PNG is focusing exclusively on women through blue carbon and market access initiatives. The potential for perverse outcomes from GEDSI efforts always needs to be managed through implementation and MEL systems – for example, protecting women who might be victimised for being put in authoritative positions.

⁹ This co-benefit was observed but tended not to be explicitly mentioned in project design documents.

A key challenge for projects in the Pacific is balancing social inclusion with local cultural norms and protocols. For example, the Nakau Programme's project in Solomon Islands provides equal access to employment opportunities – except where particular cultural protocols need to be followed – and adheres to customary protocols around restricting access for community members who do not own land or have resource-ownership rights.

How can Indigenous knowledge and practice be supported through voluntary carbon projects?

Indigenous peoples and lands are intertwined with VCMs. Much of the world's most important carbon sinks are on lands and forests managed by Indigenous communities, yet their tenure of this land is often insecure, meaning that their carbon rights are also often poorly defined and understood. In the Pacific, Indigenous land and resource tenure is complex and multi-faceted. As previously discussed, the informal nature of land tenure in the Pacific can present challenges to establishing voluntary carbon projects.

Voluntary carbon projects risk alienating Indigenous land, resource usage, and local governance systems. International experience has shown that the locally nuanced and holistic uses of Indigenous land and forests can be simplified and overlooked in the development of voluntary carbon projects and that VCMs can be used to facilitate land grabbing of Indigenous land and forests. Similarly, recent land grabbing controversies in PNG and Vanuatu highlight the risk of foreign investment alienating Indigenous land and resources in Pacific contexts.

However, customary forms of land and resource tenure are not just a problem to be overcome. They also represent diverse and rich cultures and histories of custodianship over land and natural resources. There are opportunities for VCMs to support, conserve, and recognise the added value and contribution of Indigenous people, knowledge, and places.

There are notable examples that demonstrate how VCMs can help, rather than hinder, Indigenous rights. For instance, by working through a local in-country partner, the Nakau Programme undertakes a comprehensive community engagement and FPIC process to understand local land and resource governance dynamics, and then co-designs a project governance model that meets the requirements of the Plan Vivo Standard while also being compatible with the local communities in which they work. Customary *tabus* are not only adhered to but are actually used to reinforce project goals around land management such as preventing the cutting of trees from protected zones in Vanuatu. In Australia, the Aboriginal Carbon Foundation works with Indigenous rangers to implement savanna burning projects that utilise Indigenous fire management techniques such as cool burns and mosaic burns to improve fire management and reduce emissions. These examples illustrate the opportunities that exist for voluntary carbon projects to strengthen Indigenous natural resource management (NRM) and learn from Indigenous peoples and knowledge.

What benefit sharing arrangements exist?

Benefit sharing arrangements define how revenue from carbon credits flow back to the community and to implementation partners, along with other non-financial benefits. Beneficiaries are typically the carbon rights holders. In the Pacific, this often means all members of the customary landowning groups. However, establishing equitable benefit sharing arrangements for NRM projects is challenging in the Pacific context. Benefits are often

captured by small groups of powerful men. In the case of voluntary carbon projects, expected benefits can also be misunderstood or misleading for local landowners. For example, in one PNG project, local villagers reported only getting paid 200 Kina (AUD 80) for their participation in a REDD+ project; well below their expectations, which also included benefits like a school, church, road, and health centres.

Benefit sharing plans must be both comprehensive and fit-for-purpose to ensure project viability from an operational perspective while also supporting community development aspirations. At the community level, a common model is to allocate funds towards business operational costs to make sure that conservation activities are funded; allocate funds towards a 'safety money' account; invest in complementary livelihood projects and community development initiatives; and provide cash payments to project participants. The Nakau Methodology usually recommends against cash payments to individuals due to the logistical and ethical complications this method creates. However, participants have the agency to determine the split between profits shared to a community fund and via individual payments. Other payment models include performance-based payments, such as payments based on the number of trees that a farmer manages.

Despite variation in benefit sharing arrangements, there are best practice principles that underpin effective benefit sharing arrangements in the Pacific:

- Benefit sharing plans should be locally owned by project participants and contextually appropriate. While certain elements of benefit sharing plans are required, most voluntary carbon standards allow flexibility to tailor benefit sharing plans to the needs and wants of local communities.
- It is important to identify who all the relevant beneficiaries are. In the Pacific this can be a complex task and requires a comprehensive understanding of the local context.
- Benefit sharing arrangements should be transparent and communicated effectively so that beneficiaries understand how and why money is being allocated for different purposes.
- Extensive community engagement and consultation is required.

The choice of voluntary carbon standard has implications for benefit sharing at the project level. For instance, the Plan Vivo Standard has a strong focus on supporting smallholder livelihoods, requiring that a minimum of 60% of the income from each carbon credit goes to the local project participants.

Benefit sharing considerations are tied up in the broader issue of managing community expectations. For many Pacific communities, carbon credits and PES are often foreign concepts. As an invisible commodity, the notion of carbon credits and processes of MRV can be difficult to translate into local languages. Consequently, significant time and resources are required to adequately introduce and inform local communities about what carbon projects mean for them in a manner that upholds principles of FPIC and does not create unrealistic expectations.

It can take years to progress from initial project scoping through to the successful generation of carbon credits, a timeframe often at odds with project funding cycles and the expectations of local communities. Benefits need to flow to communities as early as possible, which often requires upfront co-financing. This urgency is heightened in the context of the Pacific where avoided deforestation projects can be competing with logging companies that can offer immediate cash payments.

4. What factors are shaping policy development for voluntary carbon markets in the Pacific?

How is Article 6 under the UNFCCC shaping policy development from Pacific governments regarding the voluntary carbon market?

Recent negotiations on Article 6 of the UNFCCC Paris Agreement, which were finalised at the UN Climate Change Conference in November 2021 (COP 26), have implications for how Pacific governments seek to engage with, and regulate, activities associated with VCMs. While VCMs have traditionally been regulated by voluntary carbon standards rather than by governments or international agreements, Article 6 provides a mechanism for governments to use credits generated in VCMs to meet their NDCs. The recent developments under Article 6, and its unprecedented nature, mean that many Pacific governments are still deciding on how they will engage with and regulate VCMs (see Table 1). Consequently, the policy and regulatory environment around Article 6 and VCMs will likely continue to evolve over the coming years as national and global approaches are enacted.

Under Article 6, GHG emission reductions or removals achieved through voluntary carbon projects can be captured by the host country's national GHG inventory. If the credits produced by the voluntary carbon project meet certain regulatory conditions, the host country government can authorise these credits for use towards their own NDCs.¹⁰ In practical terms, a government may choose to mandate that a portion of all authorised voluntary carbon credits that are produced from activities in the country contribute towards its NDCs. Emissions reductions and removals produced in VCMs will also be able to be transferred between countries (known as Internationally Transferable Mitigation Outcomes [ITMOs]), though the rules and process for this are still being established. This can also help lower-income countries meet their NDCs. For instance, voluntary carbon credits produced in one country can be transferred to another country to contribute towards the receiving country's NDCs in exchange for financial assistance. When using authorised voluntary carbon credits towards NDCs and transferring ITMOs between countries, '**corresponding adjustments**' are required to avoid double counting.

¹⁰ Prior to any VCM credits being used by countries, there are several regulatory conditions that governments need to determine, including:

... the type of VCM project or program, whether the project or program is in a sector that is covered by host countries' NDC targets, whether those targets are conditional or unconditional, whether the project or program is in an activity type or sector that the country is authorizing under Article 6 for corresponding adjustments, and whether the right to claim associated climate benefits is traded out of the country along with the carbon credits (Streck et al. 2021, Chapter 3, p.4).

Corresponding adjustments

To ensure the integrity of the international GHG accounting system, no reduction or removal can be accounted for twice. Host country governments may choose to make a corresponding adjustment for authorised credits to balance the accounting so that an emission reduction is removed from the accounts of the selling country and added to the accounts of the buying country.

Article 6 is designed to enable governments to undertake voluntary cooperation to implement their NDCs “to allow for higher ambition in their mitigation and adaptation actions” (Article 6.1, Paris Agreement 2015). However, a criticism is that greater use of VCMs may create an overreliance on offsets and the private sector and disincentivise more ambitious emissions reductions from governments to achieve their NDCs. To mitigate this risk, strong government policy is required to encourage VCM activities in sectors that complement national efforts on emissions reductions. There is also a risk that the technical and bureaucratic capabilities required for managing corresponding adjustments may block voluntary carbon projects that are not able to be accounted for by a host government. This risks hindering the swift and agile supply of VCM projects which are able to reach the most vulnerable communities, innovate and test new project types, and complement government capabilities and expertise.

How are Pacific governments seeking to regulate the voluntary carbon market in response to Article 6, and allegations of corruption and malpractice?

Pacific governments are in the process of establishing formal approaches for engaging with VCMs and possess varying levels of capacity and inclination to regulate it. This push to regulate the development of voluntary carbon projects in the Pacific is partly in response to changes in international rules and regulations, and partly in response to growing backlash and concerns about the integrity of voluntary carbon projects in the Pacific (see case study 2).

Case study 2: The rise of carbon cowboys in PNG

The uptake of carbon trading in PNG since 2007, following the progression of the REDD+ agenda, was characterised by a frenzy of attempts to establish REDD+ projects. **‘Carbon cowboys’ emerged – imposters making unauthorised and fraudulent deals with customary landowners under the guise of REDD+ projects.** There was a rapid rise in deals being negotiated and associated disputes between foreign investors and landowners. Estimates suggest at one point more than 90 projects were being promoted for a combined area of more than 5 million hectares (see Melick 2010). In response, the Government of PNG has sought to enforce a moratorium on the VCM in PNG.

Governments across the Pacific have adopted different policy stances on VCMs and are at different stages of regulatory development as set out in Table 1 below.

Table 1: Different Pacific country's regulatory and policy stances on voluntary carbon markets

<p>PNG</p>	<p>The Government of PNG's policy and legislation on the VCM is currently being finalised. The Government has shown a reluctance to promote voluntary carbon projects due to scandals, instead preferring a coordinated national approach to carbon trading, outlined in the PNG National REDD+ Strategy 2017–2027.</p> <p>In March 2022, the Government imposed a moratorium on new REDD+ projects targeting voluntary carbon projects with plans to reopen the market to REDD+ projects targeting voluntary carbon markets once regulations have been established.</p> <p>With approval from the Government, non-REDD+ projects can be developed. Coordination between the project and the Government is required to avoiding double-counting in PNG's national level reporting.</p> <p>The Climate Change (Management) Carbon Markets Regulation is currently in the final stages of validation. It includes procedures for the application and approval processes for voluntary carbon projects; the generation, sale and transfer of carbon credits; benefit sharing; and reporting requirements.</p> <p>The Climate Change and Development Authority (CCDA) is the lead government agency responsible for coordinating all climate change related policies and activities in PNG.</p>
<p>Fiji</p>	<p>The Government of Fiji has adopted a policy stance that seeks to work closely with the VCM, including to contribute towards Fiji's NDCs. Fiji's Climate Change Act (2021) includes provisions to regulate and oversee its engagement with international VCMs. The Climate Change Act supports the coordination of emissions reduction projects that will be transferrable under the Article 6 of the Paris Agreement.</p> <p>The Government of Fiji is currently developing a 'Carbon Market Strategy Roadmap' with support from the Australian Government. The Carbon Market Institute has been contracted to facilitate the development of the Roadmap, which will help clarify policy on Fiji's engagement with the VCM.</p> <p>Voluntary carbon project developers must obtain the consent of the Director of the Climate Change and International Cooperation Division prior to developing a project. Emissions reductions in the VCM are recorded and accounted for in the Fijian GHG Inventory.</p> <p>A current barrier to VCM development in Fiji is that the Government of Fiji registered the whole country as part of the World Bank's Forest Carbon Partnership Facility (FCPF) emissions reduction project, which has locked in a price for carbon at USD \$5.50 per credit. The FCPF account period ends at the end of 2024, when it could become possible again for other VCM projects to be developed.</p>
<p>Solomon Islands</p>	<p>Solomon Islands does not have a regulatory framework for the VCM.</p> <p>UNREDD support to the Government of Solomon Islands resulted in the development of the National REDD+ Readiness Roadmap 2014–2020.</p> <p>The Ministry of Forestry and Research (MoFR) is responsible for the national REDD+ program, and the Ministry of Environment, Climate Change, Disaster Management & Meteorology (MECDM) is responsible for Solomon Islands NDCs.</p>

<p>Timor-Leste</p>	<p>Timor-Leste does not have a regulatory framework for the VCM. The national policy, Nationally Determined Contribution Timor-Leste 2022-2030, indicates an openness to using voluntary cooperation under Article 6 of the Paris Agreement to reach its NDCs.</p> <p>The Government of Timor-Leste has indicated a desire to establish a policy framework to support income generation at the village level and participation in international carbon trading on the condition that it can access climate financing and technical assistance.</p>
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