



IMPLEMENTING SUSTAINABLE RICE PROJECTS IN VIETNAM

Sources of carbon and climate finance

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1 | INTRODUCTION

An essential part of many successful mitigation activities is access to finance. Through the *Scaling Market Access for Sustainable Rice Producers in Vietnam* programme, Gold Standard, the International Rice Research Institute (IRRI) and the Australian Department of Foreign Affairs and Trade (DFAT) have collaborated through the Business Partnerships Platform to initiate a number of activities to ease access to carbon finance (i.e. finance derived from the generation and sale of carbon credits) for rice producers. These include developing a new methodology for sustainable rice projects, as well as pre-filled templates and other tools hosted on Gold Standard’s Rice Sustainability Hub.

A crucial component of scaling is access to finance. This paper provides a high-level assessment of potential forms of carbon and climate finance available to support carbon market activities in the rice sector, and specifically in Vietnam¹.

2 | CATEGORISATION OF FINANCE SOURCES

Figure 1 below maps the main potential sources of carbon and climate finance for rice-related projects in Vietnam. The results would also be applicable for interventions in many other countries and commodities. Each of these potential sources is then assessed further in this section.

Figure 1 – Mapping of potential sources of finance

	MARKET-BASED	TYPICALLY NON-MARKET-BASED
PRIVATE	Voluntary carbon market Compliance market	Scope 3 interventions* Impact investments
PUBLIC	Article 6.2* Article 6.4 International Financial Institution (IFI) programmes	Official Development Assistance (ODA)- Climate Finance Domestic policy/incentives

* Article 6 allows for the use of non-market mechanisms (under Article 6.8). Likewise, current developments in Scope 3 indicate that market-mechanisms will be explored in that context.

¹ Gold Standard would like to thank Reiner Wassmann for contributions to this paper.

3 | MARKET-BASED FINANCE SOURCES

Market mechanisms typically require key quality criteria to be met, such as the additionality, permanence, non-leakage and independent verification of the activity. As such, particularly regarding additionality, this type of finance tends to be best targeted at activities that could not otherwise be supported through other types of finance.

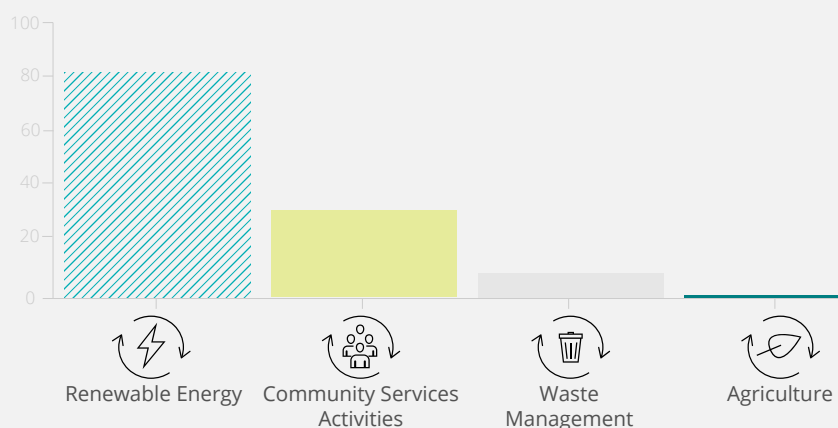
3.1 | Voluntary carbon market

The voluntary carbon market is the most obvious target market for the activities being undertaken through the *Scaling Market Access for Sustainable Rice Producers in Vietnam* programme.

The value of transactions in the voluntary carbon market is estimated at USD 723 million in 2023². This represents a decline from 2022, although many market actors remain optimistic about future growth. In 2021, the consultancy firm McKinsey forecast that the market for carbon credits could be worth upwards of USD 50 billion in 2030³.

In the case of Vietnam, the voluntary carbon market is dominated by renewable energy projects (see Figure 2), with only one project registered in the agriculture sector. However, several projects listed under other categories deal indirectly with this sector by generating electricity from biomass, including two projects using rice husk.

Figure 2 – Voluntary carbon market projects by project category in Vietnam



Note: Projects registered under American Carbon Registry, Climate Action Reserve, Gold Standard, and the Verified Carbon Standard⁴. Correct as of May 2024.

There are several options for projects looking to raise finance from buyers to invest into project activities, including:

² Source: [Ecosystem Marketplace \(2024\)](#)

³ Source: [McKinsey \(2021\)](#)

⁴ Source: [Barbara K. Haya, Aline Abayo, Ivy S. So., Micah Elias. \(2024, May\). Voluntary Registry Offsets Database v11, Berkeley Carbon Trading Project, University of California, Berkeley.](#)

› Pre-purchase agreement

Under a pre-purchase agreement, the buyer provides upfront capital in return for a defined quantity of credits at a fixed price.

› Streaming agreement

A streaming agreement also provides upfront capital in return for a portion of the total credits generated.

Both options typically involve the project developer accepting a discounted price for the carbon credits. In both instances, the project developer will also likely need to be able to fund initial development costs (i.e., up until project registration), either from their own resources or from grant or concessional sources.

› Offtake agreement

With an offtake agreement, often referred to as an emission reduction purchase agreement (ERPA), the buyer commits to purchase a fixed amount of carbon credits in the future. ERPAs are commonly used in carbon markets. Such agreements do not provide upfront finance from buyers; however, they can be used as collateral to raise project finance from other sources (e.g., commercial banks), in a similar manner to power purchase agreements for the energy sector.

› Bootstrapping

Finally, project developers with sufficient capital may choose to finance development costs themselves and sell the credits on the open market, either directly or through intermediaries (e.g., brokers or exchanges). While under this model the implied cost of capital will be lower, the project developer bears more price risk⁵.

3.2 | Compliance market

In several jurisdictions globally, companies covered by a carbon tax or emissions trading system can meet part of their tax/allowance obligation by using carbon credits. In Singapore, for instance, companies may meet 5% of their tax liability through the retirement of eligible carbon credits, rather than payment of the carbon tax for this portion of their liability. This opens up a new potential source of finance for projects, where they meet eligibility requirements under a government's tax or emissions trading system regulations.

At the time of writing, it is not clear that this route is available for rice projects based in Vietnam. Three of the governments with such policies in place – Colombia, Chile and South Africa – only permit credits

⁵ Source: [CrossBoundary, Carbon Finance Playbook \(2023\)](#)

generated from projects within their own jurisdiction. The governments of Singapore and Vietnam did, in August 2023, sign a Letter of Intent to cooperate under Article 6⁶, which would mean that rice projects in Vietnam could be authorised to generate credits for use under the Singapore carbon tax in the future. But for this to become a viable route, the two governments would need to move to signature of an Implementation Agreement.

3.3 | Article 6.2

Under Article 6 of the Paris Agreement, governments can cooperate in the achievement of their Nationally Determined Contributions (NDCs), through the transfer from one government to another of the right to use 'mitigation outcomes' (emission reductions or removals) towards their respective NDC. In other words, a buying country can purchase credits from a project or programme in a selling country, with the implication that the buying country can count those credits towards its NDC, and the selling country makes an adjustment to its own NDC accounting to make sure the same credits are not counted. This is referred to as a 'corresponding adjustment'.

Over 100 countries globally have expressed an interest or intention to use Article 6, and many countries have begun their implementation. However, the market is still very nascent, with only a handful of credits authorised for use under Article 6 and no country yet applying a 'corresponding adjustment' to account for transfers.

It appears though that this route may be available for projects based in Vietnam. The Government has in the past year signed a Letter of Intent with the Government of Singapore and signed a bilateral agreement with the Government of South Korea⁷. Under the latter, it is possible that the Government of South Korea itself will invest public money for the procurement of mitigation outcomes from rice projects, if these are selected for authorisation. The Government of South Korea has already invested in three projects based in Vietnam, though these are not in the rice sector (waste refrigerant recovery, coal kiln process improvement and solar generation)⁸.

In 2023, the Vietnamese government and the Transformative Carbon Asset Facility (TCAF) of the World Bank launched an initiative under Article 6.2 titled "Sustainable Development of One Million Hectares Specializing in High-quality Rice Cultivation on 1 Mha rice land of the Mekong Delta". Vietnam's specific interest in this project can - at least in part - be attributed to the export-orientation of the food sector that could benefit from spearheading the marketing of low-carbon rice.

3.4 | Article 6.4

The Clean Development Mechanism (CDM) and its regulatory framework under the UN Framework Convention on Climate Change (UNFCCC) were introduced in the Kyoto Protocol in 1997. With the

⁶ Source: [Vietnam.vn \(2023\)](#)

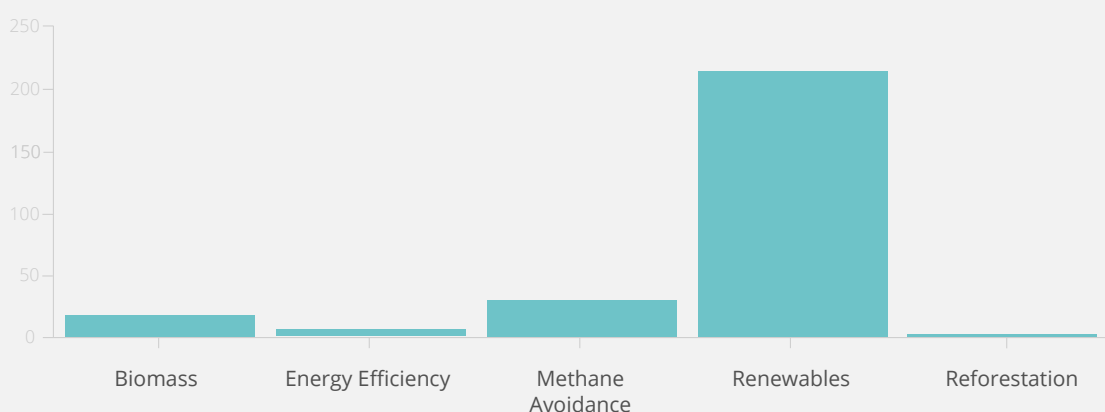
⁷ Source: [Vietnam.vn \(2023\)](#)

⁸ Source: [Carbon Pulse \(2023\)](#)

adoption of the Paris Agreement, a new mechanism has been established under Article 6.4, which will replace the CDM and create a new framework for certification and carbon credit issuance under the UNFCCC.

Vietnam was an important player in the CDM market, with the fourth highest number of registered projects (Figure 3) (USAID 2022)⁹. As with independent crediting programmes, the Vietnamese CDM project portfolio is dominated by renewables projects, particularly hydropower activities. In contrast, there are only a few projects that can directly or indirectly be attributed to the agriculture sector, including six projects on rice husk and one manure treatment project.

Figure 3 – Registered CDM projects by project category in Vietnam



3.5 | IFI (International Financial Institution) programmes

International financial institutions can use market mechanisms in their work to support client countries. This is very relevant for efforts to scale rice-related activity in Vietnam, with the World Bank involved in a project intended to reduce emissions from rice cultivation across one million hectares in the country. Under this arrangement, the World Bank would disburse funds to the Ministry of Agriculture and Rural Development following the achievement of emission reductions under this project, with plans that any excess credits could be auctioned by the government, for instance to private buyers in the voluntary carbon market¹⁰.

While this example proves the potential for rice farmers in Vietnam, it is not clear how likely this route is to be scalable and replicable in the way that may be possible under other market routes.

⁹ Source: USAID (United States Agency for International Development) (2022) CARBON MARKETS IN VIETNAM -- BRIEFING PAPER

¹⁰ Source: World Bank (2024)

4 | NON-MARKET-BASED FINANCE SOURCES

4.1 | Scope 3 interventions

Companies typically purchase carbon credits to compensate for any emissions that are not abated in a given year, alongside efforts to decarbonise their operations. However, for a number of companies, most notably in the food sector, rice will not only be relevant for their 'beyond value chain mitigation'; reducing emissions from rice production will also be part of their work to decarbonise their Scope 3 emissions.

The term 'Scope 3' refers to the [Greenhouse Gas Protocol](#), the pre-eminent accounting system for corporate emissions inventories. It is broken down into three scopes, effectively differentiating between direct emissions (Scope 1), the purchase of electricity and heat (Scope 2) and indirect, upstream and downstream emissions (Scope 3). For most large companies that purchase rice, these purchases will appear in their Scope 3 footprint.

The Scope 3 footprint for purchased goods is calculated as volume (i.e. volume of rice purchased) multiplied by the emissions intensity (emissions per year per unit of rice). As such, if a company can reduce the emissions intensity, either by mitigating sources of emissions and/or improving the yield without increasing the emissions, then their footprint is reduced. This has become a significant incentive to companies, especially those who have pledged to abate their emissions via a [Science Based Target](#).

This type of finance can be suited to any type of activity and does not require additionality to be demonstrated. It could be especially effective at building on work undertaken via the carbon markets, taking it to 'normalisation' and scale. It does however come with some challenges, for example the producer's capacity to provide data, as well as supply chain dynamics and traceability.

4.2 | Official Development Assistance (ODA) climate finance

Many developed country governments, either bilaterally or through IFIs or multilateral climate funds, channel climate finance to developing countries to support the implementation of activities to mitigate climate change or support adaptation to its impacts. While figures vary, the OECD estimates that total climate finance provided and mobilised by developed countries for developing countries in 2022 reached USD 115.9 billion¹¹.

Climate finance is a viable source of finance for sustainable rice projects. For example, the Global Environment Facility has approved a Public-Private Blended Finance Facility for Climate-Resilient Rice Landscapes, intended to catalyse public and private funds for climate-resilient rice farms, value chains and livelihoods¹². Meanwhile a report conducted by WBCSD and partners in 2022 identified several forms of financial structure through which public finance can leverage private sector investment,

¹¹ Source: [OECD \(2024\)](#)

including loan intermediation, credit guarantees, and special purpose vehicles¹³.

4.3. Impact investments

Impact investments refers to investments made into companies, organisations and funds with the intention to generate beneficial social or environmental impact alongside a financial return¹⁴. Impact investors can include, amongst others, financial institutions (e.g., banks, pension funds and wealth managers), institutional and family foundations, or government investors or development finance institutions.

According to the Global Impact Investing Network (GIIN), impact investors channeled \$13bn of finance to food and agriculture-related investments in 2022, up from \$6.5bn in 2017. Meanwhile 74% of investors surveyed by the GIIN targeted SDG13 – Climate Action through their investments. Impact investment can work with public finance through blended finance mechanisms, such as the Global Environment Facility initiative referred to above. Other opportunities for scaling private finance for sustainable finance are also identified in the 2022 WBCSD report referred to above and linked to in the footnotes.

4.4. Domestic policy/incentives

For a project to generate carbon credits, the emission impact achieved by that project must only be possible as a result of the carbon finance used to purchase the credits. In other words, the project must require the finance in order to proceed, and its activity must not be required under any domestic regulation or policy.

Governments can drive more sustainable rice production through interventions, such as introducing regulations that require certain agricultural practices or subsidies that incentivize good practice. For instance, the UK Government has introduced a Sustainable Farming Incentive, providing payments for farmers that implement a choice of land management actions to help manage their land in a more sustainable way¹⁵.

This option does not appear to be available to rice producers in Vietnam at present but may be an available route in the future.

One option that connects domestic policy and carbon markets is ‘policy-based crediting’, recently introduced for piloting under Gold Standard. Under policy-based crediting, carbon finance can make viable the implementation of a policy that a government would otherwise not be able to introduce, due to financial or other barriers. Under Gold Standard’s policy crediting model, a ‘policy-based programme’ is created, which is essentially an umbrella of multiple activities within a jurisdiction. Gold Standard

¹² Source: [Global Environment Facility \(2023\)](#)

¹³ Source: [WBCSD \(2022\)](#)

¹⁴ Source: [GIIN \(2017\)](#)

¹⁵ Source: [UK Government \(2023\)](#)

certifies the GHG impact and sustainable development benefits achieved at this activity level and attributable to the introduction for the policy, and issues carbon credits for this impact. While new, this option could provide a route to incentivize and achieve GHG impact at scale within a jurisdiction, and within a sector such as rice production.

4.5. Interaction between financing options

Some, but not all, of the financing options discussed above may be applied in combination and/or in succession. Double counting between the different options and their respective uses needs to be carefully managed to ensure both efficiency and efficacy of claims made, with the latter potentially undermining confidence in mechanisms. While some options can work concurrently (i.e. two sources of finance making claims for the same benefit at the same time), others cannot. That said, in the latter case it may be feasible to build successive funding, for example where the voluntary carbon market unlocks first producers and hard-to-reach activities, and Scope 3 intervention investment maintains and scales it.

Table 1 below provides an overview of the compatibility and relationship between these financing options.

Table 1 – Compatibility and interaction between different identified carbon/climate finance sources

FINANCE SOURCE	MARKET-BASED				NON-MARKET-BASED		
	1 - VOLUNTARY CARBON MARKET	2 - COMPLIANCE MARKET	3 - ARTICLE 6	4 - IFI PROGRAMMES	5 - SCOPE 3 INTERVENTIONS	6 - IMPACT INVESTMENTS	7 - ODA CLIMATE FINANCE
MARKET-BASED	2 - COMPLIANCE MARKET	Same unit of impact (carbon credits), which can only be used for one purpose – voluntary or compliance					
	3 - ARTICLE 6	Process of certification can be same, though again units only usable for one purpose	Compliance use of credits may be under Article 6. Same credit cannot be used for two compliance purpose				
	4 - IFI PROGRAMMES	Financing from IFIs can work alongside carbon finance, if additionality is demonstrated					
NON-MARKET-BASED	5 - SCOPE 3 INTERVENTIONS	An impact cannot be claimed by a company as reduction in Scope 3, and also by the same/another entity as an offset	An impact cannot be claimed by a company as reduction in Scope 3, and also by the same/another entity as a credit for compliance	The GHG Protocol requires any mitigation benefit sold as credits (for offsetting or compliance) to be deducted from the Scope 3 inventory. This means they could work together, but only when reporting companies adjust	Financing from IFIs can work alongside finance to reduce Scope 3 emissions		
	6 - IMPACT INVESTMENTS	Impact funds may generate carbon credits. Need to ensure no inconsistency between claims of different entities				Scope 3 and impact investing can typically work together. Impact investing can be a vehicle to help aggregate ascale in this regard.	
	7 - ODA CLIMATE FINANCE	ODA can be used alongside carbon finance, but finance cannot be counted as ODA if it is conditional on return of carbon credits to financing entity/ country			IFI programme financing likely to represent ODA	Scope 3 reporting is not impacted by the use of ODA funding.	Impact investment can work with ODA, such as through blended finance models
8 - DOMESTIC POLICY/ INCENTIVES	Projects not additional and ineligible for carbon crediting if an enforced government policy/incentive is in place.			IFI financing may support implementation of government policy/ incentive	Scope 3 interventions can work alongside domestic policy/ incentives, as required	Impact investment can work alongside domestic policy/ incentives, as required	ODA may support implementation of government policy/ incentive

5 | FURTHER INFORMATION

WEBINAR RECORDING

Methane Emission Reduction in Rice Cultivation Webinar

RECORDED 28 JULY 2023

RICE PLATFORM

Enabling Impact in Rice Sustainability Hub

A full guide to apply the Rice methodology

METHODOLOGY

Methane Emission Reduction by Adjusted Water Management Practice in Rice Cultivation

FAQS

Rice methodology Questions & Answers

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