Natural Climate Solutions Alliance

Natural Climate Solutions for the Voluntary Carbon Market: **An Investor Guide for Companies and Financial Institutions**

ERM SUSTAINABILITY INSTITUTE

ERM

World Business Council for Sustainable Development

About ERM

At ERM, sustainability is our business. We are the world's largest advisory firm focused solely on sustainability, offering unparalleled expertise across business and finance. ERM partners with clients to operationalize sustainability at pace and scale, through our unique combination of strategic transformation and technical delivery capabilities. Our diverse global team of experts works with the world's leading organizations to help them set clear sustainability targets, measure progress and operationalize strategy through deep implementation and business transformation. With more than 50 years of experience, our ability to integrate sustainability solutions and our depth and breadth of technical knowledge are why organizations choose to partner with us as their trusted advisor.

Discover ERM's Carbon Markets complete solutions on https://www.erm.com/service/carbon-markets/
LinkedIn: www.linkedin.com/company/erm/

About the ERM Sustainability Institute

The ERM Sustainability Institute is ERM's primary platform for thought leadership. The purpose of the Institute is to define, accelerate, and scale sustainability performance by developing actionable insight for business. We provide an independent and authoritative voice to decode complexities. The Institute identifies innovative solutions to global sustainability challenges built on ERM's experience, expertise, and commitment to transformational change.

Follow the ERM Sustainability Institute on LinkedIn
Website: www.sustainability.com

About the Natural Climate Solutions Alliance

The Natural Climate Solutions Alliance (NCSA) is a multistakeholder coalition that brings together public and private sector stakeholders to identify opportunities and barriers to investments in carbon credits in new and existing markets to scale up financing for climate solutions. The Alliance also serves as a forum for knowledge sharing and technical capacity building to ensure climate solutions reach their full potential in abating climate change. The Alliance is a collaboration between the World Business Council for Sustainable Development (WBCSD) and the World Economic Forum.

Follow the NCSA on LinkedIn
Website: www.naturalclimatesolutionsalliance.org

About the World Business Council for Sustainable Development (WBCSD)

The World Business Council for Sustainable Development (WBCSD) is a global community of over 225 of the world's leading businesses driving systems transformation for a better world in which 9+ billion people can live well, within planetary boundaries, by mid-century. Together, we transform the systems we work in to limit the impact of the climate crisis, restore nature and tackle inequality. We accelerate value chain transformation across key sectors and reshape the financial system to reward sustainable leadership and action through a lower cost of capital. Through the exchange of best practices, improving performance, accessing education, forming partnerships, and shaping the policy agenda, we drive progress in businesses and sharpen the accountability of their performance.

Follow WBCSD on X and LinkedIn
Website: www.wbcsd.org

Disclaimers

This report is for informational purposes only and does not constitute investment advice. The information provided herein is based on our analysis and is intended to offer general insights into investing in Natural Climate Solutions. However, it is not a substitute for professional financial advice tailored to your individual circumstances.

Investing in Natural Climate Solutions for the voluntary carbon market involves risks. The value of such investments may fluctuate due to a variety of factors, including market conditions, regulatory changes, and project performance. Potential investors should conduct their own due diligence and consider seeking advice from qualified financial professionals before making any investment decisions.

This report is released in the name of the Natural Climate Solutions Alliance (NCSA). Drafts were reviewed by NCSA members, ensuring that the document broadly represents the majority view of NCSA members. It does not mean, however, that every member organisation agrees with every word.

Table of Contents

A message from ERM ii
A message from WBCSD iii
A message from ICVCM iv
Key Terms and Acronyms v
Executive Summary 1
Key Insights from the Report 2
Introduction 6
Content of the Guide 7
Natural Climate Solutions: An Emerging Asset Class 10
Natural Climate Solutions and the Voluntary Carbon Market 10
Investing in NCS Projects and Programs 14
The Current State of the VCM for NCS 16
Key Stages of the NCS Investment Process 18
1. The Business Case: Five Reasons to Invest in NCS 19
2. Planning for Investment: Structuring Investments and Mapping Stakeholders 24
Deciding on the Right Entry Point in the Project Timeline 24
Selecting the Right Investment Type and Finance Structure 27
Stakeholder Mapping and Engagement 34
3. Managing Risk in NCS Investment 39
The Five Primary Risk Categories 39
Risk Exposure Across the Investment Lifecycle 43
Risk Management Tools for Investors 44
Due Diligence 45
Portfolio Approach 45
Carbon Contracts 46
Insurance 47
Managing Reputational Risk 48
4. Due Diligence: Evaluating the Integrity of NCS Projects 50
Preliminary Screening: Assessing General Alignment 50
Due Diligence: Assessing Risks to Maximize Positive Impact 53
Ensuring Positive Environmental and Social Impacts Beyond Carbon 58
5. Shared Success: Determining a Fair and Equitable Revenue Sharing Agreement 61
Revenue Sharing and Its Importance to Investment Success 61
What are the Benefits of Revenue Sharing Agreements to Investors? 62
The Principles of Designing Fair and Effective Revenue Sharing Agreements 64
Finance Structures in Revenue Sharing 67
6. Safeguarding Rights and Resources: Legal Considerations of NCS Investments 70
Evaluating the Legal Landscape 70
Structuring and Risk Mitigation 73
7. Running the Numbers: The Importance of Data Collection and Disclosure 77
Managing What is Measured 77
The Importance of Data and Disclosure to Investors 79
Conclusion & Call to Action 82
Appendices 84
Acknowledgements 99

A message from ERM

As we witness the devastating impacts of climate change with growing frequency, the imperative for action has never been more urgent. To address this challenge, it has become increasingly clear that a key element of any response must be harnessing the power of nature.

Investing in nature represents a key mechanism through which organizations can combine financial and sustainability imperatives. By directing capital towards projects that not only mitigate climate change but also enhance biodiversity, promote socio-economic well-being, and recognize the knowledge and integral role of local communities, organizations can help catalyze a shift towards a more sustainable, resilient, and equitable world. However, how organizations invest in the right projects and ensure integration with their wider climate strategies is not straightforward.

That's why I am delighted to present this important guide to natural climate solutions (NCS). The insights presented within these pages illustrate not only the potential of NCS but also the critical role that private sector investment plays in unlocking this potential.

NCS projects are complex and require highly technical due diligence. But if they are well-designed and managed, NCS can be a very valuable addition to a natural capital investment strategy. By exploring the nuances of the voluntary carbon market and explaining the investment considerations, this guide offers a roadmap for investors to navigate this complex landscape.

We extend our deepest gratitude to all those who have contributed to this effort, from the researchers and authors to the many stakeholders and investors committed to making a difference.

It is through collaboration and innovation that we will realize the full potential of natural climate solutions and it is our sincere hope that this guide will serve as a catalyst for action, inspiring individuals and organizations alike to seize the opportunity to chart a course towards a more sustainable future for all.

Tom Reichert,
CEO, ERM

Back to Table of Contents

A message from WBCSD

The impacts of climate change, nature loss, and mounting inequality are indisputable. Every day brings new stories of unusual or extreme weather, causing destruction and displacement in all corners of the world. We continue to see temperature records broken. Scientists now say that global temperatures could rise to at least 2.5 degrees Celsius this century, with the potential for catastrophic consequences for humanity and the planet. It's never been more imperative for the world to come together to seek solutions and limit warming to 1.5 degrees – our tipping point associated with irreversible damage.

Against this backdrop, the world has turned to business to innovate and find the solutions we need to transform systems on a global scale. Among these, the land-based sector plays a central role. Currently, it is responsible for a third of global emissions and 70% of biodiversity loss, and in the coming years we will see even more pressure on nature as competition for land-based assets increases.

The entire value chain must collaborate to achieve the transformation we need, including across capital markets. Natural Climate Solutions (NCS) as one emerging asset class will play a crucial role if we are to limit warming to 1.5 degrees Celsius. As a pragmatic solution, NCS use nature's capacity for carbon storage while providing other important social and ecosystem benefits. There simply is no climate solution without nature.

But not enough investors are engaging with NCS as an asset class, despite its expected growth over the coming decades. This is not surprising given the unique nature of NCS projects for the voluntary carbon markets (VCM) and the additional complexity for investors. Investors need to understand the unique business case for NCS investment and the importance of high-integrity projects, along the entire value chain from project developer to investor. Projects must deliver real emission reductions or carbon dioxide removals and offer verifiable ecological benefits and meaningful improvements in the social and economic conditions in communities where they take place.

This report answers that call by bringing together, in one place, the practical guidance that investors need to engage with NCS. It provides clarity to help carbon funds, project developers, and investors to evaluate the integrity of NCS investments and navigate important considerations, including investment structure and proper due diligence. The guide also examines how to determine fair and equitable revenue sharing with stakeholders, which is necessary to ensure a just transition.

The guidance contained in these pages is from the hard-earned experience and expertise of investors and other professionals working in NCS and the VCM, and I hope that you will use it well to advance your investment strategies and mobilize more capital for high-integrity projects to scale up this vital solution for the planet.

Peter Bakker, President and CEO, WBCSD

Back to Table of Contents

A message from ICVCM

THE INTEGRITY COUNCIL FOR THE VOLUNTARY CARBON MARKET

The window of time available to us to take decisive climate action is shrinking and the magnitude of the crisis calls for action to be accelerated now. As this guide explains, protecting and restoring nature must be a key part of climate action: the IPCC states that "climate, ecosystems and society are interconnected. We need to ensure effective and equitable conservation of approximately 30-50% of the Earth's land, freshwater and ocean for a healthy planet."

Natural climate solutions offer a powerful means to address climate change by leveraging the inherent capacity of ecosystems to store carbon. Yet, despite their immense potential, they remain significantly underfunded. While public sector efforts are vital, it is clear that they alone are insufficient to deliver the trillions of dollars of investment required for the transition to net zero. A Stern and Songwe report found that $2.4 trillion needs to be mobilised by 2030 and the only way we can do this is through mobilising private sector capital - governments alone cannot leverage this finance.

According to GFANZ, approximately 70% of the capital needed could come from the private sector, with nearly half financed directly by corporates.[1] The private sector, particularly through a high-integrity voluntary carbon market, plays a crucial role in bridging this funding gap.

Investing in natural climate solutions within the voluntary carbon market presents a compelling business case. Natural climate solutions projects – as long as they are high integrity - can contribute to carbon sequestration and deliver verifiable ecological and socio-economic benefits, such as enhancing biodiversity and supporting Indigenous Peoples in their essential role as stewards of the world's natural eco-systems.

At the Integrity Council for the Voluntary Carbon Market, our work to establish a global threshold for the voluntary carbon market is well underway. Through a thorough assessment process, carbon crediting programs and the methodologies they use to design and implement natural climate solutions projects must meet rigorous standards relating to permanence, additionality, and socio-economic impacts, among other criteria.

Our ten Core Carbon Principles (CCPs) and the rulebook we use for assessment ensure these standards are met. The volume of carbon credits with the CCP-label will increase through this year and beyond. We encourage investors to seek out carbon credits with the CCP-label, to take confidence that the projects that generated them will channel significant private finance to climate solutions in the Global South that would otherwise not be viable.

Of course, investments in high-integrity carbon credits should be made as a powerful complement to rapidly reducing fossil fuel use. While our brightest minds work on ways to reduce those emissions we do not yet have a solution for, high-integrity carbon credits can deliver an "emergency brake" on global temperature rise in the near term. They are a powerful way for investors to go even further as part of the collective efforts to achieve our net-zero goals.

Annette Nazareth, Chair of the Governing Board, Integrity Council for the Voluntary Carbon Market

Key Terms and Acronyms

Carbon Credit: A tradable, intangible financial instrument issued by a carbon crediting program that represents a verified reduction, removal, or avoidance of carbon dioxide or its equivalent in other greenhouse gases (one credit = one metric ton of CO_2 or equivalent).[2]

> **Emissions Reductions**: A type of carbon credit based on the avoidance of emissions that would have otherwise been released without a carbon project in place (e.g., protecting forests to avoid emissions released through deforestation).
>
> **CO_2 Removal**: A type of carbon credit based on the additional sequestration achieved through new or enhanced carbon sinks (e.g. increasing natural carbon stocks through reforestation and revegetation).

Compliance Market: A regulated carbon market in which entities are required by law to adhere to defined GHG emissions targets in response to an obligation established by a regulatory body.[3]

CO_2e: Carbon dioxide (CO_2) equivalent. A measurement for mass of GHGs that includes both carbon dioxide and other greenhouse gasses converted to a proportionally equivalent mass of carbon dioxide based on differing global warming potential. The standard unit of measurement for carbon credits.[4]

FPIC: Free, Prior, and Informed Consent. The UN-backed right of Indigenous People to give or withhold consent to projects that may affect their lands, territories, and resources. The FPIC process must be conducted freely and completed prior to any authorization or commencement of activities with full disclosure of the nature and consequences of proposed actions. and withdraw from projects impacting their territories.[5]

GHG: Greenhouse Gases. Atmospheric gases such as CO_2 that absorb infrared radiation in the atmosphere, leading to climate change. May include, but are not limited to, carbon dioxide, methane, nitrous oxide, etc.[6]

Indigenous Peoples and Local Communities (IPs & LCs): A term used internationally by representatives, organizations, and conventions to refer to individuals and communities who are, on the one hand, self-identified as indigenous and, on the other hand, are members of local communities that maintain inter-generational connection to place and nature through livelihood, cultural identity and worldviews, institutions and ecological knowledge.[7]

Investors: Entities providing upfront capital to finance NCS projects. For the purposes of this guide, the term 'investors' refers to both financial and corporate investors unless stated otherwise.

> **Corporate Investor**: Real economy companies investing in NCS projects to ensure a reliable supply of carbon credits, typically for their own use in meeting climate goals.
>
> **Financial Investor**: Financial institutions including asset owners and asset managers that are allocating capital towards NCS projects and typically earn a financial return on investment, including through the sale of carbon credits generated by the project.

NbS: Nature-based solutions. Defined by the UN as actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services, resilience, and biodiversity benefits.[8]

NCS: Natural climate solutions. A subset of NbS that seek to mitigate climate change.[9]

Net Zero: Achieved when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period.[10]

REDD+: Reducing Emissions from Deforestation and Forest Degradation, plus the sustainable management of forests, and the conservation and enhancement of forest carbon stocks. A UN-backed framework for NCS programs to reduce greenhouse gas emissions from deforestation and forest degradation in developing countries.[11]

VCM: Voluntary carbon market. The decentralized market of private entities buying and selling carbon credits, representing removals or reductions of GHGs in the atmosphere, for the purposes of meeting voluntary (as opposed to regulatory) climate obligations.

© Curioso Photography / Adobe Stock

Executive Summary

Nature plays a central role in the fight against climate change, as improved stewardship of nature can reduce greenhouse gas emissions and increase carbon sequestration as well as maintain and build resilience of ecosystem functions. In this context, a healthy and dynamic market for natural climate solutions (NCS), is essential.

Despite this critical role, a significant nature financing gap exists, and increasing private investment flows into NCS will be vital to help realize their full potential to address global climate, biodiversity, and land degradation challenges. In turn, high-integrity NCS projects and programs can offer investors the opportunity to earn financial returns derived in whole or in part from the sale of carbon credits, or secure reliable sources of carbon credits for themselves.

NCS projects and programs offer returns on investment based to some extent on the carbon credits they generate, and continued demand for these credits is essential for increasing the flow of private investment. A significant source of demand for carbon credits from NCS comes from the voluntary carbon market (VCM), driven by companies seeking the credits as part of their voluntary net zero and other climate commitments. NCS can offer many advantages over other climate mitigation solutions, as they are immediately available, scalable, and affordable, and because they create additional environmental, social, and economic impacts. These may include such benefits as improved water and soil quality; reduced risk of erosion; and enhanced biodiversity.

While the VCM has grown significantly over the past few years, 2023 brought increased scrutiny that highlighted the challenges of carbon accounting and other ways carbon projects may fail to meet evolving standards. Nevertheless, new market infrastructure, technologies, standards, and methodologies designed to enable higher integrity and greater transparency of both claims (from the demand side) and credits (from the supply side) stand to bolster confidence in NCS procurement. Continuous focus by VCM players on high-integrity projects and programs will be required to help reinforce confidence and demand for NCS-generated carbon credits that can in turn maintain and strengthen the business case for investment in NCS.

Investors considering investing in carbon credit-generating NCS projects and programs have an opportunity to accelerate this trend by setting and promoting rigorous guidelines for investment and strictly selecting high-integrity projects and programs. In this way, they not only avoid risks but also send market signals that elevate the quality standards and reputation of NCS projects and programs, the credits they generate, and the markets where many of the credits will be traded.

This guide, co-produced by ERM, its Sustainability Institute and WBCSD's Natural Climate Solutions Alliance (NCSA) provides insights to investors on how to identify high-integrity NCS projects and programs, understand best practices for due diligence, and design and implement effective investment mechanisms – all with the goal of demystifying and de-risking NCS investments. It includes insights gathered from a working group of NCS investors and other stakeholders, a market participant survey, interviews, and extensive secondary research.

Key Insights from the Report

- **NCS projects and programs can be complex; plan accordingly.** High-quality NCS projects not only deliver carbon credits but also offer additional ecological and socio-economic benefits. The highest-potential geographies for NCS are often in rural areas of the Global South, where land tenure rights may be ill-defined, and local stakeholders and working environments may be unfamiliar to investors. As a result, every project has a unique mix of stakeholders, ecosystems, local regulations and laws, and financial structures. For carbon credit generation, each will also need its own system of agreements and verification methods. Topic-specific sections of this guide provide recommendations on how to help navigate the complexities of NCS investments.

- **Match your investment plan with your risk profile and preferences.** Investors should start with a robust investment plan aligned with their goals, risk profile, and the nature of their strategy. Much depends on the potential trade-offs among risk types, control, and financial upside. For example, getting in at an early project or program stage may raise potential returns and give investors more control over the financial structure and deliverables, which can be attractive if reputational risk is a primary concern, but would mean investors would take on more project execution and delivery risk.

- **Conduct thorough and context-specific due diligence.** Given each NCS project and program's unique profile, robust due diligence is a must to not only understand their basic financials and the capabilities of the team, but also to evaluate positive and negative impacts on climate, nature, and people. Investors need to scrutinize the risks and merits of individual NCS projects along four pillars: commercial, reputational, regulatory, and operational. Doing so not only helps investors anticipate financial risks and maximize returns, but can also boost the integrity of NCS as part of their impact portfolios, and trust in the carbon credit market and NCS as an asset class.

- **Recognizing and supporting the rights of Indigenous Peoples and local communities (IPs & LCs) is a must.** Many IPs & LCs have historically faced exploitative practices and poorly managed projects. Acknowledging IP & LC rights, both legal and customary, is crucial for breaking the cycle of exploitation. That is why NCS projects and programs must ensure Free, Prior, and Informed Consent (FPIC) of IPs & LCs, institute proper grievance mechanisms, emphasize their right to give or withhold consent at any time, and seek to maintain not just their consent, but their partnership as key project stakeholders over the entirety of the project's duration. Neglecting this can lead to serious reputational risks, poor project performance, or even failure.

- **Sharing revenue with local communities is vital.** Full and effective participation from IPs & LCs is instrumental to the success of NCS projects, from initial implementation through carbon credit generation and ongoing project maintenance. They are key stakeholders in the project and should be compensated fairly for their contributions to the project and access to statutory and customary rights. Revenue sharing agreements should be designed to appropriately compensate IPs & LCs. In addition to recognizing IPs & LCs as core project partners, fair and equitable revenue sharing agreements help align stakeholder incentives while mitigating risks for the project, investors, and IPs & LCs themselves.

- **High-integrity NCS projects require high-quality monitoring.** What sets high-integrity NCS projects apart is that they generate verifiable climate, biodiversity, and social impacts that can last decades. Well-designed systems of measurement, reporting, and verification (MRV) are crucial to deliver on that promise. Buy- and sell-side carbon credit integrity frameworks have robust MRV requirements, meaning certified NCS projects will typically already have defined MRV requirements depending on the methodology they align with. Investors can leverage the data collected through the MRV process to review and benchmark project performance and impact, and address and mitigate inefficiencies or challenges.

The report examines each stage of the investment process in a dedicated chapter that includes the questions that investors should ask, common challenges, and examples of best practices. Below is a brief summary of recommendations for investors that are examined in much great detail in the report.

Build a business case

- Identify a business case that resonates with your organization's portfolio and investment strategy.
- Consider potential financial, carbon, environmental, social, and reputational benefits.
- Integrate investment timeline considerations into your business case.

Identify the investment type, finance structure, and map stakeholders

- Determine the type of investment you are interested in and the right stage of maturity.
- Identify the investment type and finance structure that align best with your objectives, expectations, and the needs of the project or program.
- Map priority stakeholders and decide if, when, and how you will engage them.

Conduct due diligence

- Complete preliminary desktop screening to determine whether an NCS investment opportunity is strategically aligned with your objectives.
- Conduct deep technical due diligence to assess commercial, reputational, regulatory, and operational risks. Fill data gaps through field visits and stakeholder interviews.
- Conduct a thorough review of environmental and social issues to ensure that IP & LCs are on board, and the investment generates positive impacts beyond carbon.

Determine a fair revenue sharing agreement

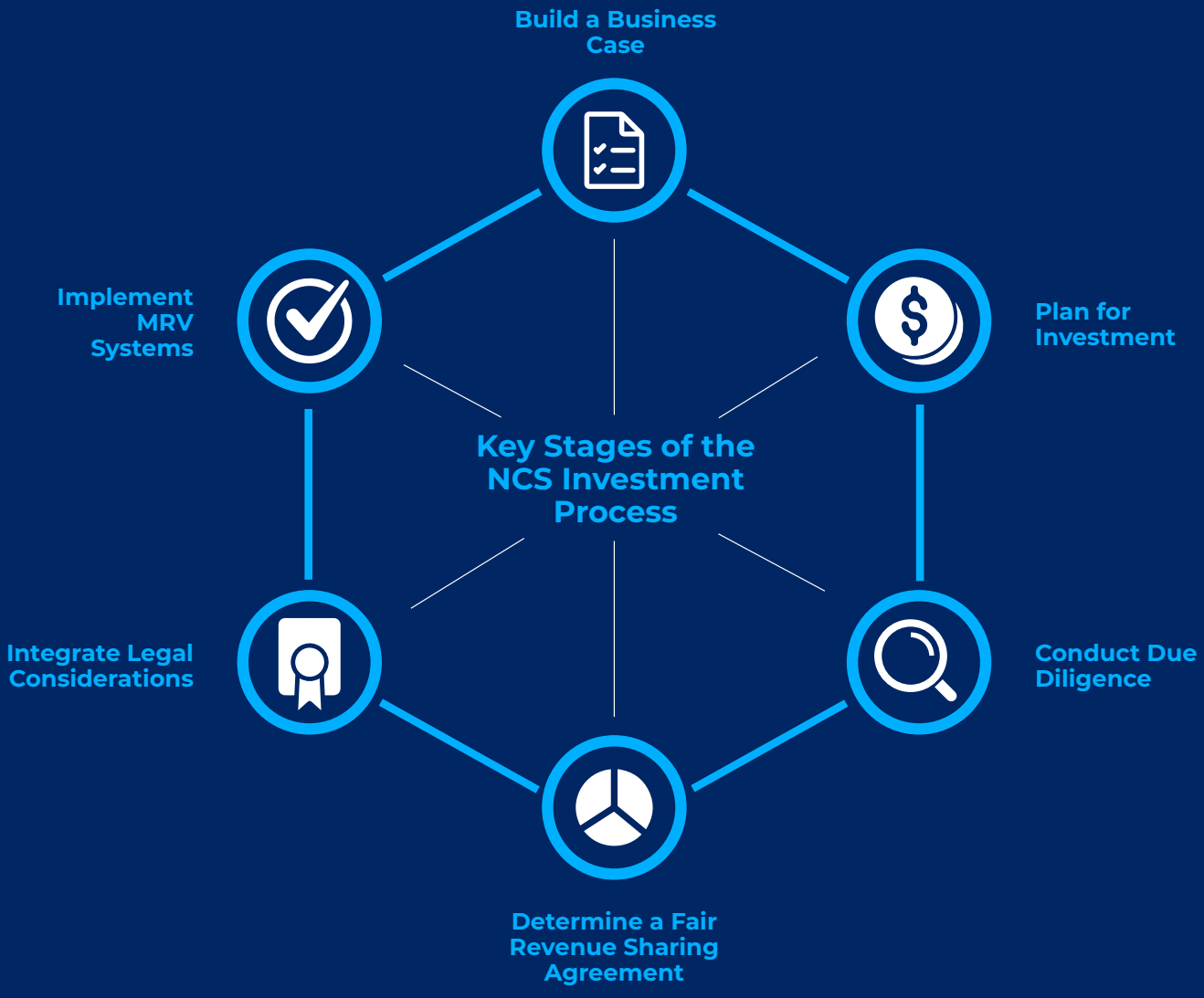
- Determine the status of a potential investment's revenue sharing agreement; if already implemented, determine what parties have been involved in its development.
- Account for all revenue streams generated by the NCS investment and review the agreement for specifications on how the revenue will be distributed.
- Ensure project or program proponents are regularly engaging with relevant stakeholders and has established independent grievance mechanisms.
- Work with developers and communities to update revenue sharing agreements as needed.

Integrate legal considerations

- Engage international and/or local advisors to ensure that legal and tax due diligence is conducted at an early stage.
- Discuss the risks identified during due diligence with your project or program counterparties as soon as possible.
- Ensure that risks are allocated appropriately in transaction documentation with the support of international and local advisors.
- Consider the use of additional legal risk management through the deal structure, insurance procurement, additional legal opinions, and so on.

Implement a system for measuring, reporting, and verifying data (MRV)

- Establish internal guidelines and best practices for data collection and reporting; determine if an investment's MRV practices align with internal guidelines.
- Disclose data in line with carbon credit standards and requirements from verification bodies.
- Ensure the collected data and selected metrics directly correlate to claims made on positive climate, biodiversity, and social impacts.
- Leverage data and disclosure findings to review performance and integrate them into project or program agreements and activities.



Introduction

Nature conservation plays a central role in the fight against climate change, as it supports nature's climate-regulation and climate change resilience functions. Natural climate solutions (NCS), a subset of nature-based solutions (NbS), protect, improve the management of, and restore nature, generating climate mitigation outcomes while also delivering biodiversity and social benefits. In this context, a healthy and dynamic market for voluntary carbon credits generated by NCS plays a central role in contributing to closing the nature finance gap. This guide provides essential insights for financial institutions and companies that are already investing in NCS or are exploring ways to do it.

Despite the critical role that nature can play in addressing climate change, a significant financing gap exists. According to UNEP, annual investment levels into nature protection, improved management, and restoration will need to nearly triple by 2030 if we are to realize their full potential in meeting international climate, biodiversity, and land degradation goals. Currently, the private sector accounts for only a fraction of financial flows to nature, with more than 80% of the funding for nature coming from public sources.[12] Whereas growth opportunities for additional public investment may be limited, investment by corporates and financial institutions remain undertapped, and will have to accelerate rapidly to meet these financing gaps for nature.

In addition to delivering climate, biodiversity, and social benefits, high-integrity NCS projects and programs can offer investors the opportunity to earn financial returns derived from the sale of carbon credits, or secure reliable sources of carbon credits for themselves (since their generation is not infinite). Therefore, securing continuous demand for carbon credits is essential to make NCS attractive to investors, and in turn, increase the flow of financial capital.

A significant source of demand for NCS comes from the voluntary carbon market (VCM). Companies use voluntary carbon credits to complement their decarbonization efforts and meet their sustainability and climate commitments. NCS voluntary credits can offer many advantages over other voluntary carbon credits, as they are immediately available, scalable, affordable, and create additional environmental, social, and economic impacts, especially in comparison to engineered solutions based on emerging technologies.

While the VCM has grown significantly over the past few years, it experienced significant fluctuations in 2023 and 2024. Between 2020 and 2021, the market value quadrupled to USD$2 billion, but in 2023, it contracted to USD$723 million, while trading volume fell by 57 percent.[13] In 2024, the ongoing decline in market value and transaction volume slowed, with demand growing for credits with multiple dimensions of integrity and quality. It plateaued in 2025.[14] A major driver behind the slowdown has been renewed attention to quality, integrity, and social impact concerns.

NCS projects and programs offer investors and companies the opportunity to earn returns on investment and secure reliable sources of carbon credits. This guide provides essential insights for financial institutions and companies that are already investing in NCS or are exploring ways to do it.

But recent changes designed to support greater integrity in both the demand and supply side are already bolstering confidence in NCS procurement and therefore investment. While long-term projections of VCM dynamics, growth in the VCM is expected to resume as carbon management continues to become integrated into corporate strategy and as the pace and scale of regulations on carbon emissions increases.

Continued focus by VCM players, including investors, on high-integrity projects is needed to help reinforce confidence and demand for NCS-generated carbon credits that can in turn maintain and strengthen the business case to invest in NCS projects.

Nature-based Solutions (NbS): Actions to protect, conserve, restore, and sustainably use and manage natural or modified terrestrial, freshwater, coastal, and marine ecosystems, which address social, economic, and environmental challenges effectively and adaptively while simultaneously providing human well-being, ecosystem service, and resilience and biodiversity benefits.[15]

Natural Climate Solutions (NCS): A subset of nature-based solutions designed to specifically address climate change.

Content of the Guide

The ERM Sustainability Institute and WBCSD's Natural Climate Solutions Alliance (NCSA) produced this guide to help investors confidently and methodically identify promising NCS projects and programs, carefully scrutinize them, and design and implement effective investment mechanisms – all for the ultimate purpose of increasing the flow of financial capital into these promising and high-impact solutions.

The guide is written for financial institutions, such as mainstream and impact investors and investment funds, as well as companies, who are increasingly looking for ways to directly invest in projects and programs to secure a supply of high-quality carbon credits. It provides essential guidance on investing in NCS through upfront finance, NCS-focused funds, project/program developer equity/debt, and other types of investment. It does not cover carbon credit procurement through spot market purchases or the integration of credits into an organization's net zero initiatives.

The guide explores the following steps to ensure investors solely invest in high-quality, high-integrity NCS projects and programs:

1. **Building a Business Case:** Building a strong business case that resonates with the organization's portfolio and investment strategy is paramount to the success of any investment.

2. **Designing an Investment Strategy and Engaging Stakeholders:** To lay a solid foundation, investors need to build a comprehensive investment strategy, implement appropriate funding structures, and design a stakeholder engagement strategy.

3. **Managing Risk in NCS Investment:** NCS investments are exposed to a range of risks across the project lifecycle - commercial, reputational, regulatory, and operational. Investors must identify, assess, and allocate these risks appropriately through structuring decisions, contractual mechanisms, and ongoing monitoring to ensure resilient, high-integrity outcomes.

4. **Conducting Due Diligence:** Thorough due diligence is foundational to successful NCS investments and should cover four areas of risk: commercial, reputational, regulatory, and operational.

5. **Developing Equitable Revenue Sharing Agreements:** Revenue sharing agreements are an essential way to involve communities in a more meaningful and fair way while compensating them for their rights, resources, and contributions.

6. **Incorporating Legal Considerations:** Drafting equitable and transparent legal agreements between parties such as investors, developers, communities, and governments is paramount to protecting all stakeholders, including local communities, and the investment.

7. **Data Measurement, Reporting, and Verification (MRV):** MRV is an essential source of information for investors to assess the performance of a potential investment.

The guide was developed between September 2023 and June 2024, and updated in April 2026, using the following sources as input:

- **Working Group:** A working group of 8 NCS experts steered the development of this guide. This group played a pivotal role in determining priority content, drafting sections, and reviewing and revising preliminary drafts.

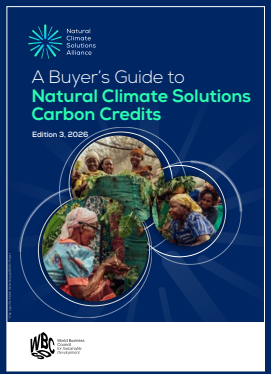
- **Interviews:** In-depth interviews with representatives from 25 organizations with experience in NCS investment for the VCM were held. Quotes and insights from the interviews are included throughout the report.

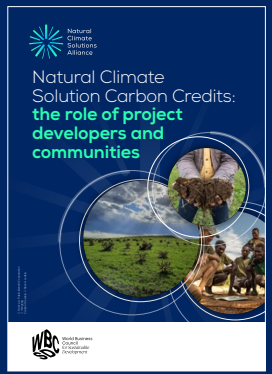
- **Market Participant Survey:** A 19-question survey to gather input from investors, companies, and other NCS experts was conducted. A total of 26 individuals responded, and the information they provided informed the content of this report.

- **Secondary Research:** The report incorporates insights from secondary sources published by companies, investors, NGOs, academics, and other groups. These sources are cited throughout the report with corresponding endnotes in the Appendix.

- **Technical Review:** The report was reviewed by members of the NCSA Technical Advisory Committee to inform report content, align key messages, and provide best practice recommendations for readers.

This report provides essential guidance for financial investors and companies that are investing in NCS through project finance, NCS-focused funds, project developer equity/debt, and other investments. It does not cover carbon credit procurement through spot market purchases or the integration of credits into an organization's net zero initiatives. For more information about the use and procurement of natural climate solutions carbon credits, read **Natural Climate Solutions and the Voluntary Carbon Market: A Guide for C-suite Executives, A Buyer's Guide to Natural Climate Solutions Carbon Credits**, and **Natural Climate Solution Carbon Credits: The role of project developers and communities**.






© Roshni Lodhia

Natural Climate Solutions: An Emerging Asset Class

Natural climate solutions offer an effective mechanism for corporate and financial investors to source high-integrity carbon credits. NCS can earn returns on investment by generating carbon credits and other revenue streams while simultaneously supporting climate and nature goals. However, two elements are crucial to NCS maturing as an asset class: more trust in the rigor of carbon markets and more aggressive investment in high-integrity NCS projects and programs by both companies and financial institutions.

Natural Climate Solutions and the Voluntary Carbon Market

NCS build on nature's capacity to remove and store atmospheric carbon through the protection, restoration, or sustainable management of nature. NCS projects and programs go above and beyond the delivery of carbon credits by generating biodiversity and ecosystem gain, providing substantive social and economic benefits for Indigenous Peoples and Local Communities (IPs & LCs), and facilitating climate risk protection by improving the resiliency and adaptive capacity of landscapes.

The amount of CO_2e avoided, reduced, or removed through NCS activities is translated into carbon credits which are traded on one of three primary carbon markets:

- **Voluntary Carbon Market (VCM)**: The independently functioning global market where entities and individuals voluntarily purchase carbon credits to manage their carbon footprint, contribute to climate change mitigation, support sustainable development, etc. The content in this guide is primarily directed towards NCS for the VCM.

- **Compliance Carbon Markets**: Regulated markets established by local or regional regulatory bodies usually in the form of carbon taxes or emissions trading systems. While some compliance markets allow the use of carbon credits, their use criteria are often more rigid or may require domestically sourced credits. This makes investment requirements for NCS projects for compliance carbon markets more specific and may limit opportunities for private investment. See Appendix 1 for more information on compliance markets.

- **Paris Agreement Article 6**: Though not a carbon market itself, Article 6 includes sections that promote an international market-based mechanism that allows countries to trade carbon credits with each other. These credits are used to meet the emissions reduction targets outlined by their Nationally Determined Contributions, or NDCs.

Companies may purchase credits on the VCM to compensate for their emissions on the pathway to net zero. Guidance on how companies should use these credits varies according to different guidance organizations, as outlined in Table 1 below and in "The State of the Voluntary Carbon Market" at the end of this section.

Table 1. Comparison of Guidance Literature on the Use Cases for Carbon Credits on the Pathway to Net Zero (IETA VCM Guidelines)

Use Case	IETA Guidelines	SBTi	VCMI	EU Joint Statement	ISO 14068 (carbon neutrality)	2024 Oxford Net Zero Guiding Principles
Counterbalance some or all unabated Scope 1, 2 and 3 emissions after meeting interim targets aligned to science-based reduction pathways	YES	YES (BVCM Guidance)	YES (Min: 10% Max: 100%)	YES	YES	YES
Neutralize residual Scope 1, 2 and 3 emissions through removals in company's net zero year	YES	YES (Corporate Net-Zero Standard)	YES	NOT COVERED	YES	YES
Compensate for unabated Scope 1 and 2 emissions to help achieve interim targets and stay on track between interim target years	YES	NO	NO	NO	NOT COVERED	NOT COVERED
Compensate for unabated Scope 3 emissions, including hard-to-abate sectors, to help achieve interim targets and stay on track between interim target years	YES	NO	YES, SCOPE 3 (Scope 3 Flexibility Claim[n])	NO	NOT COVERED	NOT COVERED

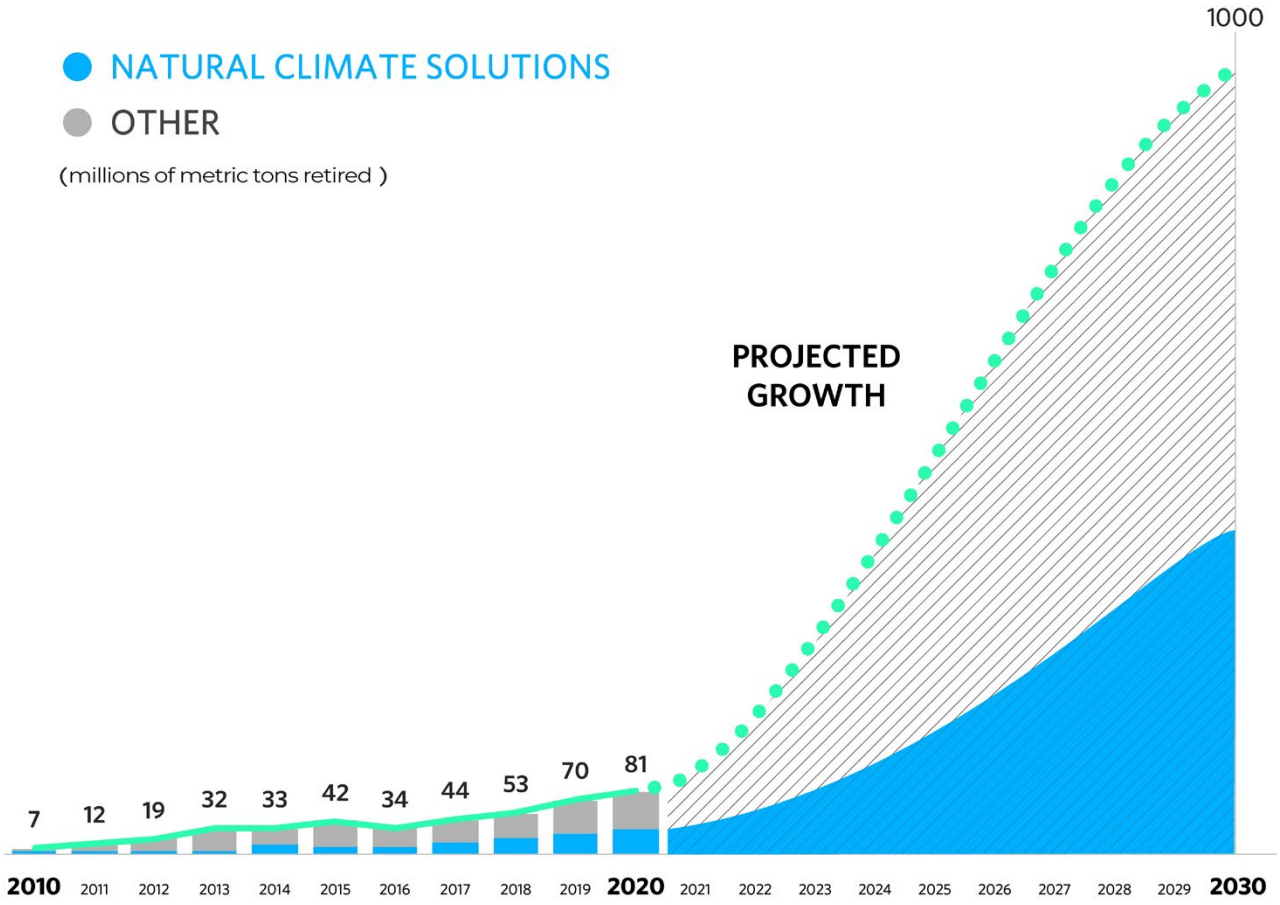
Source: *This figure is adapted from IETA VCM Guidelines (2025). "Table A: A COMPARISON OF GUIDANCE LITERATURE ON THE USE CASES FOR CARBON CREDITS TO COMPENSATEFOR COMPANIES' EMISSIONS ON THE PATHWAY TO NET ZERO". International Emissions Trading Organization.*

[n] This permits a company to make limited use of high-quality carbon credits to close the gap between its estimated scope 3 GHG emission reduction target level, and its current scope 3 emissions in a given year, as long as it has already taken other steps to reduce current emissions.

Companies may purchase carbon credits on the VCM issued by a variety of carbon crediting programs, each of which has its own set of standards and methodologies for greenhouse gas (GHG) emissions reduction and removal quantification. Carbon crediting programs are assessed by carbon credit integrity frameworks such as the Integrity Council for the Voluntary Carbon Market (ICVCM).[16] See table A3 in the appendix for a comprehensive list of buy- and sell-side carbon credit integrity frameworks.

NCS projects and programs have attractive benefits over other climate solutions that generate credits for the VCM. Currently, nature is the most affordable, scalable, and available method for carbon sequestration, while many technology-based carbon removal practices (e.g., direct air capture (DAC)) remain nascent technologies typically in the research and development phase. In addition to climate benefits, investments in nature help build ecological resilience and support nature stewardship, along with boosting community and social resilience as they protect and restore the ecosystem services on which human systems rely. In part due to these additional benefits, NCS projects are projected to continue playing a major role in the VCM as outlined in Figure 1 below.

Figure 1. Projected Growth of Natural Climate Solutions as a Component of the Voluntary Carbon Market



***Source**: This figure is adapted from Making Carbon Markets Work for Faster Climate Action (2021). "GROWTH FORECAST OF VOLUNTARY CARBON MARKETS TO 2030". The Nature Conservancy.*

***Caption**: According to some estimates from 2021 and 2022, the size of the total VCM could reach 1 billion metric tons by 2030. While 2023 experienced a bit of a market contraction, the adoption of greater integrity measures may help the market rebound and long-term growth prospects to not be diminished.*

Investments in NCS can generate multiple sources of revenue and returns are not limited to only carbon credits." to "may generate multiple revenue streams and returns are not limited only to carbon credits. For example, reforestation projects may produce sustainable timber, or agroforestry projects may produce crops to generate revenue. However, investors must avoid additionality concerns by ensuring that the project would not have been able to be funded based on revenues from timber or agriculture products alone, and ensuring that these commodities are sold separately from carbon credits, as the environmental attribute (emissions avoidance/reduction/removal) must be detached from the products to avoid double counting.

Further, NCS investments can include more than one intervention method. For example, a reforestation project can incorporate both sustainable management of commercial areas and restoration of degraded areas. The concept of combining revenue streams and diversifying strategies in NCS investments is a growing approach to help manage risk and maximize returns from projects.

Figure 2. Types of NCS Credits and Projects

Intervention Methods

Protection:
Protecting ecosystems from impending or future degradation, reducing further CO_2 emission and additional loss of biodiversity.

Sustainable Management:
Regenerative agriculture and sustainable forest management practices to improve natural and modified ecosystems while contributing to biodiversity outcomes.

Restoration:
Restoring ecosystems that have been degraded or previously converted to remove carbon from the atmosphere and introduce additional biodiversity benefits.

Carbon Outcomes

Reduction / Avoidance:
Activities that reduce emissions by preventing their release into the atmosphere, such as protecting standing forests or stopping the conversion of grasslands to croplands.

Example: Reducing Emissions from Deforestation and Forest Degradation, plus conservation and sustainable forest management, and enhancement of forest stocks (REDD+), where forests are protected by incentivizing conservation and enhancement of forest ecosystems.

Removal:
Activities that pull carbon out of the atmosphere and store it over long timeframes.

Example: Afforestation, Restoration, and Revegetation (ARR), where forest ecosystems are restored to maximize the ecosystem's capacity for carbon sequestration.

Examples of Non-carbon Revenue Streams

Agricultural Commodities:
Agroforestry systems, which integrate trees with crop and livestock production, can enhance farm output and resilience, leading to a diverse range of agricultural outputs.

Ecotourism:
NCS projects, particularly those involving the protection and restoration of scenic landscapes, can generate income through ecotourism via entry fees, guided tours, and recreational activities.

Payment for Ecosystem Services (PES):
Some projects may receive payments for certain non-carbon ecosystem services such as water filtration and retention. Some regions may have mechanisms to compensate project proponents for maintaining or restoring land in ways that enhance ecosystem health.

Sustainable Harvesting:
Revenues from the sale of timber, non-timber forest products, and sustainable fisheries may be sold depending on project parameters such as rights and ownership.

Source: *ERM/WBCSD*

Investing in NCS Projects and Programs

Investors allocating capital towards NCS projects and programs generally fall into the two broad categories outlined below. For the purposes of this guide, the term 'investors' refers to both categories unless stated otherwise.

- **Financial Investors**: Financial institutions that invest upfront capital in NCS projects and programs with expectations of financial returns through the sale of carbon credits. Returns may also come in part from other revenue streams, such as the sales of sustainable timber or regenerative agricultural products.

- **Corporate Investors**: Real economy companies requiring high volumes of carbon credits may also invest upfront capital in NCS projects and programs, but rather than earning financial returns, receive their "returns" in the form of offtake of carbon credits for their own uses. Companies may also benefit from selling any credits that they don't retire themselves on the VCM. Similarly, corporate investors can benefit from potential non-carbon revenues supplementing carbon credit generation.

While investors can finance NCS activities in several ways, this guide is primarily focused on providing direction for investors engaging in the following ways:

- **Project/Program Finance**: Investors may invest directly in a specific NCS project or jurisdictional program.

- **Investment Funds**: Funds or asset pools that allocate capital towards NCS projects or programs.

- **Real Assets**: Investors directly acquire and / or lease land to develop, manage, or lease to NCS projects.

- **Project Developer Investment**: Direct investment made in the organizations developing NCS projects offers financial investors a different type of return profile and asset class from NCS, but may be less appropriate for corporate investors since the source of carbon credits is less directly connected to their investment.

> ***"There is a danger in thinking that the carbon value is the only thing that will help communities; it's also important that the value is in the communities maintaining healthy lands and culture and being able to stay on their land for a long time to come."***
> *– Margarita Mora, Senior Managing Director, Partnerships, Nia Tero*

What are the Core Considerations for Determining High-Integrity Carbon Projects?

Investors should only consider high-integrity NCS projects designed to ensure that certain core carbon considerations are addressed rigorously and transparently over the life of the project, including through nesting into jurisdictional frameworks. High-quality NCS projects should also provide benefits beyond the delivery of carbon credits by maintaining or improving biodiversity and ecosystem integrity, generating substantive socio-economic benefits for local stakeholders, and improving the resiliency and adaptive capacity of landscapes and people.

Core carbon integrity considerations relating to climate mitigation activities include:

Permanence: The degree of confidence that a project will keep carbon out of the atmosphere for a given period of time.

Additionality: Carbon projects and credits are considered additional if the avoidance/reduction/removal of carbon would not have occurred without the incentives provided by the carbon market.

Leakage: Increases in GHG emissions that occur outside of the project's boundaries as a result of project-related activities.

Baseline: A reference point that serves as a benchmark for emissions avoidance or reduction. The baseline is measured by determining the expected changes in carbon that would have happened in the absence of the project's intervention.

Measurement, Reporting, and Verification (MRV): The process by which the climate, biodiversity, and social impacts are calculated, the methods to disclose these figures, and the third-party verification of reported information to ensure accuracy and consistency.

Safeguards: Policies, measures, and standards implemented to ensure that project activities promote positive social and environmental outcomes while avoiding adverse impacts.

The Current State of the VCM for NCS

Author: Stephen Donofrio, Head of Carbon Markets Intelligence, OPIS, a Dow Jones Company

The VCM has grown significantly over the past few years, as evidenced across all key market valuation metrics: volume traded, credit prices, new project registrations, as well as both credit issuances and retirements. This recent growth has been influenced by the recognition of its role as an important tool for near-term residual and unavoidable emissions reductions, in addition to philanthropic investments beyond the value chain. But as it has gained relevance and visibility the VCM has been increasingly at the center of several climate action debates over the past few years, contributing to a period of contraction in 2023, and continuing through 2024.

The VCM hit a high of more than USD$2 billion in value in 2021, up four times the market size in 2020, driven by an increase in traded volumes and higher than average prices of NCS projects. While this was the largest valuation ever recorded, the VCM has undergone a sustained contraction. By 2023, market value had declined to approximately USD$723 - 755 million and this downward trend continued into 2024, with total market value falling to around USD$535 million. This decline has been primarily driven b reduced trading activity. Transaction volumes fell from 254 MtCO2e in 2022 to around 110 MtCO2e in 2023 and declined further to approximately 84 MtCO2e in 2024, marking the third consecutive year of contraction and the lowest volume since 2018. Average credit prices have been more resilient, decreasing only slightly from around USD$6.7 in 2023 to approx. USD $6.3 in 2024 (a ~5-6% decline), indicating that the market correction has been driven more by volume than price.[17] [18]

At the same time, underlying demand signals remain relatively strong. Credit retirements - often used as a proxy for end-user demand - have remained stable at elevated levels, reaching approximately 180–182 $MtCO_2e$ annually, suggesting continued corporate interest despite lower transaction liquidity. This divergence between steady retirements and declining transactions points to tightening supply of higher-quality credits and increasing buyer selectivity.

Across project types, the market continues to differentiate. REDD+ credits experienced further declines in both volume and value in 2024, while other NCS categories showed mixed trends. Improved Forest Management (IFM) saw strong growth in transaction volumes, while ARR (Afforestation, Reforestation, and Revegetation) projects experienced price increases of around 20%, reflecting growing demand for removal-based credits. More broadly, carbon removal credits commanded a significant premium - on average over 3-4 times higher prices than reduction credits - highlighting a structural shift in buyer preferences toward higher-perceived integrity and long-term climate impact. [19]

Annual data on issuances and retirements further illustrates evolving market dynamics. While issuances have declined in recent years, retirements have remained stable, reinforcing the view that demand persists but is becoming more selective and quality-driven. At the same time, the market is undergoing a broader transition, with legacy supply from older methodologies declining and new, higher-integrity project types gradually scaling.

In parallel, the VCM has been challenged on a range of integrity and transparency issues affecting both the supply and demand side. Many stakeholders have worked to address these challenges and drive continuous improvement in the VCM in a way that will increase its attractiveness to mainstream finance and private sectors. These efforts fall into four categories:

1. **Updates to existing guidance and infrastructure** include improvements to voluntary target setting and disclosure standards such as Verra's updated REDD+

methodology (VM0048).[20] Additionally, demand may be impacted by changing infrastructure guiding the use of carbon credits. For example, the Science-based Targets Initiative (SBTi) is updating its Net Zero Standard to clarify the role of carbon credits in corporate climate strategies.

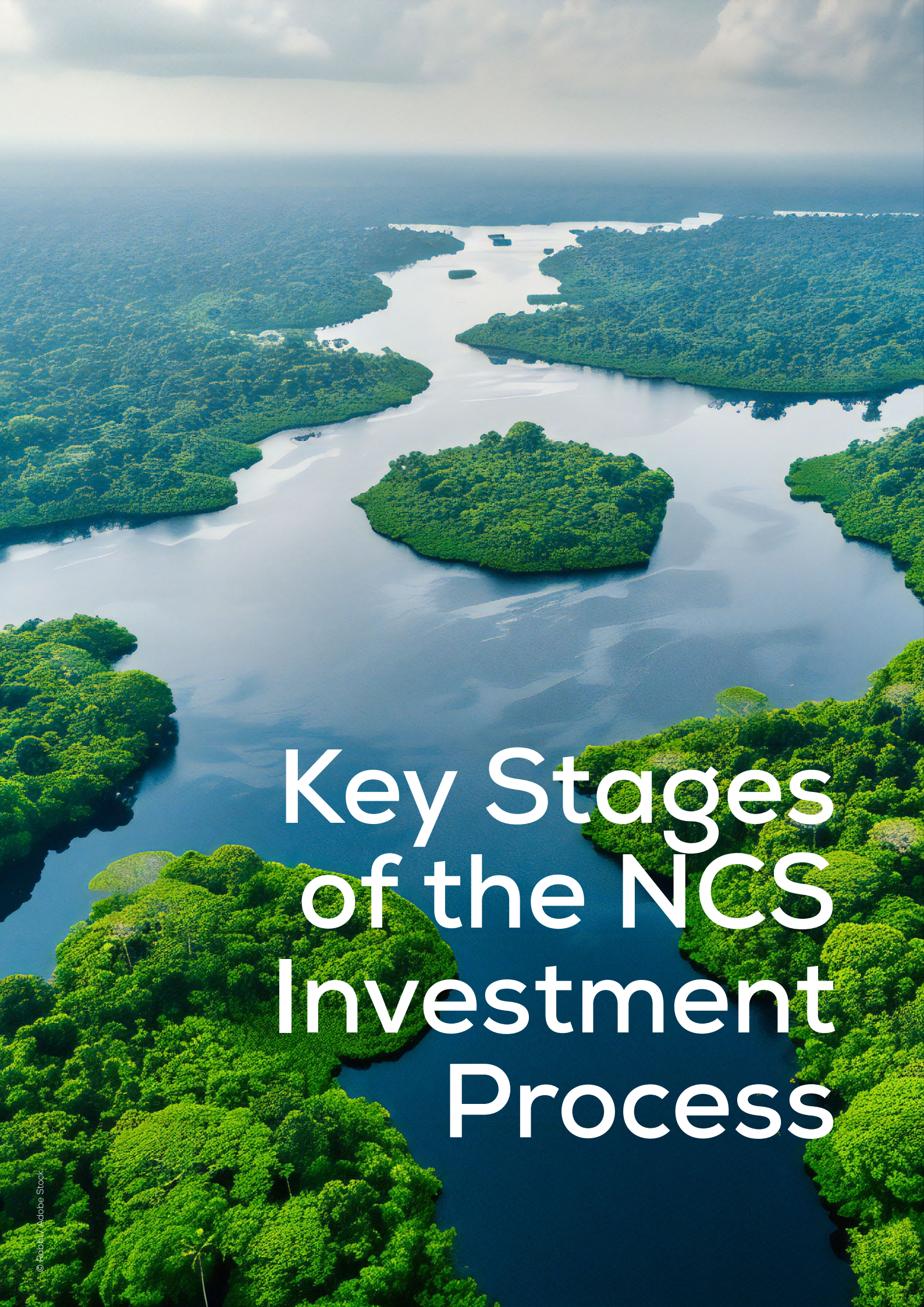
2. **New quality guidance frameworks, criteria, and principles**. The ICVCM has completed its assessment of carbon crediting programs and is now assessing project categories at the methodology level, helping ensure that carbon credits represent genuine emissions reductions and improving the quality and integrity of carbon credit supply.[21] New demand-side guidance for the use of carbon credits for corporate climate action is changing how companies approach carbon credits, such as the Voluntary Carbon Market Integrity Initiative's (VCMI) Scope 3 Flexibility Claim beta for use of high-quality carbon credits and the International Emissions Trading Association's (IETA) Guidelines for the High Integrity Use of Carbon Credits .[22,23] In 2025 the Coalition to Grow Carbon Markets, co-chaired by the Governments of Kenya, Singapore, and the UK, began to unite eleven countries [ADD ENDNOTE: Canada, France, Indonesia, Kenya, Panama, Peru, Singapore, Switzerland, the UK, New Zealand and Zambia.] in a shared mission to increase the scale of high-integrity carbon markets.

3. **International carbon credit markets, pending national and subnational regulations and new laws on corporate disclosure.** Regulations like California's Voluntary Carbon Market Disclosures Act (2023) requires comprehensive disclosure of carbon credits sold or used from both supply- and demand-side actors. In March 2026, the European Union greenlit an amended climate law, aimed at accelerating deployment of high-quality carbon removals and emissions reductions in the region by setting out key elements the Commission must consider when preparing its post-2030 legislative proposals. Among these elements are EU-based permanent carbon removals, to compensate for residual hard-to-abate emissions in the EU emissions trading system; and enhanced flexibility within and across sectors and instruments to support simple and cost-effective target achievement.[24]

   Broad sustainability- and ESG-related disclosure regulations are proliferating, many of which include carbon credit disclosure requirements. The EU's Corporate Sustainability Reporting Directive (CSRD) requires companies to disclose direct emissions separately from carbon credits purchased for offsetting with the aim of preventing misrepresentation of actual emissions and progress on emissions reduction.[25] Wide sustainability-related regulations like the CSRD were developed to improve quality and comparability of corporate disclosures across all ESG pillars, and are likely to impact how companies disclose their use of carbon credits.

4. **Innovative solutions from service providers** are offering a wide range of products and services to address remaining concerns. Innovations such as improvements to digital monitoring, reporting, and verification (dMRV) will help improve data disclosures, ultimately affecting the quality of outputs from data and intelligence providers and carbon credit ratings agencies. Similarly, innovative financial vehicles such as insurance on carbon credits or carbon-linked bonds are providing investors with more comprehensive protection from risk and encouraging expanded and more diverse funding into NCS projects.

Despite the decline in 2023-25, growth in the VCM is expected to resume as carbon management continues to be more common in corporate strategy and regulating bodies enact more policies and regulations on carbon emissions. This expected growth is helping to raise the profile of NCS as an asset class and emphasize the role that NCS will play in carbon reduction on a global scale.



Key Stages of the NCS Investment Process

1. The Business Case: Five Reasons to Invest in NCS

NCS as an asset class remains relatively untapped. This is especially the case for most large-scale, traditional investors. In addition to their mitigation potential and financial returns, NCS projects may yield many other environmental, social, and reputational benefits. However, every NCS project has a unique risk and benefit profile that investors must account for before making the final decision.

Recommendations for Investors:

- **Identify a business case that resonates with your organization's portfolio and investment strategy.**
- **Consider potential financial, carbon, environmental, social, and reputational benefits.**
- **Integrate investment timeline considerations into your business case.**

The business case for NCS investment often varies between different types of investors. Corporate investors are more likely to invest in NCS to gain access to carbon credits and meet their climate goals, earning much or all their returns from claiming the credits generated for themselves. Meanwhile, financial investors primarily invest to earn financial returns generated by the project through the sale of credits to offtakers. The business case for financial investors may vary depending on their investment strategy, risk, and return expectations, specific mandate, and asset class (e.g., real assets, project debt or equity, developer/enterprise debt or equity, commodities trading, etc.).

Both corporate and financial investors may benefit from any additional revenue streams that can be generated through a project's activities such as sustainable timber or crop production, so long as carbon benefits remain additional. But regardless of investor type or focus, motivation for investment in NCS is often built on the expectation that carbon markets will continue to grow in both value and impact.

There are many reasons for companies and financial institutions to consider investing in NCS, but the following five drivers offer a strong foundation for any such business case:

1. Securing a long-term source of carbon credits for an investor's own use

Directly sourcing high-integrity carbon credits is one of the primary motivators for investors to engage in NCS. Corporate investors are most likely to source credits to meet their climate and net zero goals, while financial investors may align their investment portfolios with a low carbon future through investment in activities and holdings that reduce or remove emissions. By entering agreements with project developers (often through offtake agreements, project finance, or developer investment), investors can secure a direct source of high-integrity carbon credits. Since many of these offtake agreements are structured prior to the issuance of credits, investors will have more control over the project's structure and activities. By directly sourcing carbon credits, investors can

also reduce procurement costs and avoid spot purchasing in the VCM, eliminating additional transaction costs associated with purchasing from a third party. In the event an investor does not retire all the credits they have secured, they can sell those remaining, earning an additional return on investment.

> ***"Our business case for investing in NCS projects is threefold: it gives us a hedge for future increases in carbon prices; the creation of high-quality credits will help meet the increasing future demand caused; and the returns earned by selling the credits have the potential to be quite attractive."*** *– Nature Based Solutions Lead, European Energy Company*

2. Capitalizing on carbon market growth

In the five-year span between 2017 and 2022, the voluntary carbon market grew more than tenfold, quadrupling in value between 2020 and 2022 alone.[26] Though market growth slowed in 2023 and 2024, and plateaued in 2025, consulted experts expect growth to rebound over the long run. Much of this growth is expected to be driven by increasing corporate climate ambitions and pressure to meet net zero targets. Expanding compliance markets may also drive growth with the expectation that more jurisdictions will implement compliance regimes. Carbon data provider Sylvera expects convergence between compliance and voluntary markets, which could help drive the investment and innovation needed for increased competition, better quality standards, and greater innovation in carbon markets.[27] Both financial and corporate investors will look to capitalize on future market growth, increasing demand for credits, and increased trading for carbon. The market has already seen a marked increase in price for high-quality NCS credits.

3. Hedging against future increases in carbon prices

Hedging against an expected rise in carbon prices is another strong reason to invest in NCS. As seen in Table 2 below, the average price per ton of CO_2 in 2023 was USD$6.53, down 11 percent from 2022 but 60 percent higher than 2021 prices.[28] Furthermore, the cost of carbon is expected to continue to rise through mid-century. Adjusted for inflation, one forecast estimates the average market price per metric ton of CO_2e to reach USD$27 by 2030 and USD$175 by 2050.[29] Hedging is a particularly strong business driver for corporate investors given their use of carbon credits in climate strategies, as investing early enables companies to gain access to credits at a lower price than future forecasts. Investing directly in high-integrity NCS projects and ensuring they are high-integrity will provide further advantages s credits from these projects may be expected to sell at a premium in the VCM. For instance, at the end of 2023, credits sourced from nature-based projects sold at a 40 percent premium over the total average credit price, and a 91 percent premium over credits from technology-based project types.[30] Similarly, credits rated as high-integrity (A or B) on MSCI's Carbon Markets sold for nearly twice as much as medium and low integrity credits (C and D/E, respectively).[31] With buyers increasingly looking for high-integrity projects, these price differentials based on quality are likely to remain or strengthen over time.

Table 2. Annual Total Transaction Volume, Value, and Price of Carbon Credits by Grouping

Type	2021			2022				2023					2024				
	Total Volume (MtCO2e)	Value (USD)	Price (USD)	Total Volume (MtCO2e)	Value (USD)	Price (USD)	Price Change (2021-22)	Total Volume (MtCO2e)	Value (USD)	Price (USD)	Price Change (2022-23)	Price Change (2021-23)	Total Volume (MtCO2e)	Value (USD)	Price (USD)	Price Change (2023-24)	Price Change (2021-24)
All Projects	517	$2.1Bn	$4.04	254	$1.9Bn	$7.37	82%	111	$723M	$6.53	-11%	62%	84	$535M	$6.34	-5.5%	57%
Nature-based	243	$1.4Bn	$5.80	167	$1.2Bn	$10.17	75%	41	$382M	$9.33	-8%	61%					
Engineered	270	$640M	$2.37	137	$675M	$4.92	101%	70	$342M	$4.89	-1%	106%					

Source: *This table is adapted from Ecosystem Marketplace (2025, State of the Voluntary Carbon Market). "Table 1. Annual Total Voluntary Carbon Markets Transaction Volume, Value, and Price per tCO_2e for All Projects. 2021-2024 (YTD)" and Ecosystem Marketplace (2024) "VCM Transaction Volumes, Values, and Prices, Nature-based vs. Engineered, 2022-2023". Ecosystem Marketplace Insights Report: State of the Voluntary Carbon Markets 2023 / 2024.*

Caption: *Carbon credits sourced from nature-based projects such as NCS trade at a premium compared to both average credit price and technology-based solutions. This premium, partially due to the social and environmental benefits associated with nature-based projects, may remain as the average price of carbon rises.*

4. Leveraging carbon, social, and environmental benefits to improve reputation

Demand for carbon credits is often motivated by buyers' perceived brand and reputational benefits. Companies can use carbon credits to meet robust climate policies in addition to satisfying a sense of responsibility and role they can play in broader social and environmental impact, particularly amid increasing stakeholder pressure. NCS can help satisfy all of these considerations for corporate investors given their climate, social, and biodiversity benefits. Similarly, impact investors may prioritize investments that generate a measurable positive impact on communities and the environment while generating financial returns, making high-integrity NCS projects attractive investments. NCS projects and programs often align with several of the UN's 17 Sustainable Development Goals, providing investors with a widely recognized and respected framework to define the impact of their investments.

"We are looking to layer various impact streams on every acre we manage, where appropriate, and will always consider value added services such as mitigation banking and renewables leasing. Every forest is different depending on whether it is a plantation, a restoration project, or a conserved ecosystem, and we're always looking to layer the activities in each of them to widen impact and revenue streams." *– Eric Cooperstrom, Managing Director, Impact Investing and Natural Climate Solutions, Manulife Investment Management*

5. Drawing benefits from real assets and additional revenue streams

In addition to selling carbon credits, NCS investors may earn additional non-carbon revenues from other commercial opportunities from project activities. In a real assets strategy, timber, crops, and land may all deliver additional revenue streams beyond the sale of carbon credits. Real assets are also used as an inflation hedge and in some cases seen as a safer investment given their greater level of control and security compared to contractual agreements with communities, landowners, developers, and other stakeholders. Investor access to non-carbon revenue streams will be dependent on the project type, agreement with stakeholders, land rights, etc. Additionality should also be considered if revenue is generated from sources other than carbon credits, as additional revenue streams can only be realized if the products and services are separate from the environmental attribute driving carbon credit generation (i.e., emissions avoidance/reduction/removal).

2. Planning for Investment: Structuring Investments and Mapping Stakeholders

Effective investment planning is a critical factor in achieving successful investment outcomes. Picking fitting target opportunities, identifying and engaging stakeholders, and identifying the right investment mechanism are important actions at this stage. The trade-off between risk, control, and financial upside is another aspect for investors to consider when planning for investments in NCS. Ultimately, a comprehensive investment plan can drive investment value while maximizing the positive impact of the project.

Recommendations for Investors:

- **Determine the type of NCS investment you are interested in and the right stage of maturity.**
- **Identify the investment type and finance structure that align best with your objectives, expectations, and the needs of the project.**
- **Map priority stakeholders and decide if, when, and how you will engage them.**

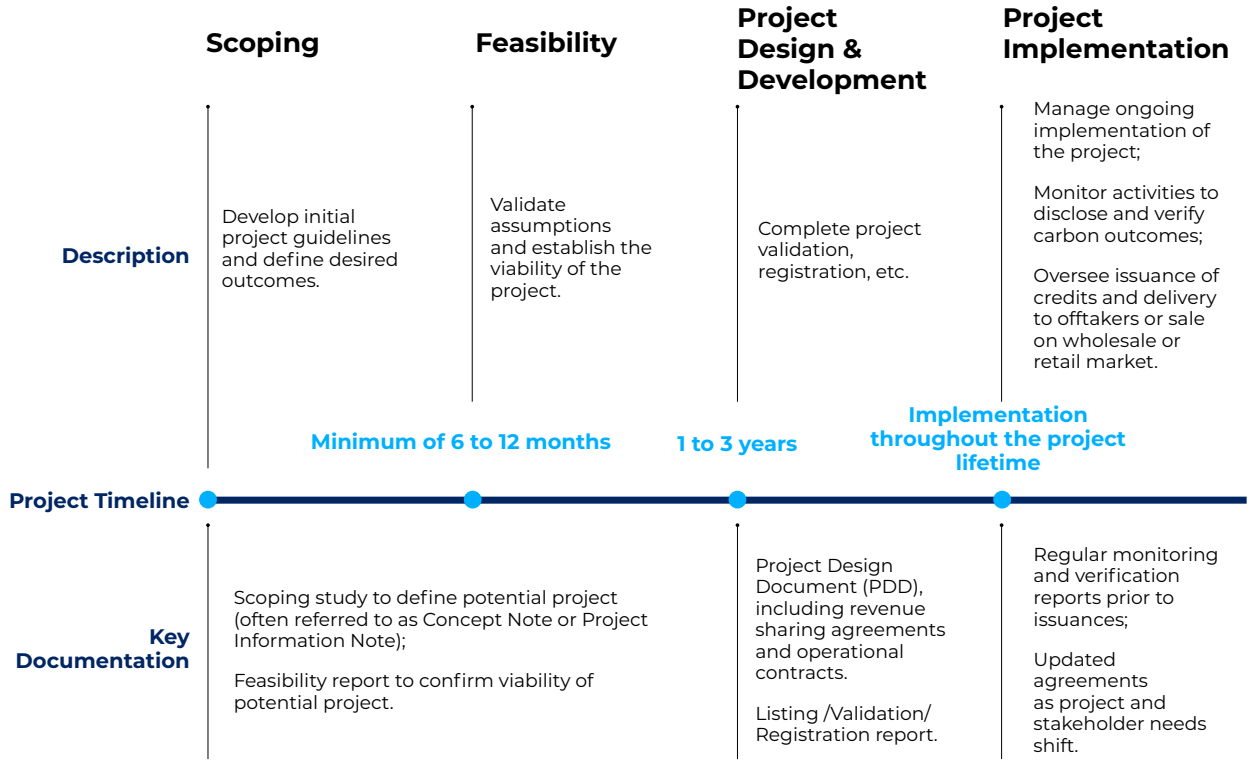
Deciding on the Right Entry Point in the Project Timeline

The timeline of NCS project duration can last decades, sometimes spanning up to 100 years to ensure the permanence of activities past the carbon crediting stage. An effective investment plan should thus consider the "who", "when", and "how" across the entire timeline. An investor's involvement is likely to be concentrated in the first few years but may continue throughout the project's implementation depending on their role.

Figure 3 below provides an overview of the project development cycle and sets the stage for where investors may enter an investment.

Investors may enter NCS projects at different stages of the development cycle, but they should weigh related risks and opportunities. There are often severe funding gaps for opportunities at pre-development stages given the numerous risks they face. Without working capital, NCS opportunities may need to rely on philanthropic or government funding or technical assistance to move through initial feasibility and certification stages. Novel approaches utilizing blended finance and catalytic capital, for example, may help to close early financing gaps.[32] Investment risk will decline as the investment stages progress. Entering opportunities at a later stage will result in less risk assumed by the investor but lower potential returns and less ability to shape the target opportunity. A comprehensive due diligence process, as described in the next chapter, can help investors better understand investment risk and find the ideal point to enter an investment.

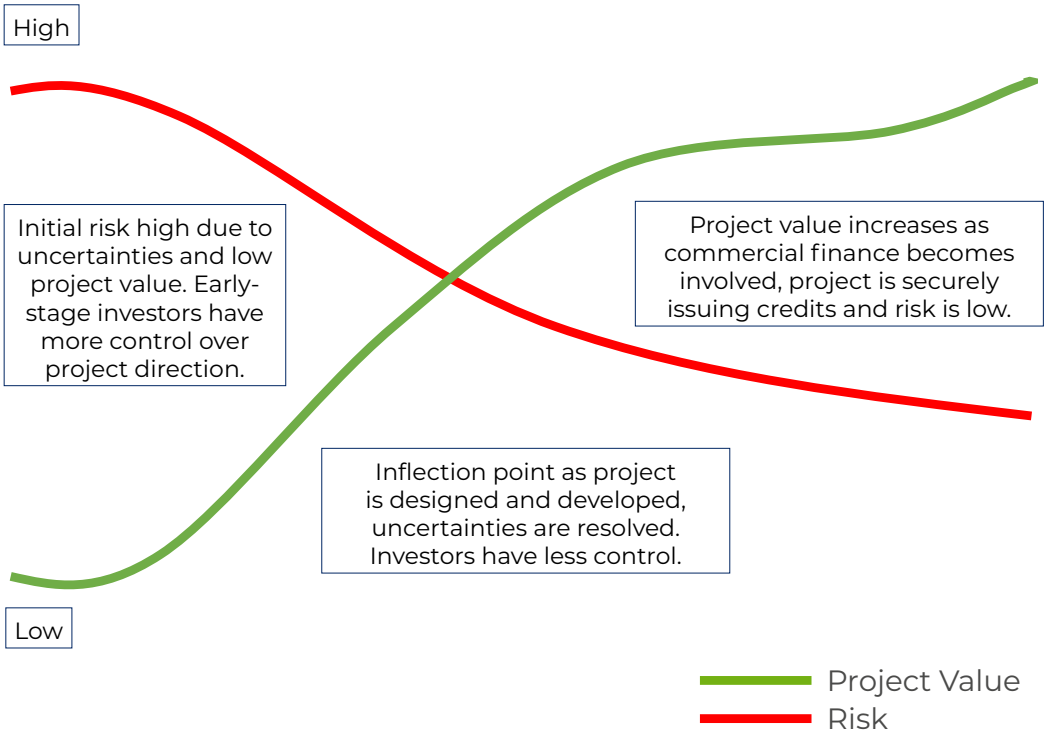
Figure 3. Project Development Stages



Source: *ERM/WBCSD*

© Vladan Raznatovic / Unsplash

Table 3. Relationship Between Risk and Return at Different Stages of the NCS Project Timeline

	Scoping	Feasibility	Project Design & Development	Project Implementation
Risk / Value Profile				
Risk / Value Profile	Pre-Implementation: Risks are centered around the lack of data and available information and the risk of a project failing to deliver on additionality or emissions projections. Investors will also incur risks along the timeline past the pre-implementation stage as the project matures.			Implementation: Risks of entering the project in the implementation stage are mainly related to project failure or its negative impacts, along with market and / or regulatory drivers that influence demand and price.
Opportunities	Pre-Implementation: Earlier investment allows investors to have more influence over the project's development, secure access to more credits, and oversight of stakeholder engagement. Earlier investors enjoy a higher level of control.			Implementation: Lower risk is the primary opportunity presented by later stage investment. The project is more mature, may already have buyers identified, and has a much lower risk of project failure.

Source: *This table is adapted from The Coalition for Private Investment in Conservation (2023). "Figure 2: The capital continuum for nature-based solutions". CPIC: Building a Capital Continuum for Nature-positive Investments.*

Caption: *A project's value increases over time as risk declines and the project securely issues credits. Early investors are likely to have a higher level of control over the project but assume increased risk. Later investment can lower risk, but at a concession of an investor's level of control.*

Selecting the Right Investment Type and Finance Structure

Appropriate investment types are likely to vary depending on the opportunity, the investor's needs and strategy, and the time at which the investment is made. Table 4 provides an overview of the most common investment types, including investment funds, developer investment, project finance, and real asset acquisition.

Table 4. Overview of Investment Types in NCS

Type	Description	Benefits	Risks
Investment Funds	Financial or corporate investors act as limited partners (LP) to provide capital to a fund manager acting as a general partner (GP). The GP will then finance several NCS projects through methods including those outlined in this table. LP investment yields are often delivered in dividends or carbon credits. See the Respira case study on page 42 for an example of an investment fund.	• Diversification of risk across projects • Specialist fund manager conducts due diligence and oversight on projects • Position as LP reduces direct risk exposure	• Limited oversight of individual projects • Fund manager fees • Market variability and carbon price fluctuation • Policy and regulation
Developer Investment	An investor provides capital directly to a project developer who typically manages a portfolio of NCS projects. Investors will often receive a percentage of equity in the project developer or more tangible "returns" in the form of dividends or carbon credits.	• Increased control of project operations • Increased benefit from upside potential • Direct equity ownership in entity (not applicable if providing debt)	• Increased risk exposure with direct investment • Developer overhead costs • Developer competency • Variable revenues • Market variability and carbon price fluctuation • Policy and regulation • Liquidity (assuming a private equity investment / developer is not a publicly traded company)

Project Finance	An investor will fund a specific NCS project in return for dividends or a share of carbon credits generated. Investors will often partner with project developers and may have a significant level of influence over the project's operations. See the Integrity Global Partners case study on page 33 for an example of project finance.	• Ability to structure agreement to suit needs (i.e., fixed vs. variable price) • Transfer of carbon credits as asset • Ringfencing exposes investor to project rather than full activities taken on by developer • Non-recourse or limited recourse to general assets	• Developer competency • Limited investment diversification heightens delivery risk in case of project failure • Market variability and carbon price fluctuation • Policy and regulation
Real Asset Acquisition	An investor will directly acquire and/or lease land to develop, manage, or lease land to NCS projects. Investment value is often derived from the intrinsic value of the asset such as land or forests that may provide several non-carbon revenue streams in addition to carbon credit generation.	• Income generation from various sources • Hedge against inflation • Portfolio diversification • Capital preservation • Downside protection on carbon market as tangible real assets will have value regardless of carbon price	• Increased risk exposure with direct investment • Capital intensity requiring significant upfront investment • Market variability and carbon price fluctuation • Policy and regulation

Source: *ERM/WBCSD*

Each type of investment is likely to use different financial structures. Table 5 provides an overview of the various financing structures often used for investment in developers, project finance, or real assets acquisition.

In the case of investment in NCS-related funds, the investor provides capital to a fund manager who will finance several NCS projects using one or more of the finance structures listed in Table 5. Investment value is often delivered in the form of equity or financial dividends but may also be in the form of carbon credits depending on the fund structure. Investing in an NCS-related fund helps lower an investor's risk at the expense of their level of control over the projects included in the portfolio. Rather than focusing due diligence on individual projects, fund investors focus on the selection of the manager and ensuring they are aligned with the investor's needs, have the necessary expertise, and can execute on the proposed NCS strategy.

Of the financial structures listed in Table 5, more traditional commercial debt and equity structures may be attractive for investors seeking direct financial returns instead of credit procurement. Commercial finance allows for a more direct translation of investment to return given the investment's delivery of company ownership, debt, or direct dividends. Commercial finance may be commonly used by large institutional investors such as pension funds, banks, or sovereign wealth funds.

On the other hand, carbon finance agreements appeal to entities interested in procuring large volumes of credits. Because the investment will yield carbon credits, there is often less direct financial return. However, some investors may realize their

return through the sale of carbon credits on the VCM. Carbon finance structures are more common with financial investors seeking to acquire carbon credits to sell on the VCM or corporate investors acquiring credits for their own use. Though carbon finance structures are more prevalent in today's market, commercial finance is becoming increasingly common as risk-adjusted returns become more attractive.[33]

- **Commercial Finance:** Investments seeking "return" in the form of equity or cash (i.e., debt, equity, royalties).
- **Carbon Finance:** Investments seeking "return" in the form of carbon credits (i.e., offtake agreements, streaming, etc.), which can then be used by the investors themselves or sold on the VCM.

© Carbon Tanzania

Table 5. Finance Structure Types. Adapted from CrossBoundary, USAID, Abatable, and AFF

Finance Structure	Investment Return/Yield	Types	Method	Investor Risks	Investor Benefits
COMMERCIAL FINANCE					
Debt	Principal and interest payments from project cash flows	· Market rate · Carbon Collateralize · Concessional / subordinated	Investors provide capital with an agreed payment plan. Loans or bonds may be structured at market rate or can use carbon credits as collateral, have extended / softer terms (concessional), or unsecured (subordinated).	· Forego potential upside benefit of carbon price increase · Unsecured loans will be junior to other priorities upon project failure	· Consistent and structured flow of principal and interest payments · Secured rate of return with interest rate
Equity	Dividends / Equity Value	· Partial ownership · Full ownership	An investor makes an equity investment in the project developer or fund. Dividends can be paid from credit sales or paid in credits themselves.	· Investor assumes a similar level of risk as the developer · Developer revenues may be variable	· Upside potential from carbon price increases or carbon credit volume outperformance · Direct ownership in entity as an equity holder for increased control and transparency
Royalties	Share of Revenues	· Royalty payments	Funding is provided in exchange for a share of the revenues generated by the project (primarily via the sale of carbon credits).	· Revenues are subject to variability due to market fluctuation	· Upside potential to benefit from market growth and success
CARBON FINANCE					
Offtake Agreement	Carbon credits	· Fixed or variable volume · Fixed or variable price · Emissions Reduction Purchase Agreement (ERPA) · Prepayment ERPA	An investor commits to purchasing carbon credits generated by the project (ERPA). Prepayment ERPA: Capital is provided prior to verification and delivery of credits.	· Risk of fewer credits if project does not deliver · Market prices may fluctuate, fixed agreement price could mean variable realized returns	· Flexibility in structuring agreement · Direct procurement of credits · Fixed agreement has upside potential to benefit from rising cost of carbon · Credits usually offered at discount for prepayment
Project Finance through Special Purpose Vehicle (SPV)	Equity / Dividends / Carbon Credits	· Non/limited recourse agreement · Offtake agreement	Consolidation of a project's assets and liabilities into a purpose-built vehicle. Similar to an ERPA, but with an equity structure where the investor owns a percent of the project's SPV.	· Risk of fewer credits if project does not deliver · Market prices may fluctuate, fixed agreement price could mean variable realized returns	· Flexibility in structuring agreement · Advantageous tax structuring considerations · Bankruptcy remoteness protection · Upside potential to benefit from rising cost of carbon · Large projects funded off-balance sheet · Increased control over project and direct credit procurement
Streaming	Carbon Credits	· Commodity streaming	Funding is provided in exchange for a percentage of the commodities (e.g., carbon credits) or royalties from revenues generated by the project over a specified period.	· Risk of fewer credits if project does not deliver · Market prices may fluctuate, fixed agreement price could mean variable realized returns	· Flexibility in structuring agreement · Direct procurement of credits · Upside potential to benefit from rising cost of carbon

Sources: *See endnotes for more information* [34,35,36]

One of the most common components of carbon finance is an offtake agreement, which is a contract between a project developer and a buyer whereby the buyer agrees *ex ante* (before credits are generated) to purchase a specified quantity of carbon credits from a particular project over a specified period of time according to a specified pricing schedule. The offtake agreement ensures the project has a guaranteed buyer for its credits, providing financial security for an investor to earn a return. Without offtake agreements in place, investors may earn higher returns through the sale of credits in the open market *ex post* (after credits are generated) since offtake agreement prices are often designed to represent discounts on future pricing projections, but this is a riskier strategy given VCM pricing fluctuations and demand uncertainty.

Quantity (volume), price, or both may be fixed or variable in an offtake agreement. With fixed volumes, the developer bears more delivery risk, while floating agreements mean the buyer takes on the risk of securing a sufficient number of credits.

Prices can also be fixed in advance to secure the project's costs and minimize variable returns when realized. In this way, fixed prices improve certainty and can reduce downside risk to both investors and offtakers, but may mean investors miss out on potential upsides of future market prices.

Alternatively, variable prices enable a project to capture the upside potential of rising carbon credit prices, which can be shared with project stakeholders, but have more associated market risk and could fail to cover project costs if carbon prices dip. Floor and ceiling prices can be used to cap downside and upside realized returns, respectively, where buyers pay a maximum or minimum of the reference price to limit their risk (at the expense of capping potential gains).[37] In some cases, a hybrid or combination of fixed and variable approaches may prove advantageous for the investor and the other stakeholders associated with the project.

While fixed and variable models have respective benefits and trade-offs for the investor, the impact on the community should also be considered. Fixed prices are likely to provide a steadier source of revenues to a local community and other stakeholders involved in the revenue sharing agreement; however, they may not benefit from market growth unless an upside sharing component is included. Variable prices more easily incorporate this upside sharing into the agreement but are also associated with downside risk. Floor prices can be implemented to limit downside risk, in turn helping ensure communities are protected from potential price declines in the VCM.

CASE STUDY:

Integrity Global Partners

Authors: Cheri Sugal, Integrity Global Partners and Lev Gantly, Philip Lee LLP

Integrity Global Partners' ("Integrity") mission is to unlock private capital for greenfield projects and scale existing NbS initiatives. It works to address core funding obstacles for early-stage financing that have undermined the ability of project developers and implementation partners to accelerate the scaling of high integrity carbon projects.

Nature-based carbon projects face unique hurdles compared to other investment opportunities in emerging markets. Early-stage financing for NbS projects typically takes two forms: "streaming" agreements, delivering a percentage of future credits or royalties over a specified period, or "pre-purchase" agreements, specifying a fixed volume and price.

Both structures present challenges, especially when used very early in the project development cycle because higher risks necessitate higher expected returns for investors. Streaming deals can yield excessive returns for the investor if not capped at a reasonable return, disadvantaging project performance and benefits to key stakeholders. Meanwhile, pre-purchase agreements that guarantee future delivery volumes can introduce challenges related to delivery shortfalls or failures.

In response to these challenges, Integrity advocates for a multi-tiered approach:

1. Early-Stage Project Financing:

Integrity enables early-stage risk capital by identifying and mitigating risks during the project design and pre-development stages --offering legal and technical due diligence, commercial structuring, and boots-on-the-ground support to co-design projects and grow local capacity. These early-stage investments into projects are linked to long-term implementation capital through options, first rights on carbon credits at prices to be set only after a thorough due diligence process, or debt that can be converted to equity in Special Purpose Vehicles (SPVs). This critical financing maintains the integrity of longer-term project financing by facilitating the placement of capital on more equitable terms than conventional methods.

2. The SPV Model and Sources of Implementation Finance:

Once a project's risks and benefits are thoroughly understood, Integrity forms project specific Special Purpose Vehicles (SPVs), ringfencing cashflows and assets for investors while ensuring a governance structure that safeguards appropriate benefit participation mechanisms.

Integrity's approach seeks to enhance SPV returns by designing projects with multiple revenue streams (agroforestry, tree crops, etc.) to attract commercial finance, alongside traditional carbon financing. Commercial finance, in the form of debt or equity, is more viable when investors have a comprehensive understanding of their long-term exposure. From an investor's perspective, taking an equity position in a project SPV is attractive not only because they would normally take a proportionate share in credit issuance volumes, but they can also feel much closer to the project. A further benefit of an investor having an equity position in the project SPV is the ability for that investor to sell the SPV to a third party to generate a ROI. Additionally, SPV structuring from the outset of a project paves the way for procuring debt finance at a later stage in the project's development from commercial banks or other, specialist financiers. This is particularly the case where the SPV is registered in a bankruptcy remote jurisdiction, meaning that a financier can take security over the shares in the SPV, which can be enforced in the event of default in the finance documentation, including insolvency of the project developer. The ability to take security over shares in an SPV that holds all of the project's assets is of critical importance, particularly because other forms of security in NbS project finance are uncertain and difficult to enforce.

Catalytic finance, comprising grants and/or concessional capital, also plays a crucial role in mitigating project risks and attracting commercial investors to opportunities that might otherwise fall short of their requisite risk/return criteria. Appropriately blending concessional and catalytic finance to address higher early-stage risk tranches is critical. Additionally, blended finance supports the broader environmental and community development goals of the projects.

Read more at https://www.integrityglobalpartners.com/

Stakeholder Mapping and Engagement

In addition to determining the right investment method and finance structure, assessing priority stakeholders and rightsholders and defining a strategy for their engagement is a key step in the initial stages of the investment process. Though each project will have a unique mix of stakeholders, the primary groups remain relatively consistent across projects the primary groups remain relatively consistent across projects, as demonstrated by Table 6 and Figure 4 below. Investors may not engage with all these stakeholders in each project, but it is important for them to understand what parties are most likely to be involved and at which stage of the project lifecycle.

It is important to distinguish between rightsholders and stakeholders in an NCS project. Each represents different groups with varying degrees of influence in a project:

- **Rightsholders**: Individuals or groups with entitlements over the land, carbon, or other resources associated with the carbon project. While their rights may often be recognized by law, they are often only recognized by custom or tradition. NCS projects and programs should respect these rights, and rightsholders should be compensated accordingly.

- **Stakeholders**: A broader range of individuals or groups that have a vested interest in the NCS project but may not necessarily have a legal or customary right over the project or resources.

Projects that do not incorporate full and effective community participation often have higher associated risks. Rightsholders and community members should be active participants in the conception, design, and implementation of the project. Investors should consider the following when evaluating a potential investment:

- Do all parties have equal access to legal representation, translators, or other resources necessary to have informed conversations about the project?

- Is the information provided to all parties accessible? Lawful? Promoting self-determination?

- Do all parties understand the likely positive and negative economic, social, cultural, and environmental impacts of the project?

- Has significant effort been made to facilitate equitable participation of all community members?

One useful resource is Ceres' Evaluating the Use of Carbon Credits, which contains more questions to consider while while evaluating if community participation is full and effective.

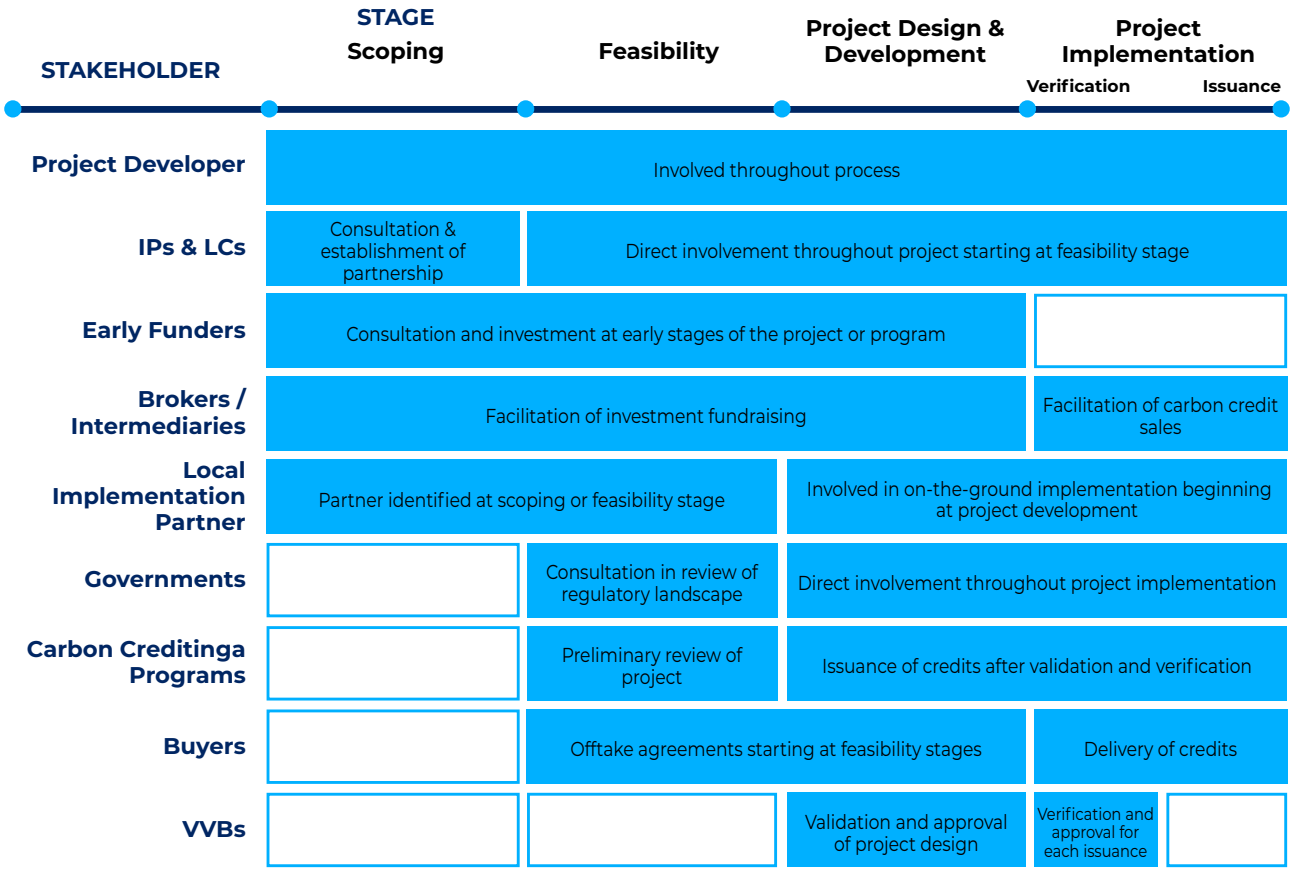
Table 6. NCS Credit Stakeholder Profiles

Stakeholder Profiles	Description	Examples	Motivation
Project Developer	Organizations designing and implementing projects in collaboration with partners on the ground, carbon rights holders and local communities. May be one of several project proponents organizing, proposing, or advocating a particular project.	Organizations developing NCS projects such as The Nature Conservancy, Carbon Tanzania, New Forests, Wildlife Conservation Society, and Wildlife Works.	Primary business function of rating and implementing carbon projects.
Indigenous Peoples and Local Communities (IPs & LCs)	Indigenous populations or residents within or in the surrounding area of NCS projects. Depending on their involvement, IPs & LCs may also be considered the implementation partner.	Communities in area, land stewards, Indigenous rightsholders, etc.	IPs & LCs may have claims to land and carbon rights and will be impacted by project operations (e.g., employment). Indigenous Peoples are often considered rightsholders, even if these rights are considered customary rather than statutory.
Early Funders	Organizations that provide grants and concessional capital at early stages.	Donors, philanthropic organizations, climate funds, etc.	Mitigating risks and attracting commercial investors in order to increase finance flows towards natural capital.
Brokers / Intermediaries	Organizations that help facilitate fundraising and / or credit sales.	See the CAR Carbon Market Directory or IETA Broker & Trader Member list for examples.	Receiving a brokerage fee or royalties from the proceeds generated by the sale of carbon credits.
Local Implementation Partners	Organizations responsible for on-the-ground operations of the project or program.	Can range from global nonprofits such as Conservation International to local universities or municipal governments.	Maximizing impact through efficient and effective implementation of the project.
Governments	Local- to country-level governments that regulate projects or tax revenues. May also authorize transfer of credits for use under compliance markets or jurisdictional programs. In some circumstances, governments may also act as a project proponent.	Host country governing bodies, provincial governments, etc.	Compliance with regulatory requirements and receipt of taxable incomes from carbon projects.

Carbon Crediting Program	Organizations that define the rules and methodologies for mitigation activities and issue credits once the validation and verification is complete.	ACR, Gold Standard, Plan Vivo, Verra, ART, etc.	Issuing certified credits to project developers aligning with their specific standards and metrics.
Buyers	Those parties offtaking credits from the developer / issuer or procuring credits from the VCM.	Credit offtakers or companies purchasing credits on the VCM.	Sale of carbon credits on the VCM for financial gain or retire credits for their own use.
Validation and Verification Bodies (VVB)	The parties involved with the validation and verification of carbon credits to ensure alignment with standards and frameworks.	Qualified, independent third-party auditors.	Determining the quality and consistency of carbon credits to ensure they meet the standard's requirements.

Source: *ERM/WBCSD*

Figure 4. Stakeholder Involvement Along the Project Timeline



Source: *ERM/WBCSD*

Projecting Cash Flows and Return Expectations

The timing and typical costs of capital and operating expenditures can vary significantly, even within the same type of project. As a general guideline, it is useful to differentiate between projects focused on protection and/or sustainable management and those focused on restoration. Capital expenditures for protection and management tend to be smaller compared to restoration, which can be more labor-intensive and require more investments in new physical and natural infrastructure.

The timing and amount of gross revenues from the sales of carbon credits can also vary considerably. Mitigation outcomes tend to be achieved sooner for protection and sustainable management projects, while restoration projects are often constrained by natural growth rates of vegetation and corresponding sequestration rates. And in addition to carbon revenues, both protection and sustainable management, along with increasing biomass stocks, can generate revenues from underlying non-carbon assets.

As a result, investors should be mindful of project budgets and understand how discounted cash flows change the net present values (NPV) of their investments. This is particularly important for balance sheet management, calculating internal rate of return (IRR), and risk control for carbon investors seeking to meet upstream investor or shareholder requirements.

The array of financing options available for NCS projects and considerations for cash flow and return analysis underscores the multifaceted opportunities to invest in nature-based solutions to address climate change and environmental degradation. Each type of investment plays a crucial role in supporting NCS initiatives at various stages of their lifecycle. But before investors can take action, they must first conduct comprehensive due diligence on any potential investments to ensure they are high-integrity projects that are suitable for their needs. As the urgency to combat climate change intensifies, promoting financial mechanisms that direct funding to NCS will be essential to scaling up investments in NCS and achieving meaningful climate action on a global scale.

3. Managing Risk in NCS Investment

This section provides investors with a structured framework for identifying and managing the principal risks relevant to NCS investment – while recognizing that many of these risks are common across all investment types and not unique to NCS. It complements the due diligence, legal, and portfolio guidance contained elsewhere in this Guide. Note that this section takes a maximalist approach to risk, intended to help investors understand the full range of protections available to them. It is not a prediction that all risks will materialize and should be read as an empowerment tool, rather than a deterrent to engagement.

A defining feature of NCS investment is the breadth and interconnectedness of its risk landscape. Risks do not operate in isolation - a land rights dispute can cascade into regulatory exposure; a natural disaster can compound counterparty risk if a developer's financial resilience is already stretched. Effective risk management therefore requires a systemic and proactive approach applied across the full investment lifecycle.

Critically, however, the greatest risk is inaction. Failure to deploy capital into NCS carries its own cost: reduced funding for climate-critical ecosystems, missed long-term returns, and a slower transition to the net-zero economy. This section is designed to empower investors to act with confidence, not to discourage engagement.

While the risks outlined below are real and often material, many can be effectively mitigated through robust structuring, due diligence, and ongoing management. Provided below are practical mitigation strategies aligned to each risk category, and readers are encouraged to review both sections together.

The Five Primary Risk Categories

It is useful to think about risk in two distinct buckets: (1) **asset integrity** - the environmental quality and integrity of the carbon credit itself (where ratings agencies and verification bodies assist); and (2) **delivery risk** - whether those credits will actually be issued and delivered (encompassing performance risk, natural catastrophe, and counterparty failure). Performance risk - under-delivery of credits due to operational, ecological, or financial factors - is a material risk and can be managed in part through contracting structures that only commit to a proportion of projected credits.

NCS investments face five distinct risk categories that can emerge at multiple points across a project's lifecycle - from concept through to long-term permanence monitoring.

These risks are not unique to NCS investments, but rather reflect the emerging nature of the asset class. With appropriate structuring and planning, many investors are already managing these risks successfully.

1. Counterparty Shortcomings

For investors, counterparty risk is among the most consequential, given the scale and long-term nature of capital commitments. It spans the full chain of actors an investor depends upon:

- **Project developers:** Abandonment or insolvency halts credit issuance and can strand capital with limited recourse. Operational mismanagement - exceeding project budgets, deviating from the approved methodology, or failing to maintain community support - can result in significantly fewer credits than projected, or none at all. Increasingly investors want to work with sophisticated project developers who have a good track record of developing high quality projects, have high levels of technical competence and expertise combined with good governance controls. Financial forecasting and cash flow management are also key factors to investigate.

- **Implementation partners:** On-the-ground partners may misuse project funds due to limited capacity or experience, with material consequences for project integrity and output. Do they have credible expertise and resources? For example when looking at reforestation projects can they supply sufficient numbers of seeds on a sustainable basis?

- **Carbon standards and registries:** If a standard ceases to operate, registered projects may lose status or credits. Is the registry robust and what happens in the event of a technical issue or fraud? Registration backlogs can create delays of months or years to credit issuance, directly affecting investor cash flow timelines. Can the project move to another standard if necessary?

- **Validation and Verification Bodies (VVBs):** The quality and independence of VVBs are critical to project credibility. Weak validation or inconsistent verification can lead to over-crediting, delayed issuance, or reputational damage. Capacity constraints among VVBs can also create bottlenecks, slowing project approval and periodic verification cycles. Investors should assess the track record, accreditation status, and potential conflicts of interest of the appointed VVB.

INVESTOR NOTE: Capital at Risk from Developer Failure

Unlike spot credit buyers, investors typically have substantial capital committed before credits are issued. Developer failure - through insolvency, fraud, or mismanagement - can result in total or partial loss of investment. Investors should seek structural protections: SPV-level ring-fencing, performance-based capital release, collateral arrangements, and robust contractual remedies. See the Carbon Contracts and Due Diligence sections for specific protections.

2. Natural Hazards

NCS projects operate in natural environments exposed to climate variability and extreme events. For long-duration investments, this exposure is likely to compound over time. However, action via investment in the NCS space will reduce this exposure through climate mitigation and adaptation impacts. It is also important to note that crediting-programme administered buffer pools provide a first line of defence against reversal events, offering a degree of protection to

investors and buyers without requiring individual project insurance.

- **Acute events:** Wildfires, cyclones, floods, and earthquakes can rapidly destroy sequestered carbon, triggering reversals - the release of previously credited carbon back into the atmosphere. This can invalidate issued credits and reduce future issuance volumes.

- **Chronic stressors:** Prolonged drought, sustained temperature increases, or persistent pests can progressively erode a project's sequestration capacity, leading to systematic underperformance against issuance forecasts.

Natural hazard risk is not static - it increases as the climate changes. Projects with a 20–30 year horizon will face materially different risk profiles in the 2040s than today. Financial models that do not account for climate trajectory are likely to overstate long-term credit volumes. What assumptions have been taken and how conservative are they?

INVESTOR NOTE: Permanent Capital Loss and Credit Reversal Risk

Natural disasters can render capital deployed in early-stage projects effectively unrecoverable before credits are issued. Even where a project survives, reversal events may invalidate credits already counted toward investor returns, or require drawdown of buffer pool reserves that would otherwise support future issuance. Digital MRV tools - satellite monitoring, remote sensing, GIS - provide investors with independent real-time visibility on project health and support early warning of hazard materialisation.

3. Changing Political and Regulatory Landscape

NCS investments are long-duration commitments made in jurisdictions where the legal and regulatory environment governing both the project and the carbon market is often subject to rapid change.

- Host country actions - including nationalisation of carbon projects, new taxes or fees on credit revenues, withdrawal of authorisations, and requirements under Articles 6.2 and 6.4 of the Paris Agreement that may affect whether credits can be used internationally. Does carbon market legislation exist and does it set out clearly what needs to be done to develop a project? What is the legal treatment of carbon assets? What is their track record on environmental action?

- Carbon standard and registry rule changes - revisions to accepted methodologies, eligibility criteria, or new restrictions on acceptable uses of voluntary credits - can fundamentally alter a project's economics. How do crediting periods apply to projects?

- Voluntary market governance shifts - evolving guidance from bodies such as the ICVCM or Science Based Targets initiative on acceptable credits can suppress buyer demand for specific project types, directly affecting investor revenue forecasts. Can credits be used in compliance markets such as the Singapore Carbon Tax or hybrids schemes such as CORSIA?

CAUTION: Elevated Risk for Long-Duration Investors

Regulatory risk is disproportionately material for direct project investors with 15–30 year horizons. Even incremental policy changes - tightening corresponding adjustment requirements, or shifting national positions on REDD+ - can materially affect credit value and usability over the investment lifetime. This risk is manageable for investors through scenario planning against regulatory change, not merely baseline assumptions, and ensuring contracts allocate political risks appropriately. Using a portfolio approach to invest across multiple jurisdictions and activity types also materially reduces the impact of any single country's regulatory shift on the overall investment programme.

4. Unsecured Carbon and/or Land Rights

Land tenure and carbon rights are foundational to any NCS investment. The complexity of this risk stems from several sources. Note that investing in jurisdictional REDD+ (JREDD+) programmes, where the host-country government is itself the programme developer, can significantly reduce land and carbon rights risk, as government involvement provides a stronger foundation for authorisation and reduces the likelihood of expropriation or competing claims.

- Variation by jurisdiction - each country treats land ownership and carbon rights differently. In many developing economies, formal title systems coexist with customary and indigenous tenure regimes, creating ambiguity about who holds the right to sell carbon.

- Absence of legal clarity on carbon as an asset - in many jurisdictions, whether carbon ownership follows land ownership or can be separately assigned is not settled. This creates title risk for investors holding carbon rights through contractual rather than statutory means.

- Government expropriation and competing land claims - rights disputes can be triggered by government action, competing resource extraction interests, or unresolved local disputes predating the project.

- Free, prior and informed consent (FPIC) – have local people and indigenous communities been consulted properly and have all local and international norms been followed? How do project benefits get shared with local people?

- Succession and permanence risk - for long-duration projects, the transfer of land rights on death or sale of land by underlying landowners, particularly in aggregated smallholder projects, creates ongoing title vulnerability that is difficult to fully contract for.

INVESTOR NOTE: Structural Exposure and Security Arrangements

Land and carbon rights risk is particularly acute for investors with equity positions in special purpose vehicles or debt secured against project assets, since the value of their security depends directly on the project's ability to generate and sell credits. Investors can manage this risk category by engaging both international and local legal counsel to assess ownership chains rigorously before committing capital. See the Legal Considerations chapter for detailed requirements.

5. Market Price Volatility

The Voluntary Carbon Market remains at an early stage of development. Limited price transparency, rapid shifts in buyer sentiment, and regulatory announcements create a volatile pricing environment for investors:

- **Downside price risk:** Investors entering long-term offtake agreements at today's prices may find commitments devalued if market prices fall significantly, reducing the investability of similar projects and limiting secondary market options.
- **Upside constraint risk:** Overly conservative price assumptions may make viable high-integrity projects appear unattractive. High-integrity NCS credits have historically commanded a significant premium and are likely to continue doing so as market standards tighten.

To mitigate market price risk, project developers can enter into offtake contracts with buyers who will fix the price of the credits upfront. This has the benefit of increasing certainty over revenues (assuming the credits are delivered) but does constrain participation in upside revenues in the event future credit prices were to increase. Where investors are looking for debt financing an offtake agreement that ensures that the project generates sufficient cashflow to service the debt may be insisted on by the lenders. In future, as the market for carbon credits matures, other market risk management tools may become available but that is beyond the scope of this paper. Corporate investors face an additional consideration: evolving claims guidance may reduce their ability to use credits toward public climate commitments, even if the credits retain financial value. This demand-side market risk is distinct from project-level price risk. Investing in high quality credits should mitigate this as there should be a ready secondary market for those credits in future.

Risk Exposure Across the Investment Lifecycle

Investor exposure to these five risk categories varies significantly by investment type and project lifecycle stage. The earlier the entry point, the greater the aggregate risk exposure - but also the greater the potential return and the degree of influence an investor can exercise over project design and quality. Table 1 below summarises risk exposure by investment type. It should be read alongside a consideration of the corresponding benefits of each structure, which are summarised in the text above: earlier-stage investment offers greater influence, higher potential returns, and the opportunity to shape high-quality projects from the outset.

Early-stage and concept-stage investment carries the highest risk across all categories, including the possibility that projects fail to reach validation or registration. It also provides the greatest opportunity to shape project design, stakeholder arrangements, and long-term community benefit structures.

Validated project offtakes reduce registration and validation risk, but investors remain exposed to delivery, natural hazard, and regulatory risks through the issuance lifecycle.

Offtake agreements for already-issued credits carry the lowest investor risk profile, though market price volatility and counterparty risk are not fully eliminated.

Table 7. Investor risk exposure by investment type

Investment Type	Natural Disasters	Counterparty	Political/ Regulatory	Land/Carbon Rights	Price Volatility
Offtake: Payment on Delivery	Medium	Medium	Medium	Medium	Low
Offtake: Pre-Pay	High	High	High	High	Low
Direct Project Investment	High	High	High	High	High

Taken together, these risks underscore the importance of thoughtful investment design rather than acting as barriers to entry. The following section outlines practical steps investors are already using to mitigate these risks and unlock the full potential of NCS investments

Risk Management Tools for Investors

Four practical risk management tools are available to investors. They are complementary - no single tool addresses all risk categories, and the most resilient investment programmes deploy them in combination.

Table 8. Effectiveness of risk management tools by risk category

Risk Category	Due Diligence	Portfolio	Contracts	Insurance
Natural hazards	Moderate	Strong	Limited	Strong
Counterparty	Strong	Moderate	Moderate	Moderate
Political/regulatory	Moderate	Moderate	Limited	Moderate
Unsecured Land/Carbon Rights	Strong	Limited	Limited	Moderate
Market Price Volatility	Moderate	Moderate	Moderate	Limited

Due Diligence

Due diligence is the foundation of sound NCS investment - the only tool that meaningfully addresses all risk categories – commercial, reputational, regulatory and operational - at every stage of the investment lifecycle. For investors, it must go beyond the project itself to encompass the full counterparty chain. The following section translates these principles into a structured due diligence process, including screening approaches, detailed assessment criteria, and practical questions investors can use to evaluate NCS opportunities. At minimum, investor due diligence should cover the following core areas:

- **Commercial and financial integrity**: Assessment of credit issuance forecasts, price assumptions, project budget realism, and the developer's track record of delivering comparable projects.
- **Counterparty reliability:** Evaluation of financial strength, governance, and past performance across the full counterparty chain, including developers, implementation partners, standards, and VVBs.
- **Environmental and social performance:** Assessment of biodiversity and community impacts beyond carbon, including quality of the grievance mechanism and adequacy of revenue sharing arrangements.
- **Regulatory alignment:** Verification that the project holds all required authorisations, that Article 6 corresponding adjustment requirements are understood, and that exposure to foreseeable policy shifts has been modelled.
- **Land and carbon rights:** Independent legal review of the ownership chain, the treatment of carbon as a legal asset in the jurisdiction, FPIC compliance, and any pre-existing encumbrances.
- **Natural hazard exposure:** Technical review of vulnerability to acute and chronic natural events, the adequacy of buffer pool reserves, and whether adaptive management strategies are in place.

Digital MRV tools - satellite imagery, remote sensing, LiDAR, and GIS - provide investors with independent monitoring of project performance between formal verification cycles, though this monitoring may not align with the MRV requirements of the standard used to issue credits. The Nature Tech Collective's *Nature Fintech Sector Map* lists over 400 relevant providers.

Limitation: Like all investments, NCS carries residual risk that cannot be fully eliminated through due diligence - data gaps, rapidly evolving political contexts, and unpredictable natural events may persist despite rigorous review. Investigative costs in complex jurisdictions can also be substantial. This is the nature of risk-adjusted returns; the goal of due diligence is to understand and price risk appropriately, not to eliminate it.

Portfolio Approach

A portfolio approach involves structuring investments across multiple project types, geographies, project developers, credit vintages, and investment structures. For investors, a well-constructed portfolio:

- **Distributes natural hazard risk** across geographies with different climate vulnerability profiles, so that a catastrophic event in one region does not undermine the entire portfolio.
- **Limits counterparty concentration** by sourcing from multiple developers, so that insolvency or underperformance by a

single counterparty does not threaten the entire investment strategy.

- **Hedges regulatory risk** by mixing project types and host jurisdictions, so that a policy change adversely affecting one project type has a contained portfolio-level impact.
- **Manages price volatility** by combining project types with different price dynamics and mixing spot-market and long-term offtake positions to balance cost certainty with supply security.
- **Enables best-practice alignment** by maintaining flexibility to respond as standards evolve - balancing reductions and removals, integrating co-benefits, and adjusting to market guidance.
- **Manages impermanence and delivery risk:** having multiple projects across different jurisdictions, developers and project types creates a form of internal insurance against underdelivery or project reversal.

Limitation: A diversified portfolio is substantially more operationally complex. Systemic risks - a major market-wide reputational event or sweeping regulatory overhaul - can still impact a well-diversified portfolio.

Carbon Contracts

For investors, carbon contracts are the primary mechanism for allocating risks between parties and defining remedies when a project fails to perform. Risk should be allocated to whichever party is best placed to manage it. From an investor's perspective, key protections include:

- **Clear price and delivery schedule**, including inflation protection
- **Clearly defined deliverable**, e.g. ICVCM CCP-eligible credits
- **Flexibility for the offtaker on shortfall remedies**, including make-good provisions
- **No financial penalties imposed by the offtaker** in the event of developer default
- **Flexible force majeure** (FM) **or change in law** (CiL) provisions
- **Ability to change standards, developers, or VVBs** within a clearly defined process
- **Assignability of the contract**
- **Clear delivery priority** relative to other contractual obligations
- **No opt-out or downward volume flexibility** for the offtaker
- **Clearly defined events of default and remediation mechanisms**, including failure to pay or take delivery
- **Performance-based capital release**, with disbursements linked to project milestones (e.g. validation, registration, first issuance) rather than unconditional release
- **Collateral credit provisions**, allowing investors to hold a reserve of credits transferable at agreed milestones to buffer against non-delivery
- **Clearly specified remedies**, including replacement obligations, price adjustments, early termination rights, and treatment of pre-paid capital, while ensuring proportionality to avoid increasing project failure risk
- **Disclosure and cooperation obligations**, requiring proactive communication

of material events (e.g. land disputes, regulatory changes, audit findings, safeguarding incidents)

- **Reputational and integrity provisions**, including crisis response protocols, cooperation on communications, and adherence to governance and disclosure standards

- **Counterparty accountability provisions**, covering negligence, business integrity, revenue-sharing transparency, and accountability across the value chain

Investors new to carbon contracting are encouraged to review the IETA's standardised *Emission Reduction Purchase Agreements* as a reference framework.

Limitation: Contracts are only as effective as the counterparty's ability to honour them. They provide limited protection against risks outside the seller's control - natural disasters, government expropriation, force majeure. Enforceability in some jurisdictions can be uncertain. Contracts should be used alongside other tools, not as a standalone protection.

Insurance

Carbon insurance allows investors to transfer high-impact, low-frequency risks to a specialist insurer. It is particularly suited to catastrophic risks beyond the control of any project actor that could result in significant capital loss.

- **Natural disaster cover:** Protection against destruction of carbon stocks through wildfires, cyclones, floods, and droughts - risks the broader insurance industry has managed for centuries.

- **Counterparty protection:** Insurance against fraud, negligence, abandonment, and insolvency on the part of project developers, carbon standards, and VVBs - extending beyond what can be secured contractually.

- **Parametric insurance:** pays out a pre-agreed, fixed amount when a specific, objective trigger event occurs (e.g., hurricane wind speed, earthquake magnitude, or rainfall level), rather than indemnifying actual losses incurred. It offers rapid, often automatic payouts without lengthy loss adjustments, making it ideal for covering natural disasters.

- **Political risk insurance:** Protection against government expropriation, confiscation, discriminatory regulation, or forced nationalisation - particularly relevant in jurisdictions with less stable governance.

- **Land and carbon rights insurance:** Land and carbon rights insurance: Emerging insurance products are being explored to provide coverage where government action undermines the legal foundation of a project's carbon or land rights - an increasingly important consideration as host countries assert greater control under Article 6.

Limitation: Carbon insurance does not effectively address market price volatility. Claims processes can take three to six months, making it unsuitable for frequent disruptions. The market remains nascent, and not all risks can be insured at reasonable cost. Most carbon insurance contracts are also short-term in duration - typically a few years - and must be renewed, creating continuity risk for long-duration investments. The products themselves are largely untested in practice, and there is limited claims history to establish how insurers will respond in a major loss event. Insurance should be assessed as part of a broader risk management strategy.

See the KITA report *Gross Written Carbon: Are carbon credits the next billion-dollar insurance market?* for further information.

Managing Reputational Risk

Even where financial risks are well-managed, investors may face reputational scrutiny from media, advocacy groups, and stakeholders - particularly in relation to land rights and FPIC processes, safeguarding incidents, community disputes, credit delivery failures, and adverse regulatory developments.

Reputational risk can materialise rapidly and be disproportionate to the underlying event. A project-level incident with modest financial impact can generate significant reputational damage if the investor is perceived as having failed to exercise appropriate oversight.

Recommendations for investors:

- **Establish a crisis readiness framework** before an incident occurs - including pre-approved holding statement templates, designated spokespeople, and scenario planning for the project risks most likely to attract scrutiny.
- **Require developers to maintain their own crisis protocols** and cooperate with investor communications in the event of a dispute - ideally embedded as a contractual obligation.
- **Conduct stakeholder and risk mapping** to identify which project-level risks carry the greatest reputational consequences for the investor organisation, and which external audiences would need to be engaged.
- **Document due diligence thoroughly** so that, in the event of a project issue, the investor can credibly demonstrate that risks were assessed and responsible decisions were made, even if some risks materialised despite best efforts.
- **Prioritise community-centred communications** in any public response - centring the perspectives of affected communities and avoiding reactive or defensive messaging that could be perceived as prioritising investor interests over community wellbeing.

4. Due Diligence: Evaluating the Integrity of NCS Projects

Building on the core due diligence principles outlined above, this section provides a practical framework to identify NCS opportunities with verifiable impacts on carbon reduction, positive nature, and community outcomes. Investors must scrutinize the risks and merits of individual NCS projects along four pillars: commercial, reputational, regulatory, and operational. Doing so not only helps investors avoid risks and increase returns but also maximizes positive impact and improves quality standards for transactions on VCM.

Recommendations for Investors:

- **Complete preliminary desktop screening to determine whether an NCS investment opportunity is strategically aligned with your objectives.**
- **Conduct deep technical due diligence to assess commercial, reputational, regulatory, and operational risks. Fill data gaps through field visits and stakeholder interviews.**
- **Conduct a thorough review of environmental and social issues to ensure that IPs & LCs are on board, and the project has positive impacts beyond carbon.**

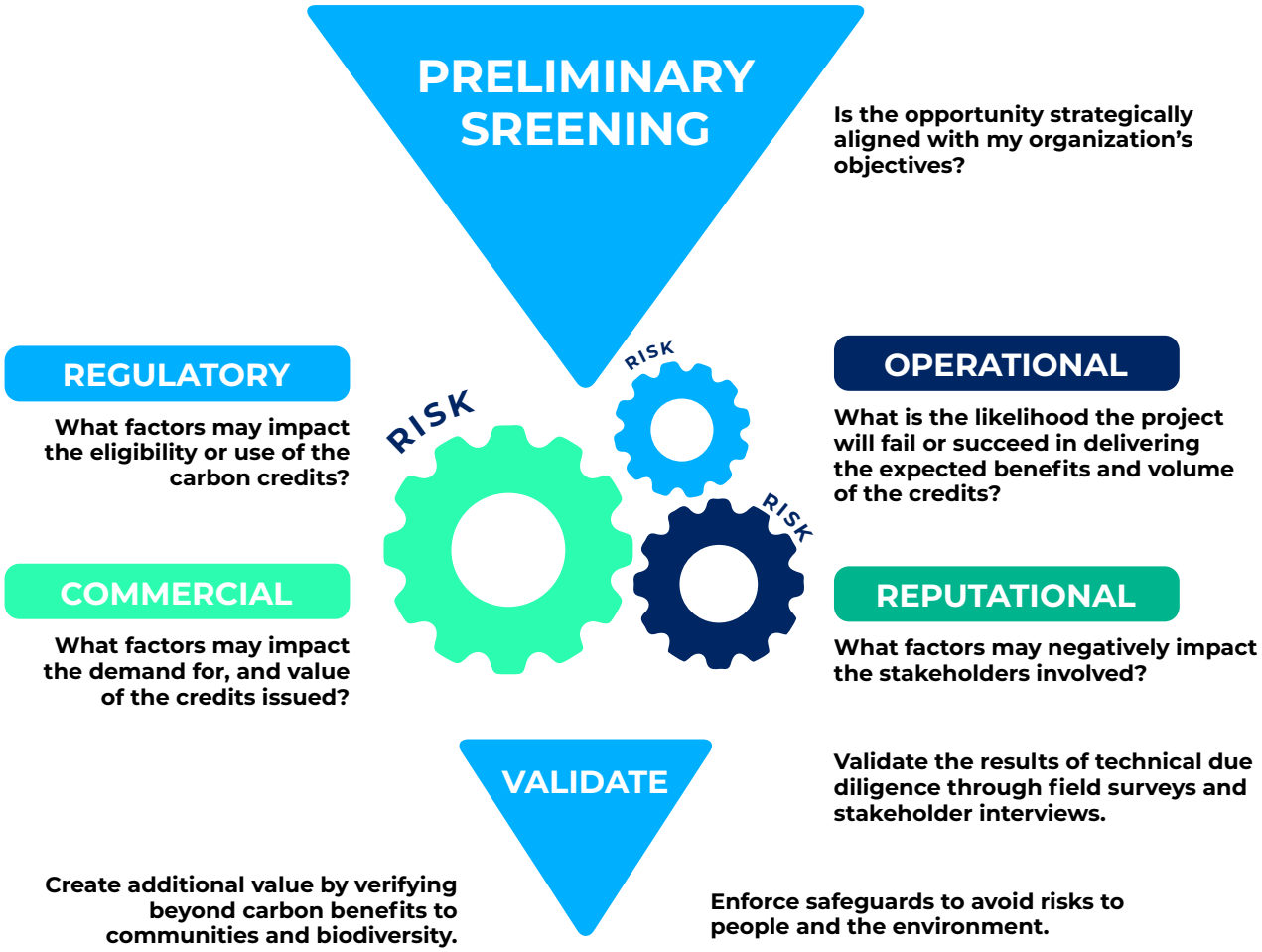
Preliminary Screening: Assessing General Alignment

NCS projects typically require substantial upfront capital and may rely on additional commitments of capital beyond the time frame when credits are issued. In addition, NCS projects often can have a significant time lag to generate returns (e.g., 5 - 10 years) and lengthy project life. The earlier in a project's development and implementation lifecycle, the greater the risk that the project will not proceed, be validated, or issue credits. Proper due diligence procedures can help mitigate this risk while determining the project's ability to deliver positive biodiversity and social impacts.

As a thorough technical due diligence review of an NCS proposal is likely to be a time consuming and expensive component of the investment planning process, organizations should begin with a preliminary screening to assess the investment opportunity's general alignment with their values and strategic objectives.

This type of desktop screening can filter out a large volume of projects, saving time and budget (Figure 5). As illustrated by the Respira Investor Spotlight, answering fundamental questions related to minimum volume requirements, contracting terms, and scheduling expectations helps to streamline the due diligence process.

Figure 5. NCS Investment Opportunity Screening, Risk Mitigation, and Value Creation Throughout the Due Diligence Process



Source: *ERM/WBCSD*

Caption*: NCS investment due diligence should start with preliminary screening to assess if the opportunity aligns with the investor's goals. If aligned, further due diligence is required to address the four risk categories.*

CASE STUDY:

Respira International's Investment Structure and Sequence of Due Diligence

Respira International is an impact-driven carbon finance business that channels private capital into nature-based projects. Respira enters into long-term, large volume carbon off-take agreements with leading NbS projects globally spanning REDD+, reforestation, mangrove restoration, and soil carbon. Examples of projects include the world's largest mangrove restoration project (Delta Blue Carbon), the world's largest soil carbon project (Northern Kenya Grasslands), and a series of community-based REDD+ projects with leading conservation organizations in Africa (Ntakata, Makame, Luangwa, Gola).

Respira was founded in 2019 with the 'Respira Carbon 1' (RC1) investment vehicle, raising balance sheet capital from private investors. This capital was used to finance long-term off-take contracts with project developers for carbon credits at a fixed price. These credits are then taken on to Respira's balance sheet as assets and sold on the VCM. If credits are sold at rates above the floor price, profits are shared with project developers and fund investors. This structure allows project developers to plan with financial certainty, unlock additional capital, and participate in carbon price appreciation.

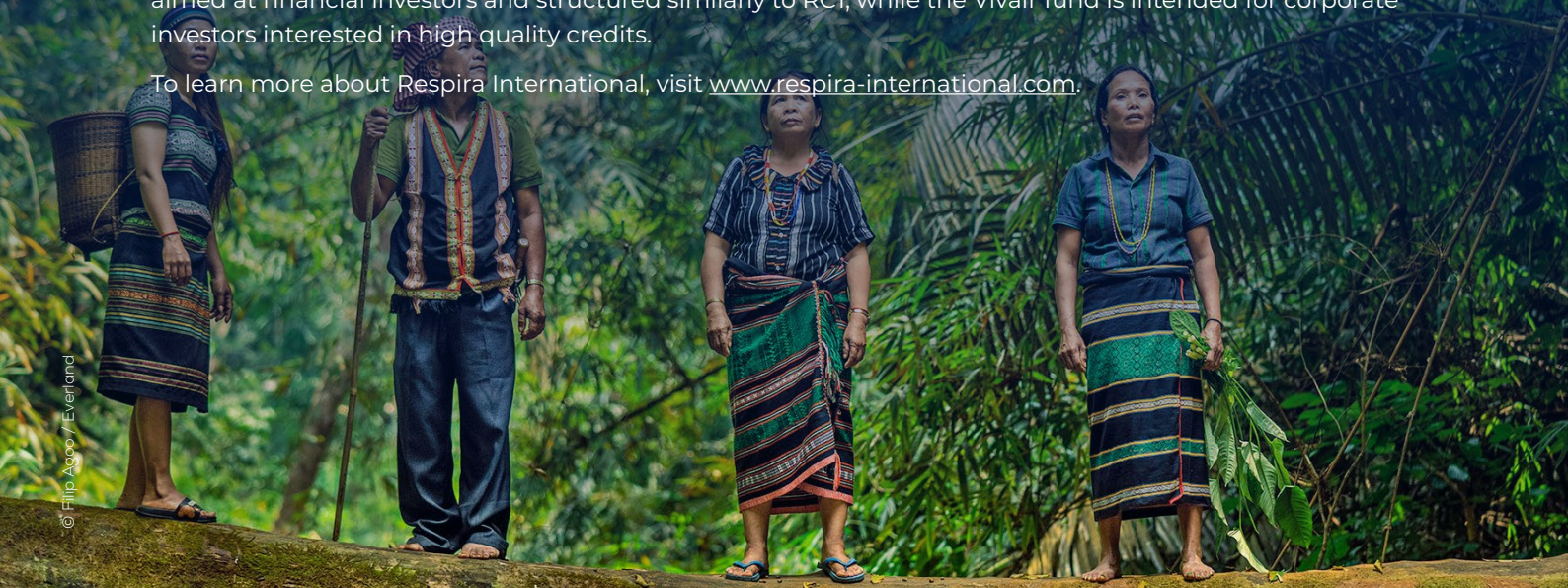
When evaluating projects to include in their investment vehicles, Respira's preliminary (commercial) screening process weeds out as much as 90 percent of potential projects. If there is no strategic or investor alignment, a potential investment will not advance to technical detail review.

- Questions used in Respira's preliminary commercial screening process include:
- Is there strategic alignment between the project and investment fund?
- Is there pricing alignment between the credits and desired revenue streams of credit sales?
- Will the project meet internal rate of return (IRR) requirements?
- Does the project meet minimum volume requirements? Can it be scaled?
- What are the schedule expectations (e.g., time to issuance and frequency, expected cash flows)?
- What are the high-level contracting terms?

Once the preliminary screening is complete, due diligence moves to the technical stage and evaluates the topics outlined in the NCSA Buyer's Guide, scores from ratings agencies, and takes a closer look at community engagement and biodiversity impact through desktop reviews and site visits.

RC1 has thus far contracted over 20 million tons of CO_2 from over 10 projects, and the sale of credits has enabled expansion into new investments. It has also delivered attractive returns for the fund's investors. Coming off the success of RC1, Respira is opening two new funds: The Respira Carbon 2 fund will be aimed at financial investors and structured similarly to RC1, while the Vivair fund is intended for corporate investors interested in high quality credits.

To learn more about Respira International, visit www.respira-international.com.



© Filip Agoo / Everland

Due Diligence: Assessing Risks to Maximize Positive Impact

If the opportunity passes the initial screening, deeper levels of due diligence are then warranted to address commercial, reputational, regulatory, and operational risks. This phase should also assess and validate potential returns and allow the investor to better understand the operations of project partners and stakeholders.

Successful NCS investment opportunities are characterized by experienced and capable delivery teams, legal and regulatory compliance, positive impacts on local people and the environment, human rights protection, attractive risk-adjusted returns, and a supportive and stable political and regulatory landscape.[38] Table 7 below provides a sample list of due diligence questions that can help investigate various aspects of commercial, reputational, regulatory, and operational risks.

While the sample questions in Table 7 are framed to evaluate the integrity and quality of a single project, investors may leverage these topics to explore multiple projects in a portfolio, the qualifying criteria of an investment fund, or the track record and qualifications of a project developer.

Projects that are early in the development and design stage may not be ready to provide answers to more detailed due diligence questions. Investors may take this opportunity to influence elements of the project design or influence certain conditions that can not only reduce financial risk but also increase the value of the credits issued.

> ***"The scope of NCS projects is becoming more mainstream, but the education needs to catch up. These projects might be on the desk of people who have operational experience, but don't know about land rights and the social dimensions, thus might not be the most successful in project planning. Investors need to pay attention to not only the project but also who they're working with."*** *– Alain Frechette, Director of Rights, Climate and Conservation, Rights & Resources Initiative*

Table 9. Due Diligence Questions to Assess NCS Investment Integrity

Critical Question	Supporting Questions	Risks Addressed

Is the project realistic and feasible?	• Will or does the project follow a credible and robust standard (see Table A3) and methodology?
	  · Is the methodology ICVCM eligible?
	  · Is the methodology CORSIA eligible for aviation compliance?
	  · Are there any upcoming changes to the standard or methodology that might impact the volume of credits issued?
	  · Are there similar projects in the region using the same methodology? What are the key similarities and key differences?
	• Is the project located in or planned for a country or region that is receptive to carbon credits from a social and legal perspective? What is the level of political risk there? Consider the VCM Investment Attractiveness Index or other similar metrics.
		• Commercial
		• Reputational
		• Regulatory
		• Operational

Have local communities and stakeholders been properly engaged in project design, planning, and/or delivery?	• Is the project designed to follow a collaborative approach with full and effective participation from IPs & LCs? • Has FPIC been properly implemented? If not, are there clear plans to initiate and carry out FPIC as well as stakeholder engagement? • Is there a community engagement plan and does it follow best practice for stakeholder engagement? • Have human rights been appropriately addressed both for the project implementation team and affected community members? Does the project recognize the rights of Indigenous Peoples and local communities? • Are current and/or future revenue sharing systems adequate to incentivize permanence, sufficient over the entirety of the project life, stable under various scenarios, fair and justifiable under scrutiny, and reflective of stakeholder input? (See the following chapter for more information on revenue sharing) • Who owns the land? Is land ownership contested in any way? What will happen to the land and landowners at the project's conclusion? • Are there customary or overlapping land rights? • Has the project included gender considerations of local communities and impacted stakeholders? • How long have the developers and/or implementation partners operated in the area, and are they connected with or embedded in the affected communities? • Who will be the ultimate beneficial owners of the project? • How will concerns from IPs & LCs be addressed?	• Commercial • Reputational • Operational
Are the carbon credit projections reasonable?	• Is there a project design document (PDD) available? If not, is there sufficient information in the existing draft PDD and/or feasibility studies to evaluate carbon stock and emissions calculations? • Does or will the project demonstrate additionality based on the standard requirements? Would the additionality case be justifiable under media scrutiny and market-driven quality expectations? • If previously prepared, are the project baseline and sequestration projections supported by scientifically sound and/or peer-reviewed data? How do the rates compare to similar systems in published literature? • If previously prepared, have the growth models been properly implemented and are the correct default values being integrated? • Is there a monitoring, reporting, and verification (MRV) system in place to monitor changes over time? • Has the effect of future climate change on the carbon stock and emissions calculations been assessed?	• Commercial • Reputational • Operational
Has (or can) proper title to carbon been obtained?	• Is there evidence that the project developer has or will secure sufficient rights to the project and carbon, and that these rights have been obtained from the correct legal entity? • What is the plan for obtaining carbon rights to emissions reductions (ERs)? Is there or will there be a chain of title available for the ERs? • If available, is the land agreement sufficient and reasonably enforceable? Do the terms cover the length of the project?	• Commercial • Reputational • Regulatory • Operational
Does the project do no harm and/or generate net biodiversity gains?	• Is the project in an area with significant local, regional, or global biodiversity resources? • Will the project result in positive or negative impacts to local and/or regional biodiversity? • How will changes to biodiversity be measured and reported? • Has or will the project be evaluated under a quality framework that incorporates biodiversity, such as Verra's CCB or SD VISta, the TCFI?	• Commercial • Reputational • Operational

Is the project developer capable of delivering the project?	• Who is or will be responsible for the various elements of project implementation (habitat restoration, community liaison, project accounting, project monitoring and verification, registry management, etc.)? • Does the project development team have sufficient and relevant technical experience to deliver the work and comply with the requirements of the methodology, including QA/QC procedures, statistical methods, sample design, and/or use of models? What gaps are present, and are there plans to fill the gaps? • Does the team have a track record of delivering similar projects? • Who is responsible for the ongoing maintenance of the project and for funding supporting technologies? • What is the project developer's strategy for ensuring local and regional capacity development, to underpin long term project management? • Does the project developer have their own health and safety, equity, gender inclusion policies, etc.?	• Reputational • Operational
Does the project team and / or project developer have the financial ability to deliver the project?	• Has the project team reasonably calculated the costs of implementation and left sufficient buffer to cover time, cost, and other overruns? • How do budgeted costs compare against industry norms? • How conservatively or aggressively have the carbon volumes and credits been priced? What assumptions underly the volume and value estimates, and how might they change under various scenarios? • Do the key participants (project developers and/or implementation partners) have a strong balance sheet to complete the work? Does the financing plan provide reasonable funding based on KPI achievement such that it is sufficient to minimize capital exposure while providing continued incentive and buffers? • Where there are delays or failures with a project, what sort of safeguards have been implemented (e.g., insurance)?	• Commercial • Operational
Are there reputational red flags?	• Does the developer, the delivery team, or any of the partnering organizations have a history of sanctions, litigation, or permit violations? • Do the parties involved have a history of positive or negative press coverage? • Has there been specific media about the project or similar projects? • Are there robust social and environmental safeguards in place which ensure no harm to people and biodiversity? How will those safeguards be maintained? • Is there evidence demonstrating positive environmental and/or social impacts (e.g., for local biodiversity, water resources, gender equity, and/or livelihoods)? • Has the project been rated (e.g., Sylvera, Calyx, BeZero, Renoster) (see Table A4)? If so, what are the ratings and how were they determined?	• Reputational

Source: *ERM/WBCSD*

Note: This is not a comprehensive list of due diligence topics. Rather, it is intended to provide a sample of questions supporting the investigation of key categories of risk.

The investor may reprioritize components of the review criteria if investing into a fund or direct to the project developer. An investor in a fund may be more interested in the manager's skills, operations, plans, and track record of success. Prospective investors in project developers will want to evaluate the capabilities, management, successes, and reputation of the developer itself, in addition to conducting due diligence on existing and future pipeline of projects.

Investor due diligence is rooted in many of the same principles that companies consider in their own evaluation of long-term carbon credit purchasing agreements, and there are many existing frameworks that outline criteria for buy and supply-side quality (see Table A3 in Appendix 4).

© Filip Agoo / Everland

CASE STUDY:

A Global Energy Company's Approach to Due Diligence

A global energy company consulted for this project uses a multi-stage due diligence process that incorporates distinct criteria for evaluating carbon credits, projects, and project developers. Due diligence criteria associated with investing in projects include financial additionality, permanence, leakage, community and biodiversity benefits, and real, conservative, and measurable credit projections.

The company's project investment due diligence follows three stages:

1. **Desktop and public domain research:** A desktop review of materials provided by the developer and information in the public domain is conducted to identify red flags and crucial data gaps. Most projects are rejected by the company at the desktop stage.

2. **Direct engagement with the developer:** If a project makes it past the desktop stage, a more detailed review occurs where stakeholder interviews and/or field visits are held to fill data gaps and validate the information found in the initial desktop screening.

3. **Independent review:** Lastly, independent due diligence is conducted to verify key project design and implementation details such as land ownership, human rights, project security and safety, land tenure, site location, overlap with indigenous areas and/or other protected areas, management plans, methodology, project finances, and revenue sharing.

When exploring direct project developer investment, the company focuses on the project team and organizational structure (experience, composition, management plans) and reputation (scores from rating agencies, reputation, and press).

Whether conducting due diligence on credits or developers, less than 25 percent of projects reach sufficient integrity standards for the company to consider purchasing credits.

Ensuring Positive Environmental and Social Impacts Beyond Carbon

Ensuring positive impacts on communities and the environment is a core part of the due diligence review process. In the early development stages, project proponents should show plans or clear intent to measure, monitor, and report environmental and social impacts throughout the project's life. Guaranteed compliance with the stated revenue sharing and distribution among stakeholders can also help to ensure high quality outcomes to IP & LCs.

Projects designed to fulfill robust third-party verification programs for biodiversity and social impacts, such as Verra's Climate, Community, and Biodiversity (CCB) Standard, ART's forthcoming Beyond Carbon Benefits certification, and the Program for the Endorsement of Forest Certification (PEFC) for forest projects should be viewed with an additional level of confidence from investors but should still be accompanied by a detailed review. In some cases, investment-oriented ESG guidance such as the IFC Performance Standard or the Equator Principles can be applied as proxy principles to help identify potential issues related to social and environmental impacts or governance considerations such as FPIC and gender equity.

By prioritizing these environmental and social safeguards, an investor not only reduces investment risk but can also create additional value. Based on 2024 market data, credits with certified environmental and social benefits demonstrated a significant price premium.[39] Measurable positive impacts on biodiversity and communities therefore not only improve the success of the project on the ground but its market value as well.

The Role of Free, Prior, and Informed Consent (FPIC)

Layering ESG standards with those designed for carbon credits can help ensure that the project adheres to high-integrity market criteria and that human rights have been adequately protected. Consideration of the right to Free, Prior, and Informed Consent (FPIC), a right granted to Indigenous Peoples under the UN Declaration on the Rights of Indigenous Peoples (UNDRIP), is particularly important for NCS project integrity. FPIC aligns with the universal right to self-determination, as well as the right to freely pursue economic, social, and cultural development (FPIC Manual - FAO). Inclusive participation of IPs & LCs throughout all stages of a project minimizes risk, such as disputes and other forms of conflict, harm to Indigenous Peoples and their territories, and damage to the reputation of the implementing organization.

Gender Equity as an Indicator of High-Quality

Projects with demonstrable community impacts should also consider gender equity as a key component of success. Gender equity, or the fairness of participation, decision-making, treatment, outcomes, and benefits based on gender, can be negatively or positively impacted through the stakeholder engagement and project design and implementation phases. In some cases, women have unequal participation in decision-making processes and labor markets, which compound inequalities and often prevent women from fully contributing to climate-related planning, policymaking, and implementation. Occasionally, project development and implementation can shift gender norms and roles, either positively or negatively, which can influence a project's operational and reputational risk.

Organizations such as Women Organizing for Change in Agriculture and Natural Resources Management (WOCAN) have created standards to measure women's empowerment in a transparent and quantifiable manner. The W+ standard, which measures time savings, income and assets, health, leadership, education and knowledge, and food security for women, can be integrated into existing or new projects. Similarly, the 2X Challenge, a flagship initiative under 2X Global, was launched in 2018 as a commitment by Development Finance Institutions (DFIs) to collectively mobilize USD$3 billion in private sector investments in developing countries over 3 years. These investments specifically provide women with improved access to leadership opportunities, quality employment, finance, enterprise support, and products and services that enhance their economic participation and access.

© Muswema Chandra

5. Shared Success: Determining a Fair and Equitable Revenue Sharing Agreement

Indigenous Peoples and local communities play a critical role in the success of an NCS project and should be compensated accordingly. Revenue sharing agreements help ensure that rightsholders and stakeholders are fairly compensated for their time, resources, and contributions to the project while enabling a long-term positive impact on livelihoods and ecosystems. Investors should carefully review a project's revenue sharing agreement to ensure it meets the needs of rightsholders and shareholders while aligning with their own investment objectives.

Recommendations for Investors:

- **Determine the status of a potential investment's revenue sharing agreement; if already implemented, determine what parties have been involved in its development.**
- **Incorporate all revenue streams generated by the NCS project; review the agreement for specifications on how the revenue will be distributed.**
- **Ensure the project proponent is regularly engaging with relevant stakeholders and has established independent grievance mechanisms.**
- **Work with developers and communities to update revenue sharing agreements as needed.**

Revenue Sharing and Its Importance to Investment Success

Indigenous Peoples and local communities (IPs & LCs) are likely to be the groups most directly impacted by the on-the-ground activities and play a critical role in the successful implementation of NCS projects. They also face the highest risk of bearing negative impacts of the project. Historically these groups have faced land grabs, forced resettlement, loss of resource access, and other exploitative practices by external parties because of poorly managed projects.[40] Without a fair and equitable revenue sharing agreement, IPs & LCs may be subject to further exploitation and continued disenfranchisement by external actors.

Revenue sharing refers to how value generated by the project is distributed across NCS project rightsholders and stakeholders, specifically the distribution of revenues and carbon credits. In addition to financial benefits, NCS projects also generate non-monetary benefits which may be shared with other stakeholders. Such benefits include employment opportunities, preservation of cultural and religious sites, training and technical instruction, or construction and operation of institutions like medical centers or schools.

Because carbon markets derive significant value from land and resources often owned

or managed by IPs & LCs to implement NCS projects, and because their buy-in is often a key driver of success of NCS projects, they should be compensated appropriately for their work, time, use of their land, and any other potential impacts on their livelihoods.[41]

Non-Monetary vs. Financial Benefits

Value generated from projects is not limited to revenues from the sale of carbon credits. Benefits can be differentiated into two general categories:

- **Intrinsic or non-monetary benefits** come from the successful operation of the project itself, such as sustainable land management, investment in jobs and operations, and local economic stimulation.
- **Market-based or financial benefits** come directly from the trade of carbon credits on carbon markets and additional revenues from the production of goods.

While the focus of this section is financial benefits in the form of project revenues, investors are encouraged to measure both intrinsic and market-based benefits, as non-monetary benefits can be significant in NCS projects.

What are the Benefits of Revenue Sharing Agreements to Investors?

Sharing revenues is not only a matter of ethical consideration but also a strategic investment decision that can enhance the sustainability of a project, reduce risks, improve attractiveness to offtakers, and contribute to positive social and environmental outcomes. Investors are most likely to benefit from revenue sharing in the following ways:

- **Aligned Incentives**:

  - Revenue sharing creates more incentives for stakeholders to help drive project success. If the value derived by participating in an NCS project is greater than the alternative, communities will be more engaged and more likely to contribute towards its success.

  - An equitable agreement can provide generational benefits to IPs & LCs and strengthen partnerships that must last at least the duration of the project's lifespan. By sharing in the project's success over time, communities are more likely to remain engaged.

  - Credits from fair and equitable projects may be more attractive to potential buyers and potentially earn higher prices, resulting in higher returns for all stakeholders involved.

- **Risk Mitigation**:

  - IPs & LCs are more likely to help communicate and/or mitigate any issues that arise if they are bought into the project and incentivized as partners.

  - Fair and equitable revenue sharing helps mitigate reputational risks to investors, buyers, and developers.

- **Recognition of Communities as Partners**:

  - Shared revenues compensate community members for costs that may not be recorded on the project's balance sheet

(e.g., travel costs). Compensation for these costs reinforces the community's position as a partner in the project.

- IPs & LCs may hold the legal rights to the land and/or the carbon on which the project operates. Revenue sharing is one way to address these legal rights and emphasizes the community's right to self-determination.[42]

- **Promoting Integrity**:

- Revenue sharing agreements typically require clear reporting and accountability mechanisms, which can promote transparency and ensure that both investors and project developers adhere to agreed-upon terms and performance metrics.

- Fair and equitable revenue sharing agreements help reinforce the credibility of the VCM and can strengthen the profile of NCS as an asset class.

- Comprehensive agreements can help the project and its stakeholders align with Sustainable Development Goals (SDGs), further promoting high-integrity projects.

> ***"Revenue sharing isn't about doing a project and then dividing up the money; it's about co-developing the project and making sure that everybody's priorities and contributions are addressed throughout the process. When Indigenous Peoples and local communities are strategic partners, it will increase the likelihood the project will successfully deliver the results while reducing risks and promoting long-term durability."*** – *Ruben Lubowski, Chief Carbon and Environmental Markets Strategist, Lombard Odier*

Without a successful revenue sharing agreement, a project may run several risks:

- **Lower Capacity and Incentives**:

- Social conflicts and legal disputes stemming from an inequitable revenue sharing agreement can cause project delays, cost overruns, and potentially lower returns, while uncertainty and instability may deter additional investment and increase costs, reducing overall profitability. Lack of community buy-in and support may hinder effective project management, monitoring, and maintenance, reducing biodiversity/social impact and negatively affecting carbon outcomes.

- **Stranded Assets**:

- Investors may be left with assets they cannot offload if the carbon credits are associated with social controversy or community opposition. This may also result in a loss of social license to operate, which can lead to project shutdowns, license revocations, or restrictions on future project development, jeopardizing long-term investment returns.

- **Governmental Pushback**:

- Failure to engage communities and fairly compensate them for their time can result in regulatory non-compliance and legal challenges. Investors may face lawsuits, fines, or other penalties for violating laws and regulations, leading to financial losses and legal expenses.

- **Reputational Risk**:

- Projects that are not engaging in equitable revenue sharing activities are subject to harsh criticism. If communities

feel marginalized or excluded from the benefits of the project, it may lead to social conflict, opposition, or delayed implementation. Negative publicity and media coverage can tarnish investor credibility and impact future investment opportunities.

The Principles of Designing Fair and Effective Revenue Sharing Agreements

Investors should ensure that a comprehensive revenue sharing agreement has been developed in collaboration with the relevant rightsholders, stakeholders, and impacted communities. Revenue sharing agreements will vary by project, each considering unique components such as the local regulations and laws, project type, location, ecosystem, finance structures, socio-economic dynamics, or the needs of IPs & LCs. Most importantly, agreements must be considered fair and equitable by these communities themselves.

Designing and implementing a revenue sharing agreement from the beginning of the project is best practice, as the process is time-intensive and requires community involvement even when carbon and project revenues are not yet available. It is recommended to compensate communities for their time in these stages even in the absence of revenues. Although the impact of such payments may not be immediately evident, they may influence local partners' willingness to engage with the project and can set the stage for long-term project success.[43]

The revenue sharing agreement should detail how communities receive compensation (i.e., cash payment or in-kind distribution). Once the revenue cycle is completed, audits should be conducted to ensure the funds are reaching communities. In the event of negative cash flows, additional investment may be needed to cover payments to relevant stakeholders. This approach helps cement the role of local stakeholders not merely as recipients of benefits, but as project partners with holders of rights, responsibilities, knowledge, capacities, and interests. If a revenue sharing agreement is already in place, investors should assess it to determine the method of delivery to communities and to understand how this might affect their revenues and cash flows.

As a part of their involvement in a project, communities often incur costs that may not appear on the balance sheet. Costs may include travel to attend project development meetings, restriction to economic activities outlined by project parameters, or lost time and wages due to project participation. To fully integrate communities as project partners, such costs should be reassessed throughout the lifecycle of the project. This will help to ensure that the revenue sharing agreement covers all costs incurred by the communities, resulting in a more equitable sharing agreement.[44]

> ***"It is very imperialistic of us to define equity in terms of a percentage distribution to different stakeholder groups. We should not define it, but instead should promote enabling conditions for equitable discussions and decisions."*** *– Senior Executive at a Carbon Crediting Program*

Developing Fair and Equitable Agreements

Investors should use the following approach to assess and influence a potential investment's revenue sharing agreement:[45]

- **Determine the status of the agreement**: Investors should determine if a revenue sharing agreement has already been established.
  - If already established, evaluate if the agreement can be updated to meet your preferred criteria using the guidance below, if it does not do so already.
  - If not already established, follow the steps below to encourage the development of a fair and equitable revenue sharing agreement.
- **Engage early and often**: Stakeholder groups should be engaged early and often to ensure that a revenue sharing agreement meets the community's needs and expectations. Investors should be aware of the outcomes from these engagements along with the grievances and their resolutions to determine how community involvement and engagement may impact their investment.
- **Agree on clear specifications**: All parties should have a comprehensive understanding of the entire project, including the process, risks, and financials. These specifications will be used to help calculate the project cash flows and the investor's return.
- **Consider longer timeframes**: Because NCS projects are conducted over several decades, revenue sharing agreements should be developed with flexibility over time. Investors must ensure that the agreement is aligned with these timelines and is compatible with their investment requirements.
- **Build community capacity**: Investors should also contribute towards intrinsic community benefits such as education, healthcare, etc. to build the local community's capacity. These may be investments made outside of what is distributed through a fair and equitable revenue sharing agreement.
- **Measure, report, and verify**: Intrinsic and market-based benefits should be regularly measured to assess the impact of the project on the local community, the project's climate and environmental impact, and the cash flows and returns generated.

Core Components of an Effective Grievance Mechanism

An effective grievance mechanism is essential for addressing concerns, resolving disputes, and ensuring accountability to stakeholders. The key features of such a mechanism include:

- **Accessible**: easily accessible to all stakeholders, particularly Indigenous Peoples & local communities and project workers.
- **Transparent**: provides clear information about how grievances are received, processed, and resolved.
- **Independent**: impartial and independent of project management to ensure objectivity and fairness in grievance resolution.
- **Responsive**: responds promptly to grievances, acknowledging receipt and initiating appropriate actions to address concerns.
- **Accountable**: promotes accountability by holding developers, contractors, and other stakeholders accountable for their actions and commitments.
- **Remedial**: offers effective remedies and redress mechanisms to address grievances and provide satisfactory outcomes to affected parties.
- **Builds capacity**: builds capacity among stakeholders to understand their rights, access the grievance mechanism, and participate effectively in the resolution process.

A fair and equitable revenue sharing agreement must also have grievance resolution mechanisms for relevant stakeholders to raise and resolve disputes and hold projects accountable. In conjunction with a project's wider ongoing and transparent communication strategy, these mechanisms will help the revenue sharing agreement (and other components of the project) to evolve throughout the project's lifespan.

While the developers and project implementation partners establish and maintain these grievance mechanisms, investors should be cognizant of the grievances raised and how they are being resolved. Some grievances may materially impact the project and require agreements with relevant stakeholders to be updated. The agreement should be regularly evaluated to ensure it is still meeting the needs of the IPs & LCs and other stakeholders, as needs may change across the entire timeline of an NCS project.

> ***"From an investor's perspective, it's important for the success of a project that local people are fully vested and are owners in some literal or figurative way. If local communities don't have some sort of ownership, they won't be in it for the long-term. And if they're not in for it, it will fail. From a functionality perspective, revenue sharing is absolutely critical."*** – *Charles Bedford, Chief Impact Officer, Carbon Growth Partners*

Finance Structures in Revenue Sharing

There are several structures for how revenues may be distributed back to communities, and a final decision should be agreed upon by all stakeholder groups as fair and equitable. Table 8 below outlines the main types of financial structures used to share revenues.

Table 10. Financial Structures in Revenue Sharing

Financial Structure	Value Shared	Source	Benefits	Risks
Revenue Sharing: Fixed Payment	A fixed dollar amount is distributed to relevant beneficiaries. Payments may be regularly scheduled or at project milestones such as when credits are generated / sold.	Net revenue	Beneficiaries are guaranteed a consistent distribution of revenues, investors incur fixed costs.	Beneficiaries may not benefit from upside potential, investors/developers face downside financial risk.
Revenue Sharing: Percentage	A pre-determined percentage of revenues is distributed to relevant beneficiaries.	Net revenue	Beneficiaries are guaranteed a share of total revenues and will not cut into profits.	Revenues may fluctuate, meaning the share could be variable from year to year. Beneficiaries may not receive their full share of revenues until after credits are generated and sold.
Revenue Sharing: Fixed w/ upside share	A fixed dollar amount is distributed, supplemented by a certain percentage of upside gains.	Net revenue + upside gains	Beneficiaries are guaranteed a consistent share of total revenues and can benefit from upside potential. Investors incur fixed costs and keep a percentage of profits.	The fixed amount may be lower to compensate for the upside concession, which would face market risk. Beneficiaries may not receive their full share of revenues until after credits are generated and sold.
Carbon Sharing	An amount of carbon credits is shared with beneficiaries.	Carbon credits	Beneficiaries can sell credits on the secondary market and benefit from upside potential.	Market risk incurred; investors receive fewer credits. Beneficiaries may have limited or no access to carbon markets.
Equity	A share of the Special Purpose Vehicle (SPV) or project in the form of equity shares.	Equity pool	Beneficiaries receive ownership of the project in the form of equity.	Revenues may fluctuate, meaning the equity value could be variable.
Streaming / royalty	Payment is made for the ongoing use of assets such as land or natural resources.	Net revenue	Beneficiaries are guaranteed a consistent amount, investors incur fixed costs.	Beneficiaries may not benefit from upside potential, investors/developers face downside financial risk.

Source: *ERM/WBCSD*

Investors and developers should consider the following factors when determining the financial structure of a revenue sharing agreement:

- **Tenure**: Do all parties involved understand the implications of the revenue sharing model for the full lifetime of the project?
- **Costs Incurred**: Do relevant parties understand what is included as a project cost and what costs are distributed out of profits? In many instances, community payments are included as a project cost.
- **Additional Revenue Streams**: Does the project have additional non-carbon revenues? If so, does the agreement outline how non-carbon revenues will be distributed?
- **Reserve**: Has the investor allocated a financial reserve to strengthen the permanence of the project and help reduce financial risks?
- **Currency Risk**: If the project's costs, revenues, and distributions are in different currencies, does the project consider currency exchange risk?

Revenue Leakage

Revenue leakage refers to the loss of potential revenue or financial resources due to various factors such as inefficiencies, inaccuracies, or unauthorized actions within the project's operations. It can occur at different stages of the project lifecycle, including planning, implementation, monitoring, and reporting. It is imperative that revenue leakage is considered in revenue sharing considerations because it directly impacts the equitable distribution of financial benefits to IPs & LCs. Revenue leakage can disrupt this distribution mechanism and result in unfair or inequitable sharing of benefits, undermining the project's social and environmental sustainability.

Revenue leakage is a common challenge faced by NCS project stakeholders. Investors must carefully examine commercialization or offtake agreements to ensure credit purchase agreements do not allow profit skimming or revenue capture through over-favorable commercial terms. This has often been cited as a recurring phenomenon in voluntary carbon markets with some intermediaries taking more than what can be perceived as a fair margin for the services provided, in turn potentially reducing total payouts to IPs & LCs who should be the main beneficiaries of the value created by the project activities. Ultimately, leakage can erode trust and collaboration among project partners, jeopardizing the long-term success and viability of the project.

The importance of revenue sharing in NCS projects cannot be overstated. Fair and equitable distribution of revenues ensures that IPs & LCs are appropriately compensated for the use of their lands, their legal or customary rights, and their contribution towards the project. Through fair and equitable revenue sharing, a project is likely to align incentives, reduce risk, and maximize its positive climate, biodiversity, and social impacts. Investors may benefit from higher returns, reduced reputational risks, and stronger partnerships with local communities.

6. Safeguarding Rights and Resources: Legal Considerations of NCS Investments

Authors: Lev Gantly, Anna Hickey, and Max Bail of Philip Lee LLP

Comprehensive project due diligence and legal agreements between parties such as investors, developers, communities, and governments are paramount to the protection of all rightsholders and stakeholders of an NCS project. Investors should carefully review the legal components of any potential NCS investment to not only protect themselves and their investment, but also to ensure that the rights and interests of local communities are adequately safeguarded.

Recommendations for Investors:

- **Engage international and/or local advisors to ensure that legal and tax due diligence is conducted at an early stage.**
- **Discuss the risks identified during due diligence with your project counterparties as soon as possible.**
- **Ensure that risks are allocated appropriately in transaction documentation with the support of international and local advisors.**
- **Consider the use of additional legal risk management through the deal.**

Integrating legal considerations into investment strategies is paramount to ensuring the success, sustainability, and legal robustness of NCS projects. By doing so, investors can minimize legal risks and contribute to meaningful impact in a way that aligns with legal standards and obligations. This section examines the multifaceted legal components inherent in investing in NCS, highlighting key considerations and best practices for informed decision-making and maximizing the positive impact of NCS projects.[1]

Evaluating the Legal Landscape

When considering the legal components of a project, particularly in emerging markets, there should be a strong focus on understanding the legal landscape that would underpin or could affect the successful funding, development, and operation of an NCS project. This process should not be treated differently from similar processes in other industries such as renewable energy, mining, and infrastructure development, and finance.

Investors should engage international legal/tax advisors in addition to local legal/tax advisors in the host country to ensure the

1 The contents of this section are not exhaustive. The lists, steps, and requirements outlined in this section may vary by project and should be tailored to the needs of each specific investment.

robustness of the due diligence being carried out. This will enable the investor and the applicable counsel to understand which risks to consider as part of the overall project risk-allocation matrix as it pertains to all parties involved in the project, and to subsequently draft for that risk allocation in term sheets and contracts. Primary legal advisors can subcontract local legal counsel as part of their mandate such that the primary legal advisor is the local counsel's clients and in turn passes local advice through to the investor. This has the benefit of a single point of contact and responsibility for investors.

Though the legal due diligence process should be tailored to the individual details of each NCS project, it is likely to include the following key issues:

1. **Counterparty Identification, Legal Status, and Ownership**: It is important to identify the nature of the legal entity the investor will be contracting with and whether it has any special protection regimes applicable to it under local law (if, for example, the entity is an indigenous community group with unique protections and privileges either at law or in custom). It is important to also identify who the counterparty is owned and controlled by. Counsel should also confirm whether it is possible to carry out searches in local courts in order to identify any disputes to which the counterparty may be a party to. Understanding these aspects is relevant from a "know your counterparty" and anti-bribery and corruption assessment perspective and should also inform the investor's credit risk analysis.

2. **Rights of Indigenous Peoples and Local Communities**: Local counsel should have experience and knowledge of all customary and indigenous laws and diligently report on the rights of Indigenous communities residing on the project land, including issues regarding customary/native legal title to the land, rights to benefit from the yields of the land, occupancy rights, as well as stewardship rights and privileges. It is important for the investor to have absolute clarity about these issues in order to ensure that such rights are appropriately safeguarded, including through contractual measures such as cultural heritage agreements. Clear and accessible translations of documents and explanations of the rights and obligations of indigenous, and local communities more broadly, are normally required to establish free, prior, and informed consent.

3. **Review of Pre-existing Project Contracts and Licenses**: It is important to understand what contracts, if any, are already in place for the NCS project. These may include carbon waiver or carbon rights agreements with landowners or offtake agreements with corporates or previous investors. If there are pre-existing contracts in place, the investor will need to identify whether its rights to and interests in the NCS project would be jeopardized or inhibited by such pre-existing contracts. Similarly, if there are existing licenses from or agreements with local or state authorities, the investor should be made aware of their existence, content and implications for the project. If licenses are required, any conditions and expiry / renewal periods (and terms) should be identified.

> ***"In order to have a worthwhile consultation with stakeholder groups, they must be prepped first and have a good understanding of the topic. This should not be the first time they are seeing project plan documents. Stakeholders have the right to their own legal counsel and lawyers for these consultations."*** *– Margarita Mora, Senior Managing Director, Partnerships, Nia Tero*

4. **Restrictions on or Conditions to Foreign Direct Investment ("FDI")**: Understanding what FDI restrictions, conditions, and processes (if any) are in place is critical before making an investment of any kind into a jurisdiction. Restrictions or conditions may require an investor to take actions such as carrying out a know your client (KYC) check with a local authority, investing a minimum threshold amount, and / or making payments in local currency only. Investors may also need to establish a group company incorporated in the applicable jurisdiction and / or have local bank accounts with a government-controlled bank.

5. **Status of Land and Carbon Rights Applicable to the Project**: An assessment should be conducted to understand the legal ownership structure of the land on which the NCS project will be developed. Defining ownership may not be as simple as coordinating with a single landowner. In many cases, a country or regional government may own the land and lease it to local communities through concessions in what is called a leasing and concession agreement. There may also be land tenure acknowledgements, where communities are given rights to use the land but there is no full tenure or ownership recognition for these communities. For smallholder farmers in aggregated projects such as regenerative agriculture, particular attention will need to be paid to the paperwork needed to secure carbon rights and commit the landowners to complying with certain positive and restrictive covenants, ensuring that a balance is struck in terms of fairness and there is no over-reaching on issues such as consideration and site visitation rights. The local laws on succession of title (e.g., death or sale of land) must also be understood – this is particularly important in the context of increased focus on permanence requirements in carbon projects.
While carbon rights and land ownership often go hand in hand, there is a relatively opaque definition of carbon rights in many geographies where NCS projects are prevalent. Jurisdictions may have varying approaches to defining the legal nature of a carbon asset, the ownership of such asset and, consequently the passage of title to such carbon asset – these approaches may also differ based on the type of carbon (e.g., sequestered in trees versus sequestered in soil).[46]

6. **Status of Host Country's Regulatory Reach Over Voluntary and/or Compliance Carbon Market Activities**: Many developing countries are in the process of adopting regulations for national carbon market schemes. Some of these are purely compliance schemes that are based on cap-and-trade mechanisms such as the EU ETS or the Korean ETS. Others have legislated (or are in the process of legislating for) frameworks for project-based carbon markets with examples being Ghana, Indonesia, India, and Kenya. Others still have hybrid schemes which allow for the use of project-based carbon credits within cap-and-trade or carbon tax schemes (e.g., Colombia and Singapore). It is critically important for an investor to understand the climate/carbon legislative and regulatory landscape in the host country to determine:

   a. The source of its investment return and revenue generation;
   b. Route to market (i.e., ability to use project-based credits for carbon tax liabilities and/or cap-and-trade schemes);
   c. Pricing of carbon units and financial modeling for the investment (i.e., any applicable controls over pricing and/or supply of credits to the market, as well as restrictions over nature of end-users of credits);
   d. Ability to export units (e.g., a host country may restrict export of carbon credits until it is certain that it will achieve the targets in the Nationally Determined Contribution submitted

by it to the UNFCCC under the Paris Agreement); and
e. Ability to use carbon units for its own purposes.

This analysis should consider the extent to which the host country is engaging (or planning to engage) in the market mechanisms under Article 6 of the Paris Agreement. Due diligence should highlight whether the host country has entered into bilateral agreements or issued unilateral letters of authorization under Article 6.2. If such agreements or letters are publicly available, consideration should be given to their content to determine whether analogous instruments are desirable as part of the investment proposition for the applicable NCS project.

Lastly, counsel should report on forecasted policy changes or risks for the project type, as governments are likely to change policies as carbon projects increase in scale and value.

7. **Applicable Taxes**: Tax advisors or legal counsel specializing in tax law in the host country should advise and report on questions such as whether:

   a. Stamp duty or any other tax is customarily payable with respect to land-related or any other contracts (including security agreements) signed with individuals or legal entities in the host country;
   b. Any other taxes (such as GST, VAT, etc.) are applicable to the passage of title to carbon assets and carbon credits between two domestic parties;
   c. Any taxes apply to the export of carbon assets or carbon credits from the jurisdiction; and
   d. Any other taxes, levies etc. apply to the funding, development, and operation of the applicable carbon project in the host jurisdiction.

8. **Other Local Legal Requirements**: Local counsel should report on any other laws that may be applicable to the successful implementation of the project by the investor's counterparty. This is important as it enables the investor to contractually "call out" any specific legal risks that may be identified in the due diligence and require its counterparty to comply with specific laws, reporting on its compliance implementation measures from time to time. This would be in addition to any general covenants to comply with "any Applicable Laws". Such issues may relate to environmental regulations (i.e., requirements to obtain licenses), labor laws, data privacy laws, finance and securities laws, as well as industry-specific carbon management requirements relating to (for example) ensuring permanent and additional emissions reductions and removals.

Structuring and Risk Mitigation

The legal due diligence exercise outlined above (in addition to any technical due diligence undertaken by the investor in connection with the project) should inform the investor about the most material investment and project-related risks. The investor should then, together with counsel and other advisors (such as tax consultants), consider how best to mitigate the risks brought to light during or in parallel with the due diligence process. Methods for mitigating carbon project investment risk include but are not limited to the following (noting in particular that the list below does not account for tax structuring and optimization to avoid tax leakage):

1. **Deal Structuring**: Contractual agreements may be made between investors and developers to help mitigate risks associated with carbon projects. The nature of the agreements will depend

on the structure of the deal. Investments can be structured in multiple ways, some of which are set out in Table 5 in the 'Planning for Investment' section.

No matter what structure is ultimately applied to an investment, investors should, where possible, seek to cover the consequences of delivery shortfalls and complete project failures in both fault-based and non-fault-based scenarios. However, no matter the remedy for these events, the issue that an investor will often face is the ability of its counterparty to provide security and the creditworthiness of its balance sheet. Therefore, measures such as offering financial rewards tied to key performance indicators could be used to encourage performance by the investor's counterparty.

2. **Special Purpose Vehicle (SPV) Structuring**: Please refer to Table 5 in the 'Planning for Investment' section for insights on why SPV structuring is important to NCS project investments. SPV structuring may be a requirement where investors wish to structure investment by taking an equity stake in the project. Tax advice should be obtained before electing a jurisdiction in which to incorporate an SPV for a specific project.

3. **Investment Treaty Protection Structuring**: This risk mitigant involves the establishment of a project SPV in a jurisdiction that has an investment treaty in place with the host country. The idea is that any material change in law or political instability or unrest that has a material impact on the feasibility of the project (and thereby the investor's return) could in theory provide recourse for an investor to the applicable host country authorities in a neutral arbitral forum. In a market where sovereign risk insurance is not presently available, consideration of investment treaty structuring may be a worthwhile spend for an investor.

4. **Liquid Security**: Remedies for fault-based failures to deliver or shortfalls in delivery in contracts for carbon credit investments and offtakes have traditionally been limited to a requirement on the seller to procure replacement credits and/or pay market damages or pre-determined liquidated damages. Although sensible in theory, in practice the issue comes back to the ability of the seller to pay, particularly where the seller is a project developer or NGO where, in both cases, its balance sheet will unlikely inspire confidence in the investor.

5. **Security Against Assets and Security Assignments**: Project financing typically requires security against assets to provide some form of recourse for investors or funders. Although the granting of security was not uncommon during the Clean Development Mechanism's most active period, the VCM's most recent (post-2018) iteration and the Article 6 market have yet to integrate the granting of security interests as a staple of transaction structuring. Part of the reason for this is the relative unsophistication of the major carbon standards when it comes to recognizing the critical role they play in deal structuring. This needs to change if the market is to scale.

   Security can and should take the form of charges, pledges, or hypothecs over issued and/or future carbon credits, registry accounts as well as real assets such as physical property. Security can also extend to assignments of contractual rights and cashflows or revenue streams for the sale of carbon credits as well as step-in or tripartite agreements between the investors/funders, the project developers, and other key project parties.

6. **Hedging**: As with any investment, hedging may play a key part in an investor's risk management. The approach an investor can take to hedging will vary on its experience and objectives but options to consider will include investing

in a diversified portfolio of NCS assets (both geographically and with reference to project/methodology-type), currency hedging, and interest rate swaps (in the case of debt finance).

7. **Insurance**: Another important part of risk mitigation in carbon project investment and finance is placing a requirement on the project developer to procure adequate insurance for public liability, third party, employers' liability, and, if applicable (in light of the project developer's/seller's identity and role), professional indemnity insurance. As with other aspects of carbon project investment structuring, it is perhaps not surprising that what is commonplace in other industries has yet to emerge as standard practice in the carbon industry, although this is slowly beginning to change.

   Additionally, new market entrants have emerged to provide buy-side protection for investors and provide coverage for non-delivery/delivery shortfall risk and reversal/invalidation risk. Specialist insurance companies are also considering options for policies relating to sovereign and political risk in the context of Article 6 of the Paris Agreement, particularly with respect to issues such as withdrawal or revocation of letters of authorization.

8. **Legal Opinions**:The issuance of legal opinions by law firms involved in due diligence and/or contracting for investments in other asset classes is a fundamental and often-sought condition precedent in the context of project finance. Legal opinions cover issues such as (a) capacity and authority of contracting parties to execute applicable contracts, (b) due incorporation and existence of the contracting parties, (c) due execution of project agreements, (d) perfection of any security granted as part of the transaction, (e) confirmation of validity of any applicable licenses needed to implement the project, (f) validity of governing law of contract, and (g) enforceability of foreign judgments in the jurisdiction of incorporation of the contract entities etc.

   There are several benefits to legal opinions including the ability to rely on a law firm's insurance policy in cases of loss, as well as peace of mind in knowing that the documentation underpinning the equity or debt investment is fit for purpose, has been executed correctly and is enforceable against the investor or funder's counterparty. Thus, legal opinions should be a key de-risking strategy in an investor's toolbox.

9. **Incorporation of Legal Considerations Into the PDD**: The PDD (Project Design Document) serves as a central report outlining project-related information, including material legal issues pertaining to the project, along with a wider scope of details on the project's strategy and operations. Where possible, issues identified in the legal due diligence report should also be set out in the PDD alongside any mitigating factors. If presented with a PDD for review, investors should be mindful that it is unlikely to have been prepared with legal input from (legal) carbon market specialists and/or local counsel in the host country. Investors should at the outset query whether it is possible to update the PDD to reflect any risks/mitigants identified in the investor's own due diligence of the project

Ensuring legal compliance, due diligence, structuring, and contractual risk allocation not only safeguards investments but also enhances the credibility and effectiveness of NCS as an asset class, thus contributing to broader environmental goals and the transition to a more resilient and sustainable future. Ultimately, integrating legal considerations into investment strategies is essential for realizing the full potential of NCS projects and maximizing their positive impact on both the environment and society as a whole.

© Everland / KWS

7. Running the Numbers: The Importance of Data Collection and Disclosure

Comprehensive data collection and disclosure through measurement, reporting, and verification (MRV) is a key component to evaluating and improving a project's performance. Since every NCS project and/or program is unique, it will take a well-calibrated MRV system to deliver on that promise. For investors, MRV reports are valuable for assessing potential NCS investments or reviewing existing ones. But as with all monitoring, the insights and output for disclosures an MRV system produces are only as good as the data going in.

Recommendations for Investors:

- **Establish internal guidelines and best practices for data collection and reporting; determine if an investment's MRV practices align with internal guidelines.**
- **Disclose data in line with carbon credit standards and requirements from verification bodies.**
- **Ensure the collected data and selected metrics directly correlate to claims made on positive climate, biodiversity, and social impact.**
- **Leverage data and disclosure findings to review performance and integrate them into project agreements and activities.**

Managing What is Measured

High-integrity NCS projects must be able to substantiate claims over the entire lifetime of the project. This is often achieved through a well-designed and effective MRV process, which includes establishing the methods for project data collection, gathering, and reporting such data, and third-party verification of reported information. In addition to providing essential information about performance and project success, MRV helps quantify the project's overall impact on the environment, economy, and local communities. Investors should review the proposed MRV process of a potential investment to understand the methods being used, the metrics tracked, and the vehicle of data disclosure.

The MRV process begins with determining a baseline against which performance will be measured. Data is then collected by developers and implementation partners to measure progress against metrics such as emissions avoidance/reduction or species density. It is important that the data collected and the metrics they inform are able to directly substantiate any claims made and are not instead used as proxies for impact and performance.

MRV Requirements in Carbon Credit Integrity Frameworks

Buy- and sell-side carbon credit integrity frameworks like those found in Appendix Table A3 have robust MRV requirements. NCS projects will already have defined MRV requirements depending on which standard and methodology they align with. For example, several of the Integrity Council for the Voluntary Carbon Market's (ICVCM) ten Core Carbon Principles (CCP) incorporate MRV-related components, such as:

- **Principle 2. Tracking** - The carbon-crediting program shall operate or make use of a registry to uniquely identify, record and track mitigation activities and carbon credits issued to ensure credits can be identified securely and unambiguously.
- **Principle 3. Transparency** - The carbon-crediting program shall provide comprehensive and transparent information on all credited mitigation activities. The information shall be publicly available in electronic format and shall be accessible to non-specialized audiences, to enable scrutiny of mitigation activities.
- **Principle 4. Robust independent third-party validation and verification** - The carbon-crediting program shall have program-level requirements for robust independent third-party validation and verification of mitigation activities.

Read all ten ICVCM Core Carbon Principles here.

While specific metrics tracked and disclosed will vary by project, many are common across projects and can be leveraged in assessing performance and benchmarking activities. The United Nations Environment Programme (UNEP) developed the Positive Impact Indicators Directory as a common list of metrics tracked in nature-related projects to "harmonise monitoring and reporting across a range of environmental and social impact areas." See Table A5 in Appendix 4 for the full UNEP Positive Impact Indicators Directory.

The entire MRV process can take up to a year or more to be fully completed. Developers will often leverage MRV platforms and providers to collect and disclose data throughout this timeline. Investors may not be directly involved with the MRV process but should be in communication with the developers, implementation partners, communities, and / or MRV service providers to understand how the data translates to measuring project success.

Information Availability for Investors

Some information related to the project's activities and performance may not be made available to an investor until after they have committed capital. Investor expectations on impact reporting / MRV should be included in legal agreements and spelled out in appropriate detail, especially if there are specific metrics that an investor wishes to receive.

Connecting MRV to Impact and Claims

Metrics covered in the MRV process and their associated impact claims should align with the MRV method and desired outcomes, and indicators should match the specific aspect being assessed. For example, canopy cover metrics can demonstrate change in tree-covered area connectivity but should not serve as a proxy for specific social or biodiversity aspects.

Measurement and metrics should also prioritize impact over activities. For example, rather than reporting on the number of training workshops delivered to IPs & LCs, an adequate parameter would be the number of IPs & LCs that have actually implemented the content taught in the workshop.

MRV is more than a data collection and disclosure process. It can be used to benchmark performance, affect change, and demonstrate real and lasting climate, social, and biodiversity impact.

The Importance of Data and Disclosure to Investors

Data may help investors during due diligence to screen potential investments and identify any misrepresentations of information that could negatively impact a project. Further in the investment timeline, investors and developers can leverage data to quantify the impact of the project through climate, biodiversity, and social metrics. Insights from data collection processes may also help to address inefficiencies that can lead to cost savings and better margins. The information collected through this process can then be used in the validation and verification of credits, a core component of project certification. See Table A3 for more information on carbon credit frameworks and standards used in validation and verification.

Publicly available data collected and disclosed through the MRV process may be used by carbon credit ratings agencies, and credit buyers may utilize credit rating agencies to inform their purchasing decisions. These rating agencies are third-party organizations that operate independently from standards and frameworks (see Table A4 in Appendix 4 for a comparison of major carbon credit rating agencies). Prospective buyers are likely to pay close attention to the information that is tracked by these rating agencies and prefer projects and credits with more positive ratings. An understanding of the rating criteria may help investors prioritize the requirements for high-integrity projects and integrate these criteria into their own due diligence processes.

MRV will also be required well after credits are issued, and project budgets should account for additional MRV requests over extended timeframes. When assessing a potential NCS opportunity, investors should consider whether the project's existing MRV processes are sufficient to meet these requirements. When reviewing an existing investment, investors should compel the project developer and implementation partner to improve their MRV processes to meet these demands, recognizing the cost of conducting MRV, or of integrating new MRV technology solutions and the importance of selecting and investing in tools that are most suitable for the project and its context.

The Nature Tech Collective of MRV Providers and Platforms[47]

The Nature Tech Collective is a non-profit member alliance, accelerator, and intelligence unit that is advancing the uptake of nature-based solutions to integrate nature protection into all sectors of society. The collective aims to facilitate the integration of science, technology, and finance to amplify proven solutions and high-quality data. The group was formed from the MRV collective, a non-profit, member supported industry coalition of MRV providers and platforms advancing strategic applications of MRV technologies to address climate change, biodiversity loss, and close the USD$700 billion-dollar annual nature-finance gap.

To learn more about the organizations demonstrating the power of MRV technologies in scaling nature-based decision making, visit the Nature Tech Collective's website at https://www.naturetechcollective.org.

© Carbon Tanzania

Conclusion & Call to Action

Actions to conserve, improve management, and restore nature are essential to mitigate climate change and meet the objectives of the Paris Agreement, as well as biodiversity and social impact goals. To realize their full potential, natural climate solutions must be deployed globally at scale. New investments in NCS, including strategies earning returns from credits generated for the voluntary carbon market, will be critical to accelerate this growth and fill the nature financing gap.

Several key considerations can drive momentum for NCS. First, projects and programs must adhere to high standards of quality and integrity, which is critical to attract investment. For projects led by Indigenous Peoples and local communities, the backbone of land stewardship globally, this often requires an enabling environment to help elevate traditional knowledge and compensate these groups as project stakeholders and partners. And on a wider scale, building capacity and embedding the appropriate level of support in project design and delivery can allow NCS projects and their associated credits to hold up to increased scrutiny.

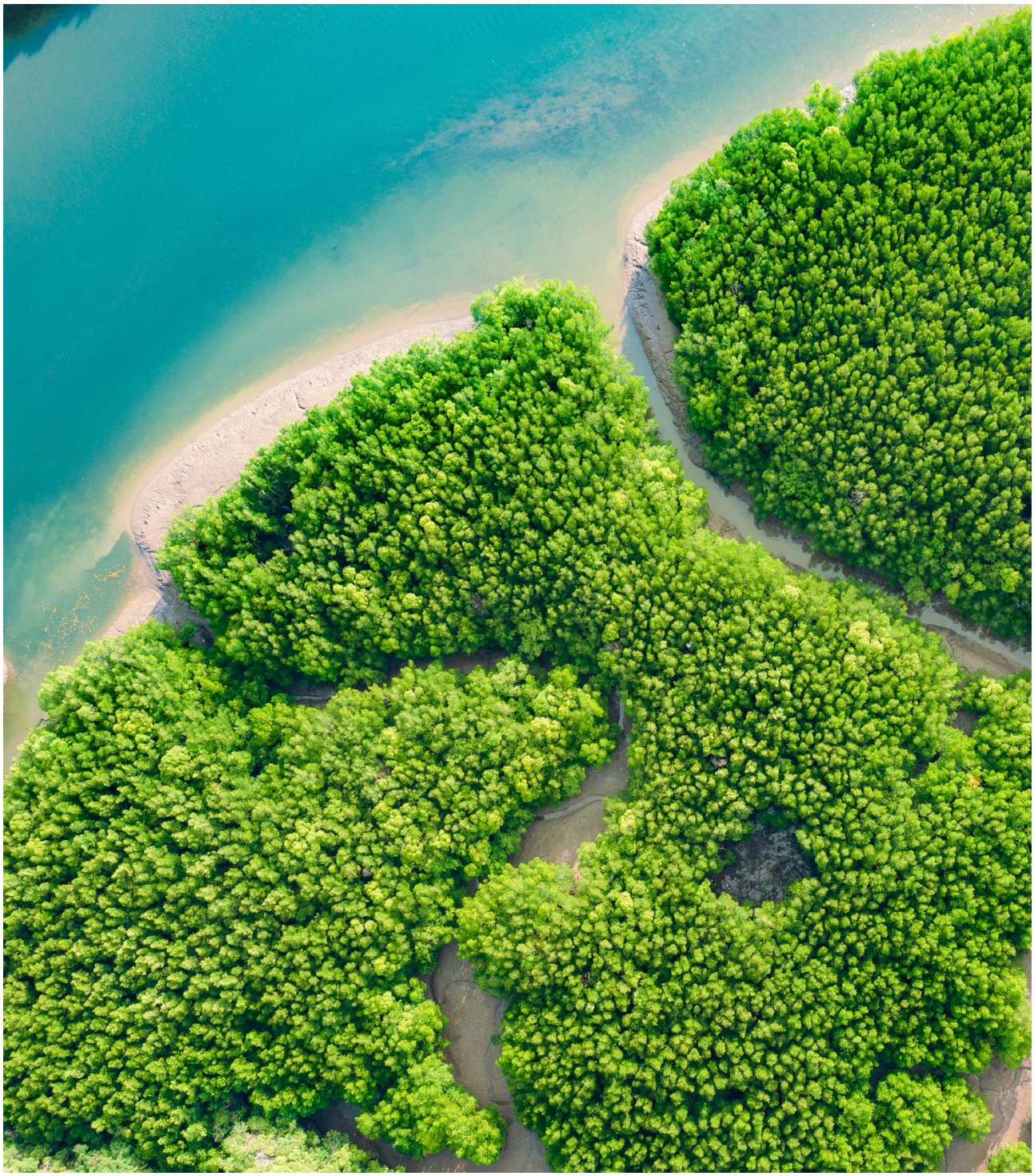
Second, when properly designed to support ecosystem health and community impact sustainably over time, NCS can deliver multiple benefits including, but not limited to, improved livelihoods, empowerment of vulnerable populations, biodiversity protection and enhancement, and water regulation, soil health, and many other ecosystem services. As such, identifying and promoting locally-appropriate and equitable NCS can help unlock value across multiple fronts for investors and stakeholders alike throughout the life of a project.

Fortunately, several stakeholders are mobilizing to encourage action on all these fronts and more to help scale NCS in the voluntary carbon market. New and updated supply- and demand-side guidance (such as CORSIA's Emissions Unit Eligibility Criteria, ICVCM's Core Carbon Principles and VCMI's Claims Code of Practice, respectively) will help encourage consistency and comparability across the market, while improved MRV and baselining provide more accurate monitoring and accounting of projects and their associated credits. The evolving regulatory landscape, both for carbon markets and the wider sustainability requirements, will change the way companies disclose information on carbon credits.

Similarly, groups like WBCSD's Natural Climate Solutions Alliance (NCSA) are working to build an effective and scalable carbon market that enables natural carbon sinks while safeguarding nature. Meanwhile, ERM and its Sustainability Institute continue to encourage consistency and comparability across the market while focusing capital towards high-quality NCS projects and programs with real and verifiable climate, biodiversity, and social impact.

Finally, governments can further contribute towards the growth of NCS by enacting regulations and policies that encourage investment in their jurisdictions. For example, governments can set guidelines to define appropriate governance and responsible conduct in a local context, providing clarity on national climate policy alignment and safeguarding the well-being of local stakeholders. Governments also have a key role to play in establishing the market and regulatory conditions that can maintain and foster greater demand for carbon credits from NCS projects. The Coalition to Grow Carbon Markets provides a hopeful example of governments working together to demystify the legal landscape for carbon credits to foster a safer, more predictable, and lower-friction investment environments.

The content of this guide was designed to help investors better understand and navigate best practices for NCS investments. At the same time, we recognize that the broader ecosystem has a role to play in creating enabling conditions that can help investors make a stronger case for NCS in their portfolios, and we encourage engagement across stakeholders to overcome barriers, drive innovation, demonstrate leadership, and capitalize on new opportunities to scale critically needed NCS.



Appendices

Appendix 1. Investing in NCS Credit Generating Activities for the Compliance Market

Compliance markets are emerging across the globe as countries aim to regulate and reduce their carbon emissions. The more rigorous requirements used by many compliance markets may offer direction for improving quality and consistency of credits in the voluntary carbon market.

Compliance markets serve as carbon reduction initiatives created by regulators requiring carbon reduction activities. These markets are often part of cap-and-trade programs where a regulator limits the amount of allowable emissions across a region, sector, or country. To meet regulatory obligations under a cap-and-trade program, entities may reduce their emissions, purchase emissions allowances or permits issued by the regulator, or purchase carbon credits in those programs that allow credits from outside of regulated sectors. In some cap-and-trade programs, regulated entities receive allowances or permit allocations from regulators. For NCS, investors would typically invest in carbon credit projects or programs eligible under a compliance program, as opposed to allowances or permits issued by the regulator, which do not have a direct link to NCS projects or activities. Investors should carefully assess whether carbon credits from a potential investment would qualify for these markets.

Compliance markets continue to grow in size and scope and were collectively valued at more than USD$800 billion in 2023 (5 percent year over year growth).[48] Compliance markets are expected to continue their growth trajectory as more jurisdictions implement emissions-related requirements like cap-and-trade programs. A comparison of major compliance markets can be found in Table A1 below.

As compliance markets evolve, they increasingly incorporate credits from internationally recognized and verified projects, enhancing the robustness and credibility of the carbon trading system. One of the most prominent examples of this is the International Civil Aviation Organization's (ICAO) Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), which allows the use of ART-issue (Architecture for REDD+ Transactions) TREES (The REDD+ Environmental Excellence Standard) credits, including from verified NCS programs in emerging markets.[49] Similarly, the Chilean Carbon Market's now recognizes Verra-certified projects for use in meeting regulatory requirements.[50]

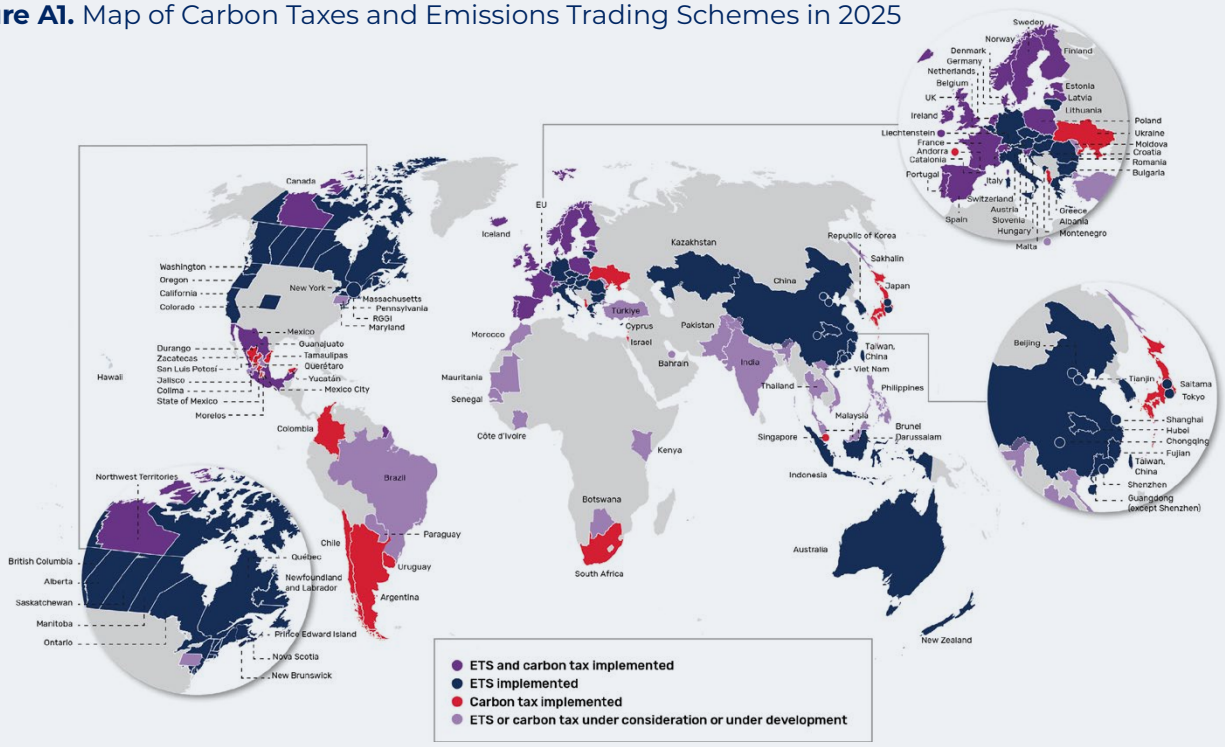
Table A1. Major Compliance Markets

	California Compliance Carbon Offset Program	Chinese National Emissions Trading System	European Union Emissions Trading System	South Korea Emissions Trading Scheme
Start of Operations	2012	2021	2005	2015
Year End 2023 Financials	Average auction price: USD 28.08 Total revenue: USD 4.03 bn	Average secondary market price: CNY 55.30 (USD 8.20)	Average Auction Price: EUR 78.91 (USD 83.10) Average secondary market price: EUR 80.82 (USD 85.11) Total revenue: EUR 38.8 bn (USD 40.8 bn)	Average Auction Price: KRW 23,243 (USD 17.99) Average secondary market price: KRW 20,633 (USD 15.97) Total revenue: KRW 317.1 bn (USD 245.4 mn)
Emissions Coverage / Cap	294.1 Mt CO2e (2023)	4,500 Mt CO2 (2019 and 2020 each)	1,529 MtCO2e (2022, stationary installations) 28.4 MtCO2e (2022, aviation)	589.3 MtCO2e (2023)
GHGs Covered	CO2, CH4, N2O, SF6, HFCs, PFCs, NF3, and other fluorinated GHGs	CO2	CO2, N2O, PFCs	CO2, CH4, N2O, PFCs, HFCs, SF6
Sectors Covered	Transport, buildings, industry, power	Power	Domestic aviation, industry, power	Waste, domestic aviation, transport, buildings, industry, power
Allocation	Free allocation: benchmarking, free allocation with consignment, auctioning	Free allocation (benchmarking)	Auctioning: free allocation (benchmarking)	Free allocation (grandparenting; benchmarking) and auctioning
Offsets and Credits	Domestic	Domestic	**Use of offsets not allowed***	Domestic and international

Source:*This figure is adapted from the ICAP ETS Tool (2024). "Compare ETS". International Carbon Action Partnership.*

**While the European Union's ETS does not allow for the use of carbon offsets, it is still an important driver in the development of carbon markets and expansion of carbon finance.*

Figure A1. Map of Carbon Taxes and Emissions Trading Schemes in 2025



***Source**: This figure is adapted from 2025 State and Trends of Carbon Pricing (2025). "Figure 2. Map of carbon taxes and ETSs". World Bank*

***Caption**: As of there were 80 carbon taxes or ETSs (emissions trading systems) in operation around the world, with more under development in major economies such as Brazil, India and Turkey.*

Compliance markets are an important driver in the wider carbon landscape: as more governments and regulators recognize the effectiveness of carbon taxes and emissions trading systems, opportunities for investment are expected to increase in step with the higher demand driven by companies' compliance activities. The expansion of compliance markets may prove to be advantageous to investors exploring ventures in qualifying projects and programs:

- Credits that are eligible for compliance markets may command higher prices than other credits that are traded on the VCM that are not eligible, given the prescriptive nature of compliance markets;
- Risk profiles and agency oversight are likely to be different, as failure to comply could be met with penalties or fines;
- Some compliance markets are selectively adopting independent standards operating in the VCM, meaning credits that already meet these criteria may qualify for compliance markets leveraging VCM standards;
- Countries engaging in bilateral agreements under Article 6.2 may use independent standards as the basis for generating internationally traded mitigation outcomes, and credits that meet the criteria may be used in these international market-based mechanisms.

Investors can capitalize on expanding compliance markets by investing in projects or programs that already qualify or are expected to qualify for an ETS, whether through alignment with independent carbon credit standards or financing projects and programs in regions with an existing or expected ETS. If these credits don't qualify for an ETS, they can often still be used in the VCM.

Appendix 2. JREDD+ and its Implications for the Voluntary Carbon Market

Jurisdictional REDD+ (JREDD+) programs offer solutions to the many challenges experienced by project-level NCS such as improved baseline measurements, prevention of leakage and magnified impact given their coverage of subnational jurisdictions or entire countries. While governments in developing countries have been building jurisdictional programs for many years supported by results-based payments from developed countries, the idea of private sector investment in implementing jurisdictional programs and generating JREDD+ credits is relatively niche. As they become more common and the market demands higher integrity, many stakeholders believe that JREDD+ is the direction of travel for the VCM to move towards, as opposed to smaller scale project-level REDD+.

JREDD+ is a large-scale framework developed to incentivize the conservation and sustainable management of forests in developing countries.[51] Jurisdictional-scale carbon-crediting programs issue independently verified carbon credits for forest-based reductions and/or removals of carbon utilizing the entire forest area within a national or sub-national jurisdiction to set a deforestation baseline.

Most REDD+ credits issued to date have been from individual projects. However, interest in JREDD+ as a source of high-integrity credits for private sector buyers is growing. Compared with project-level NCS, JREDD+ may benefit from more conservative baselines, minimization of leakage, and fostering economies of scale. This growth is further supported by alignment with conception of REDD+ under the UNFCCC, recognition of JREDD+ under the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), and broad support from the environmental community, including through recommendations outlined by the Tropical Forest Credit Integrity Guide.

Jurisdictional-scale interventions are larger in scale and benefit from contributions from regional and national governments. Many causes of deforestation are most effectively addressed at the government level via regulation, stronger law enforcement, and economic incentives. Ultimately, while JREDD+ programs may result in higher-integrity carbon credits, JREDD+ remains a relatively new concept in the VCM with a limited number of programs issuing credits thus far. In 2022 Guyana was the first country to transact JREDD+ credits that meet the Architecture for REDD+ Transaction (ART) The REDD+ Environmental Excellence Standard (TREES). In 2023 Costa Rica and Ghana became the first countries to sign agreements to sell TREES Credits to the LEAF Coalition, a public/private sector initiative to accelerate finance to halt deforestation through JREDD+ credits. Since then, Ecuador, the Brazilian state of Para, and Nepal have all signed agreements with the LEAF Coalition. In addition, Ghana and Tocantins have signed forward purchase agreements with private entitites, and Guyana has made additional sales to a range of private sector buyers.

As more JREDD+ programs progressively come online, it will become increasinly important to effectively next projects into jurisdictional programs. Nested REDD+ may serve as a bridge between the project and jurisdictional scale. Crucially, that will mean that projects will establish baselines that are consistent with national-level accounting.[52] Nesting projects helps to align processes with a standardized national approach, promoting consistency and contributing towards the wider jurisdictional strategy. It also enables testing and success at a local level to build confidence and capacity for scaling of NCS, and to reward these efforts and the stakeholders involved. It enables the integration of the respective strengths of grassroots action and strategic approaches at national/sub-national scale. Similarly, nesting helps countries to diversify their sources of climate financing between the VCM and nonmarket payments.[53] See Table A2 for a comparison of project-level, nested, and jurisdictional NCS.

Table A2. Comparing Scale of NCS Projects and Programs

Parameter	Project-level	Nested	Jurisdictional
Scale and Baseline	A defined area of forest with an individually established baseline to determine avoided deforestation, emissions reduction, carbon sequestration, etc.	Individual projects align implementation practices to create a consistent baseline and crediting approach, integrating into a jurisdictional program.	Programs utilize a baseline developed at the scale of an accounting area defined by a country or large subnational political/ administrative unit.
Financing	Narrow range of investors from grants, loans, or carbon finance.	Each project is likely to have a narrow scope of financing from a small handful of investors or other organizations.	Sourced from a mix of international funding sources including both public and private sector investors.
Benefits	• Smaller scale for more centralized management • Fewer stakeholders to consider • Established processes and proven methodologies	• Provide transition process from project to jurisdiction-level • Combine benefits from both project and jurisdiction-level	• Economies of scale improve efficiencies and costs • Wider impact achieved across climate, biodiversity, and social considerations • Issues like leakage or additionality are better managed
Risks	• Varying methods and consistency across projects • Economies of scale decrease efficiencies and increase costs • Baselines may be difficult to establish	• Unproven methodologies • Transitional approach • Requires alignment from several different projects	• Larger scale increases management challenges • Few examples of success at time of report development

Source: *This figure is adapted from An introduction to jurisdictional REDD+. "The Future of REDD+". Sylvera.*

Investing in JREDD+ is a relatively new frontier, with few examples of private investment in these programs. Fortunately, investors in existing and future programs may find that there are several similarities between project- and program-level investing. But while some components of project-level investment can be scaled and applied to JREDD+ investing, there are a number of key differences:[54]

- JREDD+ investments typically require longer-term engagement, reflecting the scale of jurisdictional programmes and their reliance on national or subnational policy frameworks. While project-level investments can also span multiple decades, they are generally more self-contained and less dependent on evolving public policy. In contrast, JREDD+ outcomes depend on sustained government commitment, regulatory continuity, and alignment with national climate strategies.
- National-level institutions and governance mechanisms are required to implement, or at least coordinate, JREDD+ activities whereas individual projects typically have their own governance and management structures.

- Both project-level and jurisdictional REDD+ activities can draw on similar financial instruments (e.g. grants, concessional finance, private investment, and carbon revenues). However, JREDD+ typically involves a greater role for public finance and blended finance structures, reflecting its scale and the need to support enabling conditions (e.g. policy development, enforcement, land-use planning). Project-level financing is generally more discrete and transaction-based, often led by private developers and investors, with clearer links between investment and credit generation.

Case Study: Guyana's Jurisdictional Forest Carbon Credits[55]

Overview: In December of 2022, Guyana became the first country to be issued carbon credits from a Jurisdictional REDD+ program (Source: ART). The program included all 18 million hectares of Guyana's forests, which accounts for approximately 85 percent of the country's area. Verified according to ART's standard, The REDD+ Environmental Excellence Standard (TREES), Guyana was issued 33.47 million TREES credits for results achieved between 2016 and 2020.

Impact: Guyana's successful credit issuance acts as a proof-of-concept for a jurisdictional approach to REDD+ that is market based. In addition to being the first JREDD+ program to sell credits on the VCM, the program has demonstrated several positive quantitative impacts:

- The program helped the country maintain an annual national deforestation rate of less than 0.1 percent
- Revenues from the program were directed towards financing the country's low-carbon development strategy.
- The program fostered improved forest management, creation of new protected areas, and funding of land titling & development projects in indigenous communities.

Financials:

- Initially funded through agreement with Norway to provide up to USD$250 million in performance-based finance over a five-year span to adopt the UN's REDD+ framework, using deforestation rate as a metric for success.
- After Norway agreement, shifted to the market-based mechanism offered by ART-TREES from 2016 onwards to secure private capital flows
- In 2022, the country sold 37.5 million TREES credits representing a third of the 2016-202 issuance and future issuances through 2030 worth a minimum of USD$750 million (with staggered tranches of prices from USD$15-25/tCO2e). The remaining two-thirds will be sold on voluntary and compliance markets and are expected to fetch a premium as jurisdictional credits.
- Every Indigenous community in the country has receive USD$10 to $15 million from the initial transaction.

Though the mechanics of developing and implementing JREDD+ programs are similar to those already utilized in project-level NCS projects, there will be differences. Even so, the potential improvements in quality and efficiencies of NCS at jurisdictional levels are expected to influence an overall positive change in the VCM.[56]

The number of governments demonstrating interest in participating in the VCM through the sale of JREDD+ credits is increasing, as evidenced by the 26 jurisdictions that are currently registered with ART and the 28 eligible expressions of interest from forest governments made to the LEAF Coalition.[57,58] Investors are likely to benefit from the high integrity credits sourced from jurisdictional programs given the market premium for credits that better address issues such as baselines and leakage. Similarly, investments in these programs may limit an investor's downside risk as issues like government support are more effectively managed at the higher scale of jurisdictional programs and with governments' direct involvement. But before the market is able to capitalize on the benefits of jurisdictional programs, an influx of private capital is needed to provide upfront financing and invigorate the supply of JREDD+ on the market.[59]

For more information about how JREDD+ programs are developed, read Natural Climate Solution Carbon Credits: The Role of Jurisdictional REDD+ Programs.

Appendix 3. The Emerging Biodiversity Market

The biodiversity market remains nascent, but investors may benefit by prioritizing projects that would qualify for production of biodiversity credits, so long as double-counting and additionality for carbon credits from these projects are properly managed. But before the market can be fully established, there are still many aspects and use cases of biodiversity credits that need to mature and become more firmly established.

The recent emergence of voluntary biodiversity credit markets is recognized as an important mechanism to protect nature beyond standard compliance and compensatory measures. Both private sector-led and government-led approaches have materialized and evolved as the markets begin to take shape.

Biodiversity credits are taking shape in two ways: 1) the emergence of biodiversity credit markets separate from the VCM, and 2) increased emphasis on the biodiversity benefits provided by nature-based carbon credits.[60] Carbon markets may be a potential platform for the recognition of biodiversity impact by valuing the biodiversity benefits of carbon credits; however, the challenge of implementing this "bundling" or "stacking" of benefits presents a challenge. Whether voluntary carbon market projects will be eligible for additional credits and subsequent revenue streams is yet to be determined, with the important debate between double counting concerns and multi-layered assets still looming.[61]

Investment directed towards nascent biodiversity markets is well below what is needed to address the biodiversity crisis, with most of the investment in biodiversity and nature coming from government funding for projects that do not generate credits.[62] However, the market has huge potential for growth, and may generate more than USD$18 billion in annual revenue by 2050, based on supply side analysis and preliminary assumptions.[63]

If benefit "stacking" is permitted, then existing NCS projects will have a clear advantage over technology-based removal credits, meaning a potential additional revenue stream for those projects already prioritizing positive biodiversity impacts. Separately, NCS projects are already deriving value from bundling positive biodiversity impacts, with some credits documenting biodiversity benefits fetching a 33 percent premium over those without.[64] Existing value in NCS projects provides the argument for biodiversity to be valued through market premia for carbon credits versus over-engineering new biodiversity crediting schemes.

Case Study: WEF - Building the Biodiversity Market[65]

Source: Biodiversity Credits: Demand Analysis and Market Outlook (weforum.org)

According to a report released by the World Economic Forum, the foundations of an effective market (confidence in quality, robustness and comparability of claims, and means of measurement and accounting) must be established before biodiversity markets can be successful. The report indicated that markets would need to "demonstrate high-integrity supply, assure and secure demand, and establish transparent and standardized information and governance" to build out the necessary foundations.

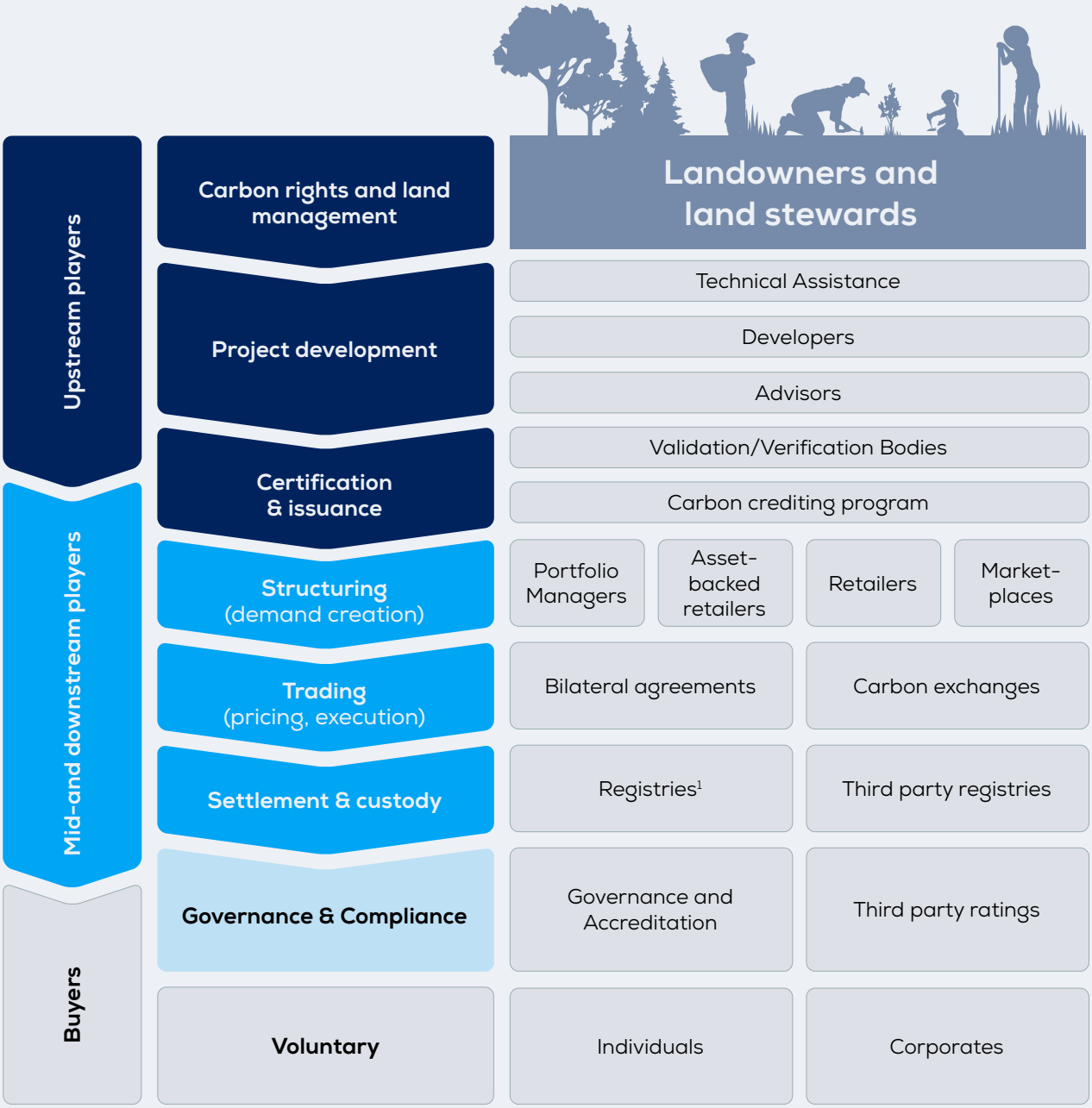
Investors can play a role in establishing the biodiversity market by supporting the actions needed to unlock impact, as defined by WEF:

- **Establish the business case for buyers:** Buyers can identify nature dependencies and mitigation measures in the supply chain, motivate employees around nature performance, connect nature performance to sustainability criteria valued by investors, and develop and market products and brands that engender customer preferences for nature-positive outcomes.
- **Develop high-integrity supply at sufficient scale:** Suppliers can design projects that deliver robust outcomes for nature and local communities, improve the quality and efficiency of measurement, reporting and verification (MRV), and demonstrate cost reductions to enable developers to meet potential demand. This might also include policy action that facilitates high-integrity supply through environmental regulation and appropriate property law.
- **Consolidate common principles, standards and methods:** Standard-setters and independent governance bodies can establish rules to ensure information transparency, quality assurance and stakeholder protection. Common rules would enable comparability, trade and fair competition, while instilling trust and credibility. These could cover areas such as target-setting, claims and disclosure, MRV, equity and inclusion.

.

Appendix 4. Supplementary Tables and Figures

Figure A2: The Role of Certification Bodies, Carbon Crediting Programs, Validation/Verification Bodies (VVBs), and Traders/Retailers



Source: *This figure is adapted from A Buyer's Guide to Natural Climate Solutions Carbon Credits (2023). "Figure 3: The key players in the voluntary carbon market". WBCSD.*

Table A3. Existing Buy- and Sell-side Carbon Credit Integrity Frameworks

Organization	Framework	Components	Use Case
Carbon Credit Quality Initiative (CCQI)	Carbon Credit Quality Initiative	Examines 7 quality objectives, that should be considered when assessing the quality of carbon credits, across 5 score categories, and assigns a likelihood that a credit will meet each of the objectives.	***Demand*** For prospective carbon credit buyers to inform their purchase.
Tropical Forest Credit Integrity (TFCI)	TFCI Guide	Not a standard against which performance can be certified. TFCI guide developed to help differentiate among forest carbon credits by impact, quality, and scale.	***Demand*** Context and guidance for companies interested in purchasing carbon credits in the VCM.
Integrity Council for the Voluntary Carbon Market (ICVCM)	Core Carbon Principles	A global benchmark for high-integrity carbon credits that set rigorous thresholds on disclosure and sustainable development. 10 Core Carbon Principles set out the key principles for high-integrity carbon credits and are divided into three categories: Governance, Emissions Impacts, and Sustainable Development.	***Supply*** The CCPs inform and guide the assessment of carbon-crediting programs and difference categories of carbon credits.
Voluntary Carbon Markets Initiative (VCMI)	Claims Code of Practice	The primary purpose of the Claims Code is to provide clear requirements, recommendations, and supporting guidance to companies and other nonstate actors on when they can credibly make voluntary use of carbon credits as part of their near-term emission reduction objectives and long-term net-zero commitments.	***Demand*** The Claims Code is designed for companies seeking to make credible, voluntary use of carbon credits and receive validation in the form of a VCMI Claim.

Source: *ERM*

Table A4. Comparison of Major Carbon Credit Ratings Agencies:

Carbon Credit Rating Agency	Rating Scale	Score Components	Additional components
BeZero Carbon	8-point scale from D to AAA, with AAA being the highest	· Additionality · Over-crediting · Leakage · Non-permanence · Perverse Incentives · Policy & political environment	UN SDG score is considered but excluded from overall rating
Calyx Global	10-point scale from E to A+, with A being the highest	· Additionality · Over-crediting · Non-permanence · Overlapping claims	UN SDG score is considered but separate from overall rating
Renoster	Numeric score where a score of 1 reflects accurate representation, and anything lower indicates over-crediting	· Additionality · Baseline · Permanence · Verification	Co-benefits scores are considered but separate from overall rating Leakage considered but excluded from overall rating
Sylvera	8-point scale from D to AAA, with AAA being the highest 3-point scale for provisional rating of P+, P, and P-	· Additionality · Carbon score · Non-permanence	Co-benefits scores are considered but separate from overall rating

Source: *This figure is adapted from Assessing and comparing carbon credit rating agencies (2023). "Table 1: Overview of scoring methodology". Carbon Market Watch*

Table A5. UNEP Positive Impact Indicators Directory

Impact Area	Indicator	Requirements	SDGs
Biodiversity	Area of critical habitat under management for protection	· Spatial data	3, 6, 12, 13, 15
	Area of on-site natural habitat under management for protection	· Spatial data	3, 6, 12, 13, 15
	Area of avoided conversion of natural ecosystems	· Spatial data	3, 6, 12, 13, 15
	Area under management for ecological restoration	· Spatial data · Project specific criteria · On-the-ground verification	1, 2, 3, 6, 8, 12, 13, 15
	Species Threat Abatement and Recovery (STAR) value of land under management for protection	· Spatial data	3, 6, 12, 13, 15
	Species Threat Abatement and Recovery (STAR) value of land under management for restoration	· Spatial data	3, 6, 12, 13, 15

Climate Action	GHGs sequestered through restoration of native vegetation	· Spatial data · On-the-ground verification	1, 2, 10, 12, 13, 15
	GHG emissions avoided due to non-conversion of natural habitat	· Spatial data	1, 2, 10, 12, 13, 15
	GHG emission reduction and sequestration from changes to on farm practices	· On-the-ground verification	1, 2, 3, 10, 12, 13, 14, 15
	Number of people whose resilience has been improved as a result of project activities	· Project specific criteria · On-the-ground verification	1, 2, 3, 4, 5, 6, 7, 8, 10, 13, 15
	Volume of water storage capacity	· n/a	1, 2, 3, 6, 12, 13
	Number of different crop varieties and animal breeds managed	· Project specific criteria	1, 2, 6, 12, 13, 14, 15
Forests	Area of natural forest under protection	· Spatial data	3, 6, 12, 13, 15
	Area under management for forest restoration	· Spatial data	1, 2, 3, 6, 8, 12, 13, 15
	Forest under sustainable forest management	· Spatial data · Project specific criteria	1, 2, 3, 6, 12, 13, 15
Livelihoods	Number of households reporting increased income	· On-the-ground verification	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
	Number of participants benefitting from increased access to essential services	· Project specific criteria · On-the-ground verification	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
	Number of jobs created	· On-the-ground verification	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
	Fund transaction meets one or more of the 2X Challenge Criteria for gender lens investing	· Project specific criteria · On-the-ground verification	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
Sustainable Production	Increase in yield on existing production area	· Project specific criteria · On-the-ground verification	1, 2, 3, 6, 12, 13, 14, 15
	Agricultural area covered by sustainable production techniques	· Spatial data · Project specific criteria · On-the-ground verification	1, 2, 3, 6, 12, 13, 14, 15
	Number of people benefitting from increased access to substantive value chain infrastructure	· Project specific criteria · On-the-ground verification	1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 13, 14, 15
	Number of people applying best management practices in sustainable agriculture and/or forest protection, after receiving training	· Project specific criteria · On-the-ground verification	1, 2, 3, 4, 5, 6, 8, 10, 12, 13, 14, 15
	Soil Organic Carbon and healthy soil	· Spatial data · On-the-ground verification	1, 2, 3, 6, 12, 13, 14, 15
	Reduced pesticide use on farm		

Source: *This figure is adapted from The Positive Impact Indicators Directory (2023). "Full List of Indicators". UNEP Land Use Finance Impact Hub.*
**Note: The Positive Impact Indicators Directory may not be an exhaustive list for all NCS projects; Each project is likely to have a unique set of KPIs used in tracking impact and performance.*

Table A5: UN Sustainable Development Goals

Goal	Title	Description
1	No Poverty	End poverty in all its forms everywhere
2	Zero Hunger	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3	Good Health and Well-being	Ensure healthy lives and promote well-being for all at all ages
4	Quality Education	Achieve gender equality and empower all women and girls
5	Gender Equality	Ensure availability and sustainable management of water and sanitation for all
6	Clean Water and Sanitation	Ensure availability and sustainable management of water and sanitation for all
7	Affordable and Clean Energy	Ensure access to affordable, reliable, sustainable and modern energy for all
8	Decent Work and Economic Growth	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9	Industry, Innovation, and Infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
10	Reduced Inequalities	Reduce inequality within and among countries
11	Sustainable Cities and Communities	Make cities and human settlements inclusive, safe, resilient and sustainable
12	Responsible Consumption and Production	Ensure sustainable consumption and production patterns
13	Climate Action	Take urgent action to combat climate change and its impacts
14	Life Below Water	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15	Life on Land	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
16	Peace, Justice, and Strong Institutions	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17	Partnerships for the Goals	Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

Source: *This figure is adapted from The UN SDGs (2024). "The 17 Goals". United Nations.*

Appendix 5. Useful Resources

- State of Finance for Nature 2023 - UN Environment Programme
- Carbon Finance Playbook - USAID
- Beyond Beneficiaries - The Nature Conservancy
- Natural Climate Solutions Alliance - World Business Council for Sustainable Development (WBCSD)
- Exploring the future of the voluntary carbon market - Shell Global
- Reports & Commentary - Trove Research
- 2023 VCM in Review: Carbon Markets at an Inflection Point - Trove Research
- 2023 State of the Voluntary Carbon Markets Report: Paying for Quality - Ecosystem Marketplace
- 2024 State of the Voluntary Carbon Markets Report: On the Path to Maturity – Ecosystem Marketplace
- 2025 State of the Voluntary Carbon Markets Report: Meeting the Moment - Renewing Trust in Carbon Finance
- Building a Capital Continuum for Nature-Positive Investments - CPIC
- The SustainAbility Institute by ERM
- State and Trends of Carbon Pricing 2023. World Bank
- Natural Climate Solutions Crediting Handbook – Environmental Defense Fund

Back to Table of Contents

Acknowledgements

This guide is a result of a collaboration between the ERM Sustainability Institute, ERM, and the Natural Climate Solutions Alliance.

Lead Contributors

- Aiste Brackley (The ERM Sustainability Institute)
- Giulia Carbone (WBCSD)
- Ben Cohen (WBCSD)
- Patrick Colas (ERM)
- Alexander Cox (ERM)
- Patrice Datchanamourty (ERM)
- Jennicca Gordon (WBCSD)
- Ed Hewitt (Respira International)
- Edit Kiss (Capital Continuum)
- Katie Langemeier (The ERM Sustainability Institute)
- Justin Nelson (The ERM Sustainability Institute)
- Carly Sibilia (ERM)
- Cheri Sugal (Integrity Global Partners)

Consulting Authors

- Erika Anderson (ERM)
- Max Bail (Philip Lee LLC)
- Philip Brady (Emergent)
- Stephen Donofrio (GreenPoint Innovations)
- Lev Gantly (Philip Lee LLC)
- Anna Hickey (Philip Lee LLC)

Working Group Members

- Patrick Colas: *Partner, Climate Markets, ERM*
- Richard Erskine: *Head of Nature Based Solutions, Equinor*
- Ed Hewitt: *Natural Climate Solutions Lead, Respira*
- Edit Kiss: *Co-Founder & Managing Partner, Integrity Capital Advisers*
- Ruben Lubowski: *Chief Carbon and Environmental Markets Strategist, Lombard Odier*
- Theresia Ott, PhD: *Chief Advisor, Nature Solutions, Rio Tinto*
- Rick Saines: *Managing Director, Pollination*
- Cheri Sugal: *Co-Founder & Chief Executive Officer, Integrity Global Partners*

Additional Contributors

Several NCSA members provided input and expertise from their experiences working with and investing in NCS to support the development of this guide through their participation in the NCSA Taskforce and the NCSA Technical Advisory Group of the NCSA Steering Committee. In addition, other organizations were interviewed to provide input directly to the ERM Sustainability Institute.

Acknowledgements

- NCSA Taskforce Members
- NCSA Technical Advisory Group
- NCSA Steering Committee
- Moon Herrick, Architecture for REDD+ Transactions
- Julia Paltseva, Architecture for REDD+ Transactions
- Chris Leeds, Standard Chartered
- Caitlin Clarke, BTG Pactual Timberland Investment Group
- Racheal Notto, Kita

Interviewees

- Charles Bedford: *Chief Impact Officer, Carbon Growth Partners*
- Marielle Canter Weikel: *Senior Director, Corporate Climate Solutions, Conservation International*
- Tim Christophersen: *Vice President, Climate Action, Salesforce*
- Eric Cooperstrom: *Managing Director, Impact Investing and Natural Climate Solutions, Manulife*
- Tim Derr: *Senior Associate, Rights & Livelihoods, Rights and Resources Initiative*
- Alain Frechette: *Director of Strategic Analysis and Global Engagement, Rights & Resources*
- Tom Hodgman: *Vice President, Nature Based Solutions, Goldman Sachs*
- Samuel Lampert: *Investment Director, Mirova*
- Charlie Langan: *Africa Region Carbon Market Director, The Nature Conservancy*
- Paige Langer: *Research Associate, World Resources Institute (WRI)*
- Elizabeth Littlefield: *Senior Partner, West Africa Blue (WAB), Senior Advisor, Pollination*
- Christina Magerkurth: *Managing Director, ART Secretariat, Architecture for REDD+ Transactions (ART)*
- Colin McCormick: *Chief Innovation Officer, Carbon Direct Inc.*
- Margarita Mora: Senior Managing Director, Partnerships, Nia Tero
- Matthew D. Potts: *Chief Science Officer, Carbon Direct Inc.*
- Siddarth Shrikanth: *Investment Director – Natural Climate Solutions, Just Climate*
- Leanna Tang: *Analyst, Sustainable Finance*
- Elijah Toirai: *Natural Climate Solutions and Communities Lead, Conservation International*

ERM Support Staff

- Andrew Angle
- Ina Bloemer
- Riley DeBaecke
- Erin Fortenberry
- Nicholas Haluska
- Jacco Kroon
- Avery Lumsden
- Natalie Ryan
- Jordan Story
- Abigail Suratos

Design

- Imre Sebestyén, Jr.

Endnotes

1 www.gfanzero.com/netzerofinancing

2 Natural Climate Solutions Alliance. 2024. Natural Climate Solution Carbon Credits: The role of project developers and communities. Online posting. NCSA. Accessed 4 June 2024. https://www.wbcsd.org/Imperatives/Nature-Action/Nature-based-Solutions/Natural-Climate-Solutions-Alliance/Resources/NCS-Carbon-Credits-roles

3 UN Environment Programme. 2024. Carbon Markets. Online posting. UNEP. Accessed 4 June 2024. https://www.unep.org/topics/climate-action/climate-finance/carbon-markets

4 UNFCCC. 2024. Glossary. Online posting. UNFCCC. Accessed 4 June 2024. https://unfccc.int/resource/cd_roms/na1/ghg_inventories/english/8_glossary/Glossary.htm#top

5 UN Department of Economic and Social Affairs - Indigenous Peoples. 2016. Free Prior and Informed Consent – An Indigenous Peoples' right and a good practice for local communities – FAO. Online posting. UN Department of Economic and Social Affairs. Accessed 4 June 2024. https://www.un.org/development/desa/indigenouspeoples/publications/2016/10/free-prior-and-informed-consent-an-indigenous-peoples-right-and-a-good-practice-for-local-communities-fao/

6 UNFCCC. 2024. Glossary. Online posting. UNFCCC. Accessed 4 June 2024. https://unfccc.int/resource/cd_roms/na1/ghg_inventories/english/8_glossary/Glossary.htm#top

7 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. 2024. Indigenous peoples and local communities. Online posting. IPBES. Accessed 4 June 2024. https://www.ipbes.net/glossary/indigenous-peoples-local-communities

8 United Nations Environment Programme. 2022. Nature-based solutions for supporting sustainable development. Online posting. UNEP. Accessed 4 June 2024. https://www.unep.org/about-un-environment/intergovernmental-consultations-nbs

9 Natural Climate Solutions Alliance. 2023. Natural Climate Solutions and the Voluntary Carbon Market: A Guide for C-suite Executives. Online posting. NCSA. Accessed 4 June 2024. https://www.wbcsd.org/Imperatives/Nature-Action/Nature-based-Solutions/Natural-Climate-Solutions-Alliance/Resources/Natural-Climate-Solutions-and-the-Voluntary-Carbon-Market-A-Guide-for-C-suite-Executives

10 IPCC. 2024. Glossary. Online posting. IPCC. Accessed 4 June 2024. https://www.ipcc.ch/sr15/chapter/glossary/

11 United Nations Climate Change. 2024. What is REDD+? Online posting. UNFCCC. Accessed 4 June 2024. https://unfccc.int/topics/land-use/workstreams/redd/what-is-redd#:~:text=%27REDD%27%20stands%20for%20%27Reducing,enhancement%20of%20forest%20carbon%20stocks.

12 UNEP. 2023. State of Finance for Nature 2023. Online posting. United Nations Environment Programme. Accessed 4 June 2024. https://www.unep.org/resources/state-finance-nature-2023

13 Ecosystem Marketplace. 2024. 2024 State of the Voluntary Carbon Market (SOVCM). Online posting. Ecosystem Marketplace. Accessed 4 June 2024. https://www.ecosystemmarketplace.com/publications/2024-state-of-the-voluntary-carbon-markets-sovcm/

14 Ecosystem Marketplace. 2025. 2025 State of the Voluntary Carbon Market (SOVCM). Online posting. Ecosystem Marketplace. Accessed 23 March 2026. https://www.ecosystemmarketplace.com/publications/2025-state-of-the-voluntary-carbon-market-sovcm/

15 UNEP. 2022. UN Environment Assembly concludes with 14 resolutions to curb pollution, protect and restore nature worldwide. Online posting. United Nations Environment Programme. Accessed 4 June 2024. https://www.unep.org/news-and-stories/press-release/un-environment-assembly-concludes-14-resolutions-curb-pollution#:~:text=rights%20and%20governance-,UN%20Environment%20Assembly%20concludes%20with%2014%20resolutions%20to%20curb,protect%20and%20restore%20nature%20worldwide&text=Nairobi%2C%2002%20March%202022%20%E2%80%93%20The,achieve%20the%20Sustainable%20Development%20Goals

16 The Integrity Council for the Voluntary Carbon Market. 2024. About the Integrity Council. Online posting. ICVCM. Accessed 4 June 2024. https://icvcm.org/

17 Ecosystem Marketplace. 2024. 2024 State of the Voluntary Carbon Market (SOVCM). Online posting. Ecosystem Marketplace. Accessed 4 June 2024. https://www.ecosystemmarketplace.com/publications/2024-state-of-the-voluntary-carbon-markets-sovcm/

18 Ecosystem Marketplace. 2025. 2025 State of the Voluntary Carbon Market (SOVCM). Online posting. Ecosystem Marketplace. Accessed 23 March 2026. https://www.ecosystemmarketplace.com/publications/2025-state-of-the-voluntary-carbon-market-sovcm/]

19 Ecosystem Marketplace. 2025. 2025 State of the Voluntary Carbon Market (SOVCM). Online posting. Ecosystem Marketplace. Accessed 23 March 2026. https://www.ecosystemmarketplace.com/publications/2025-state-of-the-voluntary-carbon-market-sovcm/

20 Verra. 2024. VM0048 Reducing Emissions from Deforestation and Forest Degradation, v1.0. Online posting. Verra. Accessed 4 June 2024. https://verra.org/methodologies/vm0048-reducing-emissions-from-deforestation-and-forest-degradation-v1-0/

21 ICVCM. 2024. Assessment Framework. Online posting. ICVCM. Accessed 4 June 2024. https://icvcm.org/assessment-framework/

22 VCMI. 2024. Scope 3 Flexibility Claim - Beta version. Online posting. VCMI. Accessed 4 June 2024. https://vcmintegrity.org/wp-content/uploads/2023/11/Scope-3-Flexibility-Claim-Beta.pdf

23 IETA. 2024. Guidelines for High Integrity Use of Carbon Credits. Online posting. IETA. Accessed 4 June 2024.https://www.ieta.org/wp-content/uploads/2024/04/IETA_VCM-Guidelines.WEB-2.pdf

24 https://www.consilium.europa.eu/en/press/press-releases/2026/03/05/2040-climate-target-council-gives-final-green-light/

25 European Commission. 2024. Corporate sustainability reporting. Online posting. European Commission. Accessed 4 June 2024 https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en

26 Ecosystem Marketplace. 2022. VCM Reaches Towards $2 Billion in 2021:
New Market Analysis Published from Ecosystem Marketplace. Online posting. Ecosystem Marketplace. Accessed 4 June 2024. https://www.ecosystemmarketplace.com/articles/the-art-of-integrity-state-of-the-voluntary-carbon-markets-q3-2022/

27 Sylvera. 2024. Carbon Market Convergence: What carbon markets' blurring lines means for incentivizing investment into climate action. Online posting. Sylvera. Accessed 4 June 2024. https://www.sylvera.com/blog/carbon-market-convergence-how-lines-are-blurring-between-the-carbon-markets-and-what-it-means-for-incentivizing-investment-into-climate-action

28 Ecosystem Marketplace. 2024. 2024 State of the Voluntary Carbon Market (SOVCM). Online posting. Ecosystem Marketplace. Accessed 4 June 2024. https://www.ecosystemmarketplace.com/publications/2024-state-of-the-voluntary-carbon-markets-sovcm/

29 Shefrin, H. 2023. COP28 Might Structure The Global Market For Carbon Offsets, But Will Prices Be Too Low? Online posting. Forbes. Accessed 4 June 2024. https://www.forbes.com/sites/hershshefrin/2023/10/29/cop28-might-structure-the-global-market-for-carbon-offsets-but-will--prices-be-too-low/?sh=52a2270e77e9

30 Ecosystem Marketplace. 2024. 2024 State of the Voluntary Carbon Market (SOVCM). Online posting. Ecosystem Marketplace. Accessed 4 June 2024. https://www.ecosystemmarketplace.com/publications/2024-state-of-the-voluntary-carbon-markets-sovcm/

31 MSCI. 2024. 2023 VCM in Review: Carbon Markets at an Inflection Point. Online posting. MSCI. Accessed 4 June 2024. https://trove-research.com/report/2023-vcm-in-review-carbon-markets-at-an-inflection-point

32 Coalition for Private Investment in Conservation. 2023. Building a Capital Continuum for Nature Positive Investments. Online posting. CPIC. Accessed 4 June 2024. https://www.cpicfinance.com/wp-content/uploads/2023/10/CPIC-report_Buidling-a-capital-continuum-for-nature-positive-investments.pdf

33 Climate Policy Initiative. 2023. The Corporate Climate Finance Playbook. Online posting. Climate Policy Initiative. Accessed 4 June 2024. https://www.climatepolicyinitiative.org/wp-content/uploads/2023/09/2023-corporate-climate-finance-playbook.pdf

34 Abatable. 2024. Voluntary Carbon Market Developer Overview | 2023. Online posting. Abatable. Accessed 4 June 2024. https://abatable.com/reports/voluntary-carbon-market-developer-overview-2023/

35 Taglieri, S. 2023. Your Carbon Cheat Sheet: Measuring Carbon. Online posting. American Forest Foundation. Accessed 4 June 2024. https://www.forestfoundation.org/why-we-do-it/family-forest-blog/your-carbon-cheat-sheet-measuring-carbon/

36 USAID. 2023. Carbon Finance Playbook. Online posting. USAID. Accessed 4 June 2024. https://crossboundary.com/wp-content/uploads/2023/12/PLANETA-Carbon-Finance-Playbook.pdf

37 United States Agency for International Development. 2023. Carbon Finance Playbook. Online posting. USAID. Accessed 4 June 2024. https://crossboundary.com/wp-content/uploads/2023/12/PLANETA-Carbon-Finance-Playbook.pdf

38 Abatable. 2023. Developing the voluntary carbon market in uncertain policy landscapes. Online posting. Abatable. Accessed 4 June 2024. https://abatable.com/reports/voluntary-carbon-market-policy-report/

39 Ecosystem Marketplace. 2024. 2024 State of the Voluntary Carbon Market (SOVCM). Online posting. Ecosystem Marketplace. Accessed 4 June 2024. https://www.ecosystemmarketplace.com/publications/2024-state-of-the-voluntary-carbon-markets-sovcm/

40 The Nature Conservancy. 2023. Beyond Beneficiaries. Online posting. The Nature Conservancy. https://nature4climate.wpenginepowered.com/wp-content/uploads/2023/08/TNC_Beyond-Beneficiaries-220823.pdf

41 TakingRoot. 2023. The importance of equity for successful benefit sharing in reforestation. Online posting. TakingRoot. Accessed 4 June 2024. https://takingroot.org/the-importance-of-equity-for-successful-benefit-sharing-in-reforestation/

42 The Nature Conservancy. 2023. Beyond Beneficiaries. Online posting. The Nature Conservancy. https://nature4climate.wpenginepowered.com/wp-content/uploads/2023/08/TNC_Beyond-Beneficiaries-220823.pdf

43 Solis, D. et. Al. 2021. Evaluating the Impact of REDD+ Interventions on Household Forest Revenue in Peru. Research article. Frontiers in Forests and Global Changed. Accessed 4 June 2024. https://www.frontiersin.org/articles/10.3389/ffgc.2021.624724/full

44 The Nature Conservancy. 2023. Beyond Beneficiaries. Online posting. The Nature Conservancy. https://nature4climate.wpenginepowered.com/wp-content/uploads/2023/08/TNC_Beyond-Beneficiaries-220823.pdf

45 Mishr, R.S. 2023. Promoting Equitable Benefit Sharing in Voluntary Carbon Markets: Empowering Local Communities in Nature-based Carbon Projects. Online posting. LinkedIn. Accessed 4 June 2024. https://www.linkedin.com/pulse/promoting-equitable-benefit-sharing-voluntary-carbon-markets-mishr/

46 The Nature Conservancy. 2023. Beyond Beneficiaries. Online posting. The Nature Conservancy. https://nature4climate.wpenginepowered.com/wp-content/uploads/2023/08/TNC_Beyond-Beneficiaries-220823.pdf

47 Nature Tech Collective. 2023. Advancing nature tech for a nature positive future. Online posting. Nature Tech Collective. Accessed 4 June 2024. https://www.naturetechcollective.org/

48 Qin, B. and Coker, E. 2023. Global Carbon Markets Get Bigger, Even as Trading Dips. Online posting. BloombergNEF. Accessed 4 June 2024. https://about.bnef.com/blog/global-carbon-markets-get-bigger-even-as-trading-dips/

49 Architecture for REDD+ Transactions. 2022. ICAO Eligibility Expanded for ART-Issued TREES Credits for Use in CORSIA. Online posting. ART. Accessed 4 June 2024.https://www.artredd.org/icao-eligibility-expanded-for-art-issued-trees-credits-for-use-in-corsia/

50 Verra. 2024. Chilean Carbon Market Recognizes Verra-Certified Projects. Online posting. Verra. Accessed 4 June 2024. https://verra.org/chilean-carbon-market-recognizes-verra-certified-projects/

51 UNFCC. 2024. June UN Climate Meetings. Online posting. UNFCC. Accessed 4 June 2024. https://unfccc.int/

52 Ellis, R., Hamrick, K., and Webb, C. 2021. Nesting REDD+ Pathways to Bridge Project and Jurisdictional Programs. Nature. Accessed 4 June 2024https://www.nature.org/content/dam/tnc/nature/en/documents/REDDPlus_PathwaystoBridgeProjectandJurisdictionalPrograms.pdf

53 World Bank Group. 2021. Nesting of REDD+ Initiatives: Manual for Policymakers. Online posting. World Bank Group. Accessed 4 June 2024. https://documents1.worldbank.org/curated/en/411571631769095604/pdf/Nesting-of-REDD-Initiatives-Manual-for-Policymakers.pdf

54 Emergent Climate. 2022. Understanding Corporate Climate and Nature Strategies and the Role of Tropical Forest Protection. Online posting. Emergent Climate. Accessed 4 June 2024. https://emergentclimate.com/wp-content/uploads/2022/10/Emergent-white-paper-corporate-claims_.pdf

55 Natural Climate Solutions Alliance. 2023. Guyana's Jurisdictional Forest Carbon Credits. Online posting. Natural Climate Solutions Alliance. Accessed 4 June 2024 https://www.wbcsd.org/download/file/16132

56 S&P Global. 2022. Jurisdictional REDD+, high-impact carbon projects fighting to bloom. Online posting. S&P Global. Accessed 4 June 2024. https://www.spglobal.com/commodityinsights/en/market-insights/blogs/energy-transition/061422-jurisdictional-redd-carbon-markets

57 Architecture for REDD+ Transactions. 2024. Programs. Online posting. ART. Accessed 4 June 2024. https://art.apx.com/myModule/rpt/myrpt.asp?r=111

58 LEAF Coalition. 2024. About the LEAF Coalition. Online posting. LEAF Coalition. Accessed 4 June 2024. https://www.leafcoalition.org/

59 Sylvera. 2024. The State of Carbon Credits 2023. Online posting. Sylvera. Accessed 4 June 2024. https://7608351.fs1.hubspotusercontent-na1.net/hubfs/7608351/The%20State%20of%20Carbon%20Credits%202023.pdf

60 Taskforce on Nature Markets. 2023. TASKFORCE ON NATURE MARKETS FINAL RECOMMENDATIONS. Online posting. Taskforce on Nature Markets. Accessed 4 June 2024. https://www.naturemarkets.net/

61 Manuell, R. 2023. Biodiversity crediting to imminently face up to the challenges of bundling and stacking with carbon. Online posting. Carbon Pulse. Accessed 4 June 2024. https://carbon-pulse.com/212820/

62 Bromley, H. and Cuming, V. 2023. Biodiversity Finance Factbook. Online posting. BloombergNEF. Accessed 4 June 2024. https://assets.bbhub.io/professional/sites/24/REPORT_Biodiversity_Finance_Factbook_master_230321.pdf

63 Principles for Responsible Investment. 2023. IPR: Forecast Policy Scenario + Nature (FPS + Nature): Preparing financial markets for climate- & nature-related policy & regulatory risks. Online posting. PRI. Accessed 4 June 2024. https://www.unpri.org/download?ac=17706

64 Principles for Responsible Investment. 2023. IPR Forecast Policy Scenario + Nature. Online posting. PRI. Accessed 4 June 2024. https://www.unpri.org/inevitable-policy-response/ipr-forecast-policy-scenario--nature/10966.article

65 WEF. 2023. Biodiversity Credits: Demand Analysis and Market Outlook. ONline posting. World Economic Forum. Accessed 4 June 2024. https://www3.weforum.org/docs/WEF_2023_Biodiversity_Credits_Demand_Analysis_and_Market_Outlook.pdf

Natural Climate Solutions Alliance

ERM SUSTAINABILITY INSTITUTE

ERM

World Business Council for Sustainable Development

For more information visit naturalclimatesolutionsalliance.org and follow us on LinkedIn.