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THE OPSWF NETWORK SERIES

NATURE INVESTMENT PLAYBOOK

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21 OCTOBER 2026 - MARKETING COMMUNICATION - FOR PROFESSIONAL INVESTORS ONLY
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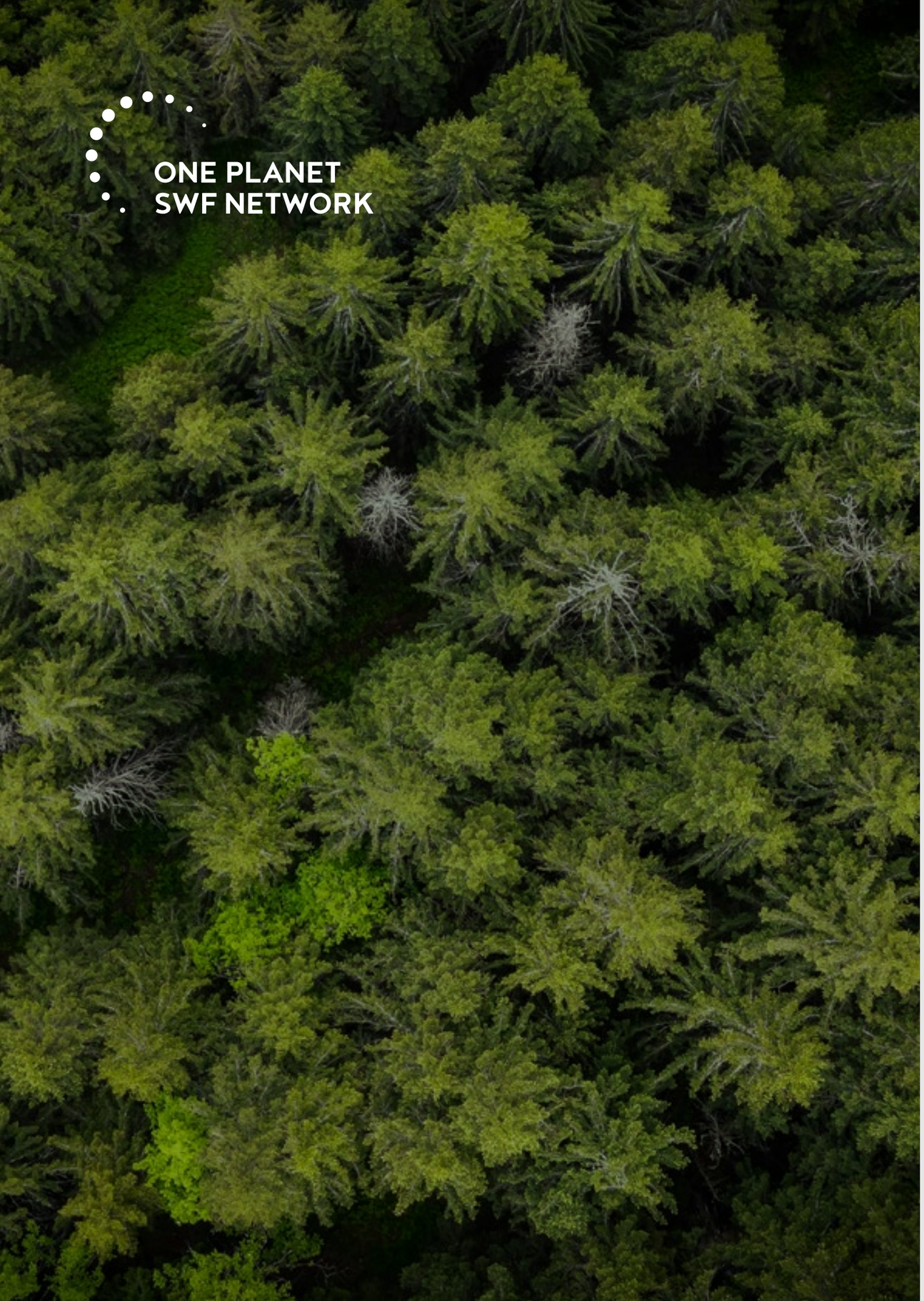

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FOREWORD

Nature is the foundational infrastructure regulating our planetary system, including our climate, the food we eat, the water we drink and the air we breathe. Nature is the unifying whole, the web of life supporting all living processes and related activities. This includes all our economic activities, even if our economic system does not realise that because currently it derives value from prize rather than prize from value. The challenge is that for more than a century our economy has understood nature, either as an externality or as resource to extract rather than as a critical infrastructure to regenerate because it underpins our entire economy. As result, nature has been both overexploited and undervalued. Climate change, biodiversity loss, water stress and land degradation are now affecting supply chains and physical assets, while access to food, water and other natural resource are becoming increasingly important.

For sovereign wealth funds, this matters. With mandates to invest for future generations, they need to consider how changes in natural systems will affect the value and resilience of their portfolios over decades. Nature can also be understood as productive capital: forests, soils, freshwater and marine ecosystems that support economic activity. Investing in regenerating these assets and managing them sustainably is crucial to enhance asset performance, mitigate systemic risks and ensure long-term value creation, creating opportunities for long-term returns and diversification, while strengthening strategic resource security such as food, water and biodiversity critical for national prosperity and future generations in a climate-changed world.

The opportunity is not simply to restore nature after it has been degraded. Investors can invest in productive assets and businesses in ways that strengthen the natural systems on which their long-term value depends. Regenerative agriculture is one example: better management of soils, water and biodiversity can improve resilience, reduce inputs and support long-term productivity and profitability. Similar opportunities exist in forestry, the blue economy and ecosystem restoration.

Recognising the opportunity is easier than investing in it. Natural-capital markets differ in maturity, scale, liquidity and risk. Farmland and forestry have a long history of institutional investment; other areas are newer and may depend on evolving regulation, measurement or environmental markets. Investors need to understand where the underlying economics are strong, how risks can be managed and where specialist capabilities are required.

We are particularly grateful to His Majesty King Charles III, who has championed nature and regenerative practices for decades. We thank him for his personal engagement and for encouraging investors to recognise the importance of healthy natural systems to long-term prosperity, including the collaboration between OPSWF Network and the Circular Bioeconomy Alliance.

This Playbook draws on the experience of OPSWF members and other investors and practitioners. The Circular Bioeconomy Alliance has contributed valuable expertise on natural capital and regenerative approaches, complementing the practical investment experience brought by contributors to the Playbook.

The Nature Investment Playbook is deliberately practical. It does not propose a new standard or prescribe how investors should allocate capital. It provides a step-by-step guide to the investment case, real-world examples, portfolio allocation and implementation.

Investing in nature is neither a single strategy nor a single asset class. But across different opportunities, a common lesson emerges: financial value creation and environmental improvement can reinforce each other when better management strengthens the productivity, resilience and long-term value of an asset.

We hope this Playbook helps sovereign wealth funds and other long-term investors move from interest to action: identify where nature fits their portfolios, understand the economics and risks, build the right capabilities and partnerships, and invest where the case is sound.

For institutions entrusted with preserving wealth across generations, this is ultimately about long-term value: maintaining and enhancing the productive natural systems on which economies depend, while creating opportunities and safeguarding prosperity for future generations.

Lawrence Yanovitch
CEO, One Planet Sovereign Wealth Funds Network

Marc Palahí
CEO, Circular Bioeconomy Alliance

ABOUT THIS PLAYBOOK

The Nature Investment Playbook aims to provide a structured and pragmatic approach to investing in nature: from establishing the investment case and examining real-world case studies to asset allocation and implementation.

The goal was not to develop a mandatory framework or set of general standards, but rather to provide a practical, step-by-step roadmap to help investors assess opportunities and progress towards implementation. Although the Playbook is intended primarily for OPSWF Network members, the authors hope that it will also be useful to other professional investors interested in natural capital.

Recognising that users will be at different points on their journeys, we designed the Playbook as an interactive PDF. It can be read from start to finish in a linear fashion, but its interactive functionality also allows readers to easily navigate between sections and chapters using the menu bar.

The first section provides the high-level investment case for nature, explaining why natural capital is investable and compelling, with a focus on sustainability. The second section brings the investment case to life providing case studies that illustrate how investing in nature can deliver financial returns alongside real world environmental outcomes. These first two sections are aimed at a broad audience.

The third section examines how nature investments can fit within existing portfolio and the teams that lead asset-allocation frameworks. It is designed for asset allocation, responsible investment, and strategy. The fourth section addresses practical execution considerations and is primarily intended for asset class and access point teams responsible for selecting managers or making direct investments.

The Playbook is designed to provide practical insights and tools that investors can adapt to their own circumstances. Given the diversity and breadth of the OPSWF Network members' portfolios, the Playbook adopts a broad approach and stresses the value of getting started. No journey is perfect and small steps can deliver important investment and environmental benefits, allowing investors to build experience and capabilities over time.

We envision this Playbook evolving over time and therefore invite OPSWF Network members to share feedback as they engage with the material, identify emerging issues or see a need for clarification or additional guidance.

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EXECUTIVE SUMMARY

Natural capital is an investable asset base, supporting economic activity while generating a range of potential financial returns. Productive land, freshwater, forests and marine ecosystems are essential to the production of food, fibre, timber and other essential goods, while also supporting vital functions including water regulation, soil fertility, pollination and flood protection. For investors, the key question is where and how this economic value can be captured: through investable assets, recurring cash flows, productivity improvements and appreciation in underlying asset value.

The OPSWF Nature Investment Playbook provides sovereign wealth funds and other institutional investors with a practical framework for how to understand this opportunity, identify investable strategies, fit them into portfolios and execute them effectively. The Playbook focuses on farmland, forestry, the blue economy and ecosystem restoration, while also considering the potential contribution of carbon, biodiversity and other ecosystem-service revenues.

PART 1

Natural Capital as an Institutional Investment Opportunity

Natural capital can be understood as productive capital: assets whose productivity and value can be maintained and enhanced over time. Agriculture and forestry already demonstrate familiar institutional investment characteristics, including operating income, biological growth, land appreciation, diversification, and potential inflation-hedging characteristics. At the same time, this asset class is subject to risks including soil degradation, water stress, biodiversity loss and changing weather patterns that tend to be felt over a longer time horizon, but which can weaken asset productivity and increase costs. For long-term investors, sustainable management can therefore be important to preserving the productivity and value of the underlying assets.

Sovereign wealth funds may be particularly well suited to these investments. Their long horizons can align with the multi-decade characteristics of productive land and other natural assets, while certain funds may also have domestic development or sustainability or strategic resource mandates that provide additional rationale. Indeed, investments related to food, water, timber, and other critical resources may contribute to national resilience.

PART 2

Business Cases: Investing in Nature Today

The Playbook's case studies illustrate a broad investment opportunity set. Farmland offers exposure to agricultural income, land appreciation and value creation through better operations, crop selection, water management and productivity improvements. Forestry combines biological growth, harvest income and land appreciation, with additional value from silviculture, operational efficiency, and flexibility in timing harvests to demand. Blue economy opportunities span businesses and infrastructure linked to aquaculture, ports, logistics, tourism and marine resources, supported by identifiable demand and cash-flow drivers.

Across these areas, active management is central to the investment case: Returns can be influenced not only by underlying market exposure, but also by improvements in productivity, resource efficiency, operating practices, resilience, and market access. Carbon offsets, biodiversity credits and other ecosystem-service revenues may also provide additional upside where markets are sufficiently mature, but should generally be viewed as complementary to, rather than a substitute for, sound underlying economics.

The opportunities vary materially in maturity, liquidity, operating complexity and risk-return profile. This diversity creates different entry points depending on investors' objectives, risk appetite and capabilities.

PART 3

Fitting Nature into the Portfolio

A key challenge is determining where nature fits within existing investment frameworks. The Playbook sets out three practical approaches for sovereign wealth funds and institutional investors: creating a dedicated natural-capital or related asset class; incorporating nature investments into existing asset classes; or allocating through an impact or development mandate. The right approach depends on each investor's portfolio structure, governance, scale and objectives.

For some investors, established sectors such as agriculture and forestry may warrant dedicated allocations, given their longer performance histories and the availability of specialised managers and operating partners. Other opportunities may fit naturally within real assets, infrastructure, private equity, private debt or public markets. In each case, nature investments should be assessed through the same disciplines applied elsewhere in the portfolio: expected return, risk, liquidity, duration, correlation, governance and implementation capability. Where investments are made through an impact or development mandate, investors will typically need to assess both the intended positive impacts and potential adverse impacts (do no significant harm). This approach may be particularly relevant for sovereign wealth funds with explicit impact or national development mandates.

PART 4

Execution

The final chapter focuses on translating the investment thesis into investable strategies and realised returns. Nature-related investments can carry asset-level land, biological, climate, regulatory, commodity, social, and offtake risks. Many of these risks, however, can be identified and mitigated through disciplined due diligence, appropriate structuring and ongoing active management. Exit planning should begin at entry: title, permits, governance, cash-flow visibility, market liquidity, and the credibility of underlying claims can all materially affect eventual value realisation.

Investors can choose from a spectrum of execution models, from third-party funds and co-investments to direct ownership. The choice depends on internal expertise, desired control and deployment scale. Across these models, the selection of manager and operating partner is one of the highest-leverage decisions, with local capability, aligned incentives, governance rights and strong operational management central to financial performance.

The central proposition of the Playbook is that natural capital represents a broad and diverse investment universe linked to resources and economic systems of growing strategic importance. Long-term value can be created through disciplined investment in productive natural assets combined with active management to improve productivity, resilience, and resource efficiency. The Playbook provides investors with a framework for assessing these opportunities, determining their role within a broader portfolio, and selecting appropriate strategies and execution models

PART 1

NATURAL CAPITAL AS AN INSTITUTIONAL INVESTMENT OPPORTUNITY

WHAT IS NATURAL CAPITAL?

Natural capital refers to the stocks of natural assets and ecosystems that underpin economic activity and human well-being. These assets include forests, farmland, freshwater resources, soils, marine ecosystems, and biodiversity. They generate economic value through the production of essential goods such as food, fibre, and timber, as well as through ecosystem services including carbon sequestration, water regulation, soil fertility, pollination, flood protection, and coastal protection.

Natural capital is therefore both an environmental concept and an economic one. Economic activity depends on functioning natural systems; degradation of those systems can reduce productivity, increase costs, and create supply-chain and operational risks. Conversely, investment that protects, restores, or improves natural assets can preserve or enhance the economic value they support. Viewed in this way, nature is productive capital: an asset whose resilience and productive capacity can be actively maintained, enhanced and regenerated over time.

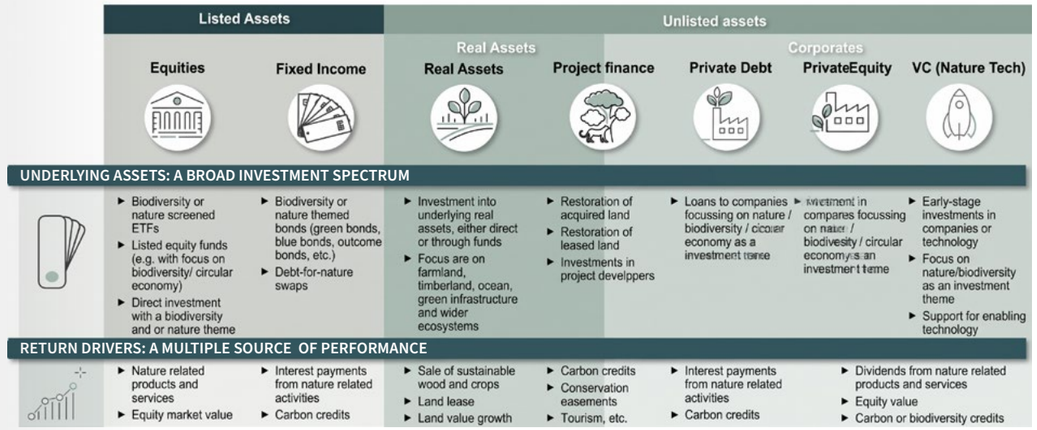
From an investment perspective, the relevant issue is not simply whether nature has economic value. The relevant questions are how that value can be captured through investable assets, recurring cash flows and appreciation in underlying asset value. Unlike other investments, natural capital investments are ultimately linked to tangible underlying assets whose productivity is supported by biological and ecological processes. The investment opportunity therefore includes not only preserving existing natural capital, but financing changes in land management and production systems that can strengthen productivity and resilience while generating financial returns.

Natural capital represents a broad and evolving investment universe spanning multiple conventional asset classes and investment strategies. Public-market exposure can be obtained through listed equities, thematic funds, exchange-traded funds, green and blue bonds, and other securities linked to companies involved in the sustainable management of natural resources or the development of environmental solutions. Private-market opportunities include private equity, private debt, venture capital and project finance focused on areas such as regenerative agriculture, sustainable forestry, ecosystem restoration, water management, biodiversity solutions, and nature-related technologies and infrastructure.

These opportunities differ significantly in their maturity, liquidity, risk-return characteristics and dependence on emerging regulatory or environmental markets. Some are established investment strategies, while. Others remain early-stage and require further development of technology, markets, regulation and measurement frameworks. Opportunities also vary across geographies and market environments, with some focused on developed markets and others offering exposure to emerging markets and developing economies.

This Playbook does not seek to cover the full universe of nature-related investments, such as listed equities or broader environmental technology strategies. It focuses primarily on natural capital and related investment opportunities, i.e., direct or indirect investments in physical natural assets capable of generating long-term financial returns and, in many cases, measurable environmental outcomes. Within this universe, particular attention is given to strategies that combine the production of essential economic goods with the protection or regeneration of the natural systems on which that production depends.

Figure 1:
Range of investment opportunities in natural capital



Source: BNP Paribas Asset Management (2026), based on discussions with OPSWF Network members.

The focus is therefore on four principal areas.

1. **Forestry.** Productive forests and timberland, including opportunities associated with carbon sequestration and other ecosystem services.
2. **Farmland.** Agricultural land and associated productive activities, including opportunities arising from improvements in soil health, productivity, and resource efficiency.
3. **Blue economy.** Selected investments linked to the sustainable use and restoration of marine and coastal resources, including sustainable aquaculture, fisheries, blue carbon, and related activities.
4. **Ecosystem restoration.** The restoration and enhancement of degraded landscapes, including forests, wetlands, grasslands, or watersheds and other ecosystems.

It is important to stress that, these four areas should not be viewed as a single homogeneous asset class. Their underlying return drivers, liquidity, risk profiles, operating requirements and dependence on environmental markets differ materially. Forestry and farmland are established productive real-asset strategies, while ecosystem restoration and the blue economy are earlier-stage opportunities in which regulation, measurement frameworks and environmental markets play a greater role.

THE CASE FOR INVESTING IN NATURE

The investment case for natural capital starts with assets that are already familiar to institutional investors. Forestry and farmland have long histories as productive real assets, with established cash flows, professional management structures and investment markets. At the same time, the sustainability of these assets is increasingly recognised as an important determinant of their long-term financial performance.

Beyond these established opportunities, structural trends including resource scarcity, climate change, biodiversity loss, regulation and growing corporate demand are creating additional investment opportunities across natural capital.

AN ESTABLISHED INVESTMENT OPPORTUNITY

Nature investments have long been a part of institutional investors' portfolios. States and religious organisations have owned forestland for centuries. More recently commercial timberland investment began to develop at scale in the United States during the 1980s, driven by pension funds seeking long duration real assets with attractive risk-adjusted returns.

Over subsequent decades, timberland evolved into a professional investment market globally, particularly across core markets. The development of specialist investment managers, defined valuation methodologies, operating platforms and sustainable forest management practices helped make geographically dispersed and biologically productive assets increasingly investable at institutional scale.

Farmland has followed a broadly similar trajectory, with institutional investment developing through a range of models, from relatively passive farmland leasing strategies to more active approaches focused on improving productivity, water efficiency, soil health, and regenerative practices. Growing demand for agricultural products, concerns around food security and the finite supply of productive agricultural land have also contributed to increasing institutional interest.

Together, forestry and farmland represent two of the most mature segments of the natural capital investment universe, with decades of institutional ownership, established transaction markets and a growing ecosystem of specialist managers.

Their development demonstrates an important point: investment in natural capital is not simply a new manifestation of sustainability investing. Productive natural assets have long been capable of generating conventional financial returns. Sustainability considerations are increasingly relevant because they can help protect and enhance the productive capacity and long-term value of those assets. Today, institutional investors own approximately USD 250 billion in these traditional asset classes[1].

Alongside these mature markets, new investment opportunities are developing in the blue economy and ecosystem restoration. Blue economy opportunities include sustainable aquaculture, fisheries, coastal ecosystem restoration, blue carbon, and other activities supporting the sustainable use of marine resources. Although these markets remain less mature than forestry and farmland, they are developing as the economic importance of healthy marine and coastal ecosystems becomes increasingly recognised.

Ecosystem restoration has gained momentum as governments, corporations, and investors seek solutions to climate change, biodiversity loss, and environmental degradation. Opportunities include reforestation, wetland rehabilitation, habitat restoration, watershed protection, and improvements to degraded agricultural land. The economics of restoration vary considerably. Some projects can generate relatively conventional revenues from productive land uses, timber or agricultural activities, while others depend more heavily on markets for carbon, biodiversity or other ecosystem-service payments.

Today, it is estimated that USD 30 billion is invested in ecosystem restoration projects by institutional investors[2], but the market opportunity is much more substantial.

The growing number of specialist managers and operating platforms is helping address one of the historical barriers to institutional investment: the operational complexity of owning geographically dispersed, biologically productive assets. Professional managers can provide the expertise, local operating capabilities, aggregation and reporting infrastructure required to manage these assets at scale.

Together, these markets illustrate a broader shift in how nature is viewed: from treating nature primarily as an externality or conservation concern towards recognising it as productive capital that can support financial returns, economic resilience and the continued production of essential goods and services. The investment case rests both on established real-asset characteristics and also on the growing value of improved resilience and productivity for natural systems as those systems are increasingly subject to extreme weather events.

[1] International Woodland Company (2025), based on internal analysis.
[2] International Woodland Company (2025), based on internal analysis.

ESTABLISHED RETURN DRIVERS, DIVERSIFICATION AND INFLATION RESILIENCE

One of the key reasons forestry and farmland have become established components of institutional portfolios is their combination of productive real-asset characteristics and differentiated return drivers.

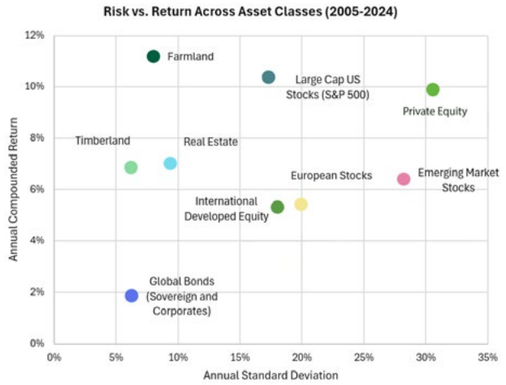
Returns can be generated through several sources:

- **Operating income** from timber sales, agricultural production or leases;
- **Biological growth** of trees and crops;
- **Land appreciation**, reflecting changes in land values, productivity and alternative uses; and
- **Active management**, including improvements in productivity, infrastructure, forest or farmland management, water efficiency, and other characteristics of the underlying asset.

These return drivers differ from those that dominate traditional financial assets. Equity returns are strongly influenced by economic growth and corporate earnings, while fixed-income returns are primarily driven by interest rates and credit. Natural capital returns are instead linked to biological growth, land productivity, local commodity markets, timber prices and underlying land values.

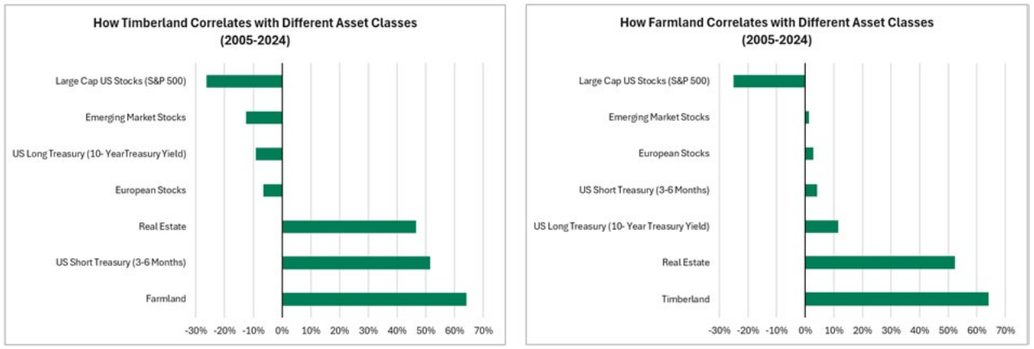
This lower correlation to broader market movements can provide meaningful diversification benefits. Forestry and farmland in core markets have historically exhibited relatively low correlation with traditional asset classes such as equities and fixed income.

Figure 2:
Risk-return characteristics across major asset classes



Sources: Bloomberg, NCREIF Timberland property Index, and NCREIF Farmland Property Index (2024). No assurance can be given that any forecast, target, or opinion will materialise.

Figure 3:
Correlation of forestry and farmland with traditional asset classes



Sources: Bloomberg, NCREIF Timberland property Index, and NCREIF Farmland Property Index (2024). No assurance can be given that any forecast, target, or opinion will materialise.

Natural capital remains exposed to broader economic and market factors, including interest rates, commodity prices, economic growth and climate conditions. Geographic and sector diversification therefore remain important within a natural capital portfolio.

The combination of differentiated return drivers and relatively low correlation can nevertheless improve the overall risk-return characteristics of a diversified institutional portfolio.

Natural capital can also provide a degree of inflation resilience. The underlying assets are real assets, while revenues can be linked directly or indirectly to timber, agricultural commodities and other natural-resource outputs. The prices of these goods can respond to inflation and broader nominal economic growth. Land values may also appreciate over time in response to inflation and economic development.

These general observations about land and land-related assets, however, should not be interpreted as guaranteed short-term inflation protection: commodity prices and land values can be volatile, and the relationship between inflation and individual assets can vary by geography, sector and point in the cycle. The potential benefit instead comes from the longer-term relationship between real productive assets, nominal economic growth and the prices of essential goods. Forestry also benefits from flexibility in the timing of harvest (see Section 3 for further details).

For long-horizon investors seeking to preserve purchasing power across generations, this characteristic can be particularly relevant.

CURRENT PRODUCTION MODELS ARE ERODING NATURAL CAPITAL

The investment case for natural capital is increasingly shaped by a paradox: the economic activities that depend on natural systems can also contribute to their degradation.

Agriculture, forestry and other land-use activities depend on fertile soils, reliable water, pollination, stable climatic conditions and functioning ecosystems. Yet intensive production, land conversion, soil depletion, nutrient run-off, water stress and habitat loss are weakening these foundations.

The IPCC estimates that Agriculture, Forestry, and Other Land Use (AFOLU) contributed 13-21% of global anthropogenic greenhouse gas emissions between 2010 and 2019, and EAT-Lancet puts the estimate for the food system at greater than 30%. Reducing emissions from agriculture and forestry is therefore a critical component of addressing climate change.

More broadly, the degradation of natural systems can create direct economic consequences. Soil erosion and declining biodiversity can reduce productive capacity; water scarcity can constrain production; loss of pollination and other ecosystem services can increase costs; and climate-related disruption, pests and disease can increase volatility.

The EAT-Lancet Commission identifies food systems as the largest contributor to the transgression of five planetary boundaries: climate change, land conversion, biodiversity loss, freshwater depletion and pollution from excess nitrogen and phosphorus. As planetary boundaries are exceeded, Earth-system processes can become less stable and predictable, increasing the potential for tipping points, cascading impacts and irreversible changes.

For investors, these are not simply environmental externalities borne by society. They can feed back directly into asset performance through lower yields, higher input requirements, water constraints, greater exposure to pests and disease, higher operating costs and increased climate-related disruption. This makes sustainability a financial-performance issue for long-term owners of natural assets.

Active management can help protect the productive base of an asset. In agriculture, regenerative approaches can seek to improve soil health, reduce input requirements, improve water efficiency and

increase resilience. Farmer-led research by the European Alliance for Regenerative Agriculture, covering 78 pioneering farms in 14 countries between 2021 and 2023, reported comparable yields alongside lower inputs, stronger margins, greater resilience, and improved ecological outcomes relative to conventional peers.

For long-horizon investors, including sovereign wealth funds, the implication is important: sustainability is not simply an additional objective alongside financial performance. It can be a prerequisite for preserving the productive capacity and long-term value of the asset itself.

REGULATION AND GROWING DEMAND ARE CHANGING THE OPPORTUNITY SET

The degradation of natural capital is also driving a growing policy and market response. Governments are introducing measures relating to ecosystem protection and restoration, deforestation, sustainable land use, biodiversity and nature-related disclosure. International initiatives are contributing to the development of standards, measurement methodologies and greater transparency for investors.

For investors, regulation can affect natural capital in several ways. It can establish minimum standards for resource use, increase demand for sustainable production, create new environmental markets and influence the relative value of well-managed versus poorly managed assets.

This creates potential opportunities for investors able to identify assets that are well positioned for a changing regulatory environment. Better-managed assets may benefit from improved market access, reduced operating risks or a relative increase in value as environmental standards become more stringent.

Carbon and biodiversity markets remain subject to evolving regulation, methodologies and market design. Their track records are shorter, and their revenue models can be less predictable than those associated with established timber, agricultural or land revenues.

Nevertheless, environmental markets are becoming an increasingly important mechanism through which governments and businesses can mobilise capital towards more sustainable and resilient economic systems. They can add supplementary income streams alongside traditional agriculture and forestry revenues, while some standalone ecosystem services projects may offer higher expected returns but may also carry higher risks.

Corporate demand provides an additional structural tailwind. Businesses across sectors depend on natural resources and ecosystem services and are increasingly recognising the risks posed by climate change, biodiversity loss, resource degradation and supply-chain disruption. This recognition is translating into commitments relating to sustainable sourcing, deforestation, water, biodiversity and resilient agricultural supply chains.

Growing corporate demand can create additional markets for sustainably produced timber and regenerative agricultural commodities, as well as for credible nature-based solutions. It may support premiums or improved market access for better-managed assets, while creating demand for ecosystem restoration and other activities that improve the resilience of natural systems.

Importantly, corporate demand provides a private-sector source of demand alongside government policy and environmental markets, potentially broadening the revenue base available to natural capital investments.

NATURAL CAPITAL AS A PILLAR OF SOVEREIGNTY

Natural capital is also becoming increasingly relevant from a geopolitical and strategic perspective.

Food and water security, resource security and economic resilience are becoming strategic priorities for governments. Climate change and ecosystem degradation can amplify these pressures by affecting agricultural productivity, water availability, resource supply and supply chains.

For sovereign wealth funds in particular, these considerations can extend the investment rationale beyond portfolio diversification. Productive land, forests, water resources and marine ecosystems are strategically relevant resources whose availability and resilience can affect national prosperity and the well-being of future generations.

This does not mean that natural capital investments should be viewed primarily through a geopolitical lens. Rather, the strategic relevance of the underlying resources can reinforce their long-term economic value and relevance to sovereign investors.

Natural capital can therefore combine financial exposure to established real-asset returns with exposure to resources of strategic importance—including food security, resource security and climate resilience.

WHY NATURAL CAPITAL ALIGNS WITH SOVEREIGN WEALTH FUNDS

The characteristics of natural capital are particularly well aligned with the advantages and objectives of sovereign wealth funds.

LONG INVESTMENT HORIZONS

Sovereign wealth funds can invest with multi-decade and, in some cases, perpetual horizons. This is well suited to productive land and natural assets, where value creation can take place over long periods through biological growth, operational improvements, land appreciation and ecosystem restoration.

Patient capital can also support transitions from more extractive production models towards more regenerative practices, where the financial benefits may take time to materialise.

SUSTAINABILITY

Many sovereign wealth funds have explicit sustainability mandates or ambitions. Natural capital provides a tangible way to translate these ambitions into asset-level action.

Direct ownership or long-term investment mandates can provide the governance, measurement and stewardship required to improve land management while maintaining a clear focus on financial performance. This alignment is strongest where environmental objectives are explicit, outcomes are measured and reported, and sustainability performance is assessed alongside financial returns.

STRATEGIC RESOURCE RELEVANCE

Finally, productive land and natural systems are strategically important. Food, water and resource security, climate resilience and reliable supply chains are increasingly relevant to national prosperity.

For sovereign investors, these considerations can reinforce rather than replace the financial case. Natural capital can provide exposure to established real asset returns while supporting the resilience of resources on which economies and future generations depend.

CONCLUSION

The investment case for natural capital begins with established forestry and farmland: productive real assets with long investment histories, differentiated return drivers and the potential to provide diversification and inflation resilience.

The case becomes more compelling when sustainability is recognised as a determinant of future productivity, resilience and market access. Natural capital is not simply an environmental consideration external to investment performance. For owners of productive land and natural assets, the health of the underlying natural systems can directly influence the cash flows, costs and long-term value of the investment.

Better management can therefore protect the core productive value of an asset while also, where markets are sufficiently developed and credible, creating additional revenues from ecosystem services. Regulation and growing corporate demand are further expanding the opportunity set.

At the same time, the opportunity should be approached selectively. Natural capital is not a homogeneous asset class. Forestry and farmland have established institutional characteristics, transaction markets and return histories, while ecosystem restoration and the blue economy remain earlier-stage opportunities with greater uncertainty around regulation, liquidity, measurement and revenue models. Emerging environmental markets should not be treated as equivalent to established productive-land revenues.

The strongest opportunities are likely to be those in which financial value creation and environmental improvement are mutually reinforcing: better management can improve the resilience and productivity of the underlying natural asset, protect long-term cash flows and, where appropriate, create additional sources of value.

For sovereign wealth funds and other long-horizon investors, this may create a particularly relevant proposition. Natural capital can provide:

- a **financial allocation** with differentiated return drivers;
- a **long-duration real asset** with potential diversification and inflation resilience;
- an opportunity to **protect and enhance the productive base** on which future returns depend;
- an exposure to **strategically important resources** linked to food security, resource security, climate resilience, and intergenerational wealth preservation.

As institutional participation, professional management and environmental markets continue to develop, natural capital is likely to become an increasingly relevant component of diversified institutional portfolios.

The key question for investors is therefore which segments, strategies and managers can deliver attractive risk-adjusted returns while capturing the long-term value of healthy and productive natural systems.

PART 2

BUSINESS CASES: INVESTING IN NATURE TODAY

Part 2 of this playbook explores the principal segments of the investable natural capital universe in greater detail, covering forestry, farmland, ecosystem restoration, and the blue economy, and examining the financial, operational, and strategic considerations associated with each.

FARMLAND

MARKET OVERVIEW AND KEY INVESTMENT STRATEGIES

Farmland is one of the largest and most immediately accessible natural-capital opportunity. Industry estimates place the total global farmland market at several trillion dollars. The global agriculture sector consists of roughly 1.5-1.6 billion hectares of arable land of which less than 2% is under institutional ownership[4] and towards which approximately USD 80-100 billion of institutional capital is deployed today[5]. The market remains highly fragmented, with most farms family-operated, which creates a long runway for consolidation, professionalisation and productivity improvement.

The investable universe is not uniform. North America offers the deepest and most liquid institutional farmland market, while Australasia combines scale, clear land-title systems and export-oriented permanent-crop production. Other regions may offer significant biological and productivity potential, but often require more careful underwriting of title, political risk, operator capacity and market access.

The principal strategies are direct ownership and operation of row-crop and permanent-crop farmland; livestock farming; investment in processing, storage, cold-chain and logistics assets; agribusiness and offtake platforms that strengthen routes to market; and regenerative agriculture programmes that can improve soil health, water retention and biodiversity while creating potential carbon or biodiversity revenue streams.

- **Commercial cropping and permanent crops.** Direct ownership or controlled operation of productive farmland, generating income from crop sales and potential land appreciation.
- **Processing, storage and logistics.** Midstream assets that reduce 'farm-gate' price volatility, improve market access and capture margin along the value chain.
- **Agribusiness and offtake.** Input, advisory, processing and distribution platforms that de-risk production and strengthen revenue visibility.
- **Regenerative agriculture and environmental markets.** Soil-health, biodiversity and water programmes that can increase resilience and, where credible methodologies exist, generate environmental credits.
- **Livestock farming.** Ownership or operation of livestock enterprises, generating income from animal production while benefiting from productivity improvements, operational optimisation and potential land appreciation.

RETURN DRIVERS

Farmland returns are built from lease revenues, operating cash yield, land appreciation and value-add management. In annual cropping, cash flows are linked to seasonal production, commodity prices, leasing arrangements and operator efficiency. In permanent crops, income typically builds as orchards mature; this creates a distinct development profile where early establishment expenditure can be followed by rising yields and operating cash flows.

[3] *Lapérouse, Phillippe de and Mark Zavodnyik. Global AgInvesting Rankings & Trends Report 2019 (West Palm Beach, Florida USA: Global AgInvesting, 2019)*
[4] *DTN. 2021 DTN/Progressive Farmer (Omaha, NE USA: DTN, 2021)*
[5] *Preqin, Dry Powder Raised by Asset Class (London, UK: Preqin Ltd., 2025)*
[6] *Sources: Food and Agriculture Organization (FAO), Land statistics 2001–2023: Global, regional and country trends (Rome: FAO, 2023). Global AgInvesting (2019). Ag Sectors to Watch in 2019; Preqin (2025). Dry Powder Raised by Asset Class. London: Preqin Ltd. (Accessed 12 September 2025).*

The strongest institutional farmland strategies are not passive land-appreciation trades. They aim to improve productivity, resilience and exit value through active management: crop selection, irrigation efficiency, soil-health improvement, cover cropping, input optimisation, biodiversity corridors and professionalised operations. Climate Asset Management's Project Paradise materials illustrate this approach through a conversion from sugar cane into a regenerative macadamia orchard, with attention to water security, processing access, export channels and ecosystem-service optionality.

MAIN RISKS

Farmland is exposed to risks, including biological, climate, water, market and execution. Production can be affected by drought, flood, heat, pests, disease, soil degradation, input availability and toxic substances. Climate change can alter rainfall, water availability and crop suitability, while transition risks may arise from regulation, market preferences, technology shifts and reputational scrutiny.

Water risk is especially material for irrigated and permanent-crop strategies. Underwriting should test water rights, basin sustainability, irrigation infrastructure, drought scenarios and competing demands. Commodity price risk also matters: crop revenues can be affected by global supply, exchange rates, input costs and access to premium channels.

Execution risk is heightened where strategies require land-use change, orchard establishment, regenerative transitions or long ramp-up periods before mature yields. Operator selection, incentives and governance are therefore central. Environmental-credit revenues add methodology, price, delivery, permanence and counterparty risks, and should not be assumed unless clearly supported by regulation, contracts or high-integrity voluntary demand.

Macadamia Farm Management

CASE STUDY

Paradise Macademia – Climate Asset Management

A large-scale conversion of former sugar-cane land into a regenerative macadamia orchard in Queensland, Australia.

AT A GLANCE

Asset class	Regenerative agriculture (macadamias)
Geography	Bundaberg, Queensland, Australia
Entry structure	Greenfield acquisition; equity plus asset-level debt
Target return	Low teens gross IRR

THE INVESTMENT

In August 2023, Climate Asset Management's (CAM) Natural Capital Strategy acquired around 1,750 hectares of former sugar-cane land south of Bundaberg, Queensland. Roughly 1,400 hectares of it is plantable and will be used to develop one of Australia's largest regenerative macadamia orchards, with a significant area of land managed for biodiversity and native habitat restoration.

WHY WE INVESTED

Paradise offered the opportunity to acquire a large, continuous landholding in Australia's leading macadamia-growing region, with access to multiple sources of irrigation water and suitable infrastructure. Its scale, location and entry characteristics alongside a top quartile manager who could execute created a strong foundation for value-add agricultural development.

CAM's strategy is to transition former sugar-cane land into a higher-value, long-life macadamia orchard managed using regenerative practices. Working alongside experienced local operator Macadamia Farm Management, the project is intended to improve soil health, enhance biodiversity and develop a productive agricultural platform on an institutional scale.

Over time, returns are expected to be supported by macadamia production, land value appreciation and the potential monetisation of carbon and biodiversity outcomes. The project is also intended to generate measurable benefits across climate, biodiversity, water, soil and local communities.

To see a virtual tour of Paradise click here.

CHALLENGES

- **Greenfield execution at scale:** Establishing approximately 760,000 trees across roughly 1,405 hectares was pioneering in scale and required careful sequencing of planting and infrastructure development. Planting is substantially complete, with reported tree mortality remaining below the project target.
- **Water and flood resilience:** The project requires significant irrigation, storage and drainage infrastructure. Water rights, bores from three sources, reservoirs and rainfall capture have been developed to support the orchard and manage climatic variability.
- **Pest and disease management:** Young orchards face heightened agronomic risks. Precision agriculture, cover cropping and integrated pest management have been used to manage these risks.

THE EXPERIENCE SO FAR

- **Orchard establishment:** Planting is substantially complete, with approximately 760,000 trees established and reported mortality below the project target of 2%. As one of Australia's largest single-farm macadamia developments, the project's scale supports efficient orchard development using newer cultivars, optimised spacing and technology. It also provides exposure to a high-value crop with established international demand.
- **Water resilience:** Irrigation, reservoir and drainage infrastructure has been developed, with no reported tree losses during record flooding in 2026.
- **Operating capability:** On-site infrastructure has expanded to include offices and fertiliser silos while use of solar power, robotic mowers and other technology has increased operational efficiency and reduced operating costs.
- **Habitat restoration:** Restoration is under way across an approximately 115-hectare wildlife corridor, with First Nation youth groups participating in planting activities.

COMMERCIAL PROFILE

- **Anticipated first harvest:** 2027
- **Primary income:** Macadamia production
- **Additional value drivers:** Land appreciation and potential carbon and biodiversity revenues
- **Operator alignment:** Base management fee plus performance-linked participation

POSITIVE IMPACT

- **Climate:** Targeted carbon benefits from the land-use transition and orchard development.
- **Climate resilience:** Diversified water sources, reservoir capacity and drainage infrastructure strengthen the orchard's resilience to drought, flooding and climatic variability.
- **Biodiversity:** Native vegetation restoration and the establishment of a wildlife corridor connecting Bingera and Burrum Coast parks has been successful with regeneration ahead of schedule.
- **Water:** Investment in irrigation, water storage, drainage and measures intended to reduce runoff.
- **Soil:** Transition from sugar-cane production to regenerative perennial agriculture, including cover cropping and reduced chemical spraying.
- **People:** Participation of First Nations youth in restoration activity.

FORESTRY

MARKET OVERVIEW AND KEY INVESTMENT STRATEGIES

Forestry is the most established institutional natural-capital asset class, with an institutional investable universe exceeding USD 200 billion[7]. Long-term investors have allocated to timberland for decades, making it one of the few nature-based asset classes with a deep performance history, well-established operating practices and a broad base of institutional ownership.

The core investment proposition is the ownership and active management of productive forest assets. Strategies span plantation forestry, improved forest management, downstream processing, certified supply chains, carbon projects, conservation easements and restoration-focused forestry. Certification through recognised programmes such as FSC and PEFC can support access to premium markets, strengthen stewardship credentials and enhance long-term asset value.

Forestry also provides a bridge between traditional real-asset returns and emerging environmental markets. Timber production and biological growth form the commercial foundation of the investment case, while carbon credits, biodiversity initiatives, recreation, conservation agreements and other ecosystem-service revenues can provide additional sources of value where market structures, methodologies and demand are sufficiently developed.

- **Plantation and timberland ownership.** Productive forests generating returns through biological growth, harvest income and land appreciation.
- **Certified supply chains and processing.** Sawmills, certified timber and downstream assets that capture margin and support sustainability positioning.
- **Improved forest management and carbon.** Longer rotations, avoided conversion, reforestation or afforestation projects that may generate verified carbon credits.
- **Conservation and ecosystem services.** Conservation easements, recreation, biodiversity and water-related outcomes that can complement timber returns.

RETURN DRIVERS

Forestry's defining return driver is biological growth. Trees continue to grow and accumulate volume regardless of short-term financial market conditions, creating an inherent source of value appreciation. This characteristic gives managers flexibility to defer harvests during periods of weak timber pricing and accelerate harvests when market conditions are favourable, subject to operational, environmental and regulatory constraints.

Returns are typically generated through a combination of harvest income, land appreciation, silvicultural improvement, operating efficiencies and strategic harvest timing. The long-duration nature of forestry assets can be particularly attractive for investors with multi-decade investment horizons and long-term liabilities.

Increasingly, voluntary carbon markets represent an additional source of return. Forest owners may generate verified carbon credits through activities such as afforestation, reforestation and improved forest management, creating potential revenue streams alongside traditional timber production. In well-structured projects, forestry investors can benefit from both the underlying biological growth of the asset and the monetisation of associated carbon sequestration, providing a combination of productive and environmental value. While carbon revenues are typically secondary to the core timber investment case, they can enhance overall returns and improve the economics of sustainable forest management.

[7] *IPE Real Assets (Jan/Feb 2025).*

The NCREIF Timberland Property Index remains one of the most widely used institutional benchmarks for private timberland performance, although its methodology and geographic concentration should be considered when applying it to global portfolio assumptions.

MAIN RISKS

Forestry investors face a range of biological, operational, market and regulatory risks, including wildfire, pests, disease, extreme weather events, climate change, timber-price volatility and changes in land-use or environmental regulation. Climate-related stressors can affect growth rates, mortality, species suitability and harvest planning, making robust climate resilience analysis an essential component of underwriting and ingoing active management.

Effective due diligence should assess species selection, silvicultural practices, fire management strategies, insurance coverage, contractor quality, infrastructure access and long-term climate scenarios. Timber-price cycles remain a key market risk, although the ability to defer harvests can partially mitigate periods of weak pricing where asset condition and liquidity requirements permit.

Regulatory and stakeholder considerations are also increasingly important. Harvest restrictions, conservation requirements, carbon-market regulations and permitting processes can affect asset performance, while meaningful engagement with local communities and Indigenous groups may be critical where forestry assets overlap with cultural, recreational or conservation interests.

Where carbon revenues form part of the investment thesis, particular attention should be paid to permanence, additionality, leakage, buffer-pool requirements, verification standards and methodology risk. Underwriting assumptions should clearly articulate expected credit volumes, issuance schedules, pricing assumptions, monitoring obligations, offtake arrangements and potential reversal risks.

Climate Asset Management

CASE STUDY

Olympic Rainforest – Climate Asset Management

Large-scale Pacific Northwest forestry asset combining timber, contracted carbon and additional conservation-related income opportunities

AT A GLANCE

Asset class	Sustainable Forestry (Timber & Carbon)
Geography	Olympic Peninsula, Washington, USA
Entry structure	Operational acquisition; equity plus asset-level debt
Target return	Low-teens gross IRR (blended)

THE INVESTMENT

In October 2024, Climate Asset Management's (CAM) Natural Capital Strategy acquired, alongside mission-aligned co-investors Olympic Rainforest an approximately 27,500-hectare (68,000-acre) contiguous timberland estate across Clallam and Jefferson counties on Washington State's Olympic Peninsula. The established, mixed-softwood asset is managed by Ecotrust Forest Management (EFM).

WHY WE INVESTED

Olympic Rainforest provides exposure to a large, contiguous timberland estate in one of North America's most productive forestry regions. The Olympic Peninsula's temperate climate supports strong biological growth, while the asset's scale and mixed-softwood composition provide a foundation for efficient, long-term forest management.

Ecotrust Forest Management

The strategy uses contracted carbon revenues to support a shift from an intensive, approximately 35-year harvest rotation towards a 50- to 60-year rotation, allowing trees to mature and store more carbon while continuing to produce timber. Conservation easements are intended to support the permanence of these outcomes while preserving the asset as a productive working forest.

CHALLENGES

- **Timber-carbon optimisation:** Balancing harvest revenue with carbon-credit generation requires ongoing optimisation of harvest timing and standing timber.
- **Conservation-easement funding:** Competition for federal and state conservation funding can affect the timing and availability of easement opportunities.
- **Carbon verification and issuance:** Carbon revenue depends on successful completion of verification and issuance processes.
- **Certification and operating standards:** Maintaining FSC certification requires continued compliance and periodic audit activity.

THE EXPERIENCE SO FAR

- Timber operations: The asset is fully operational and generating timber revenue, with harvesting ahead of budget.
- **Carbon delivery:** The carbon project is completing verification in line with its original schedule, with issuance expected following successful completion.
- **Conservation:** Progress is being made on the Olympic Discovery Trail easement, which crosses the property.
- **Certification:** FSC certification remains in good standing under Ecotrust Forest Management's group programme, with a field audit due in late 2026.

COMMERCIAL PROFILE

- **Contracted carbon:** Long-term agreements with Meta and Microsoft cover more than one million tonnes of carbon removals over the next decade, underpinning strong cashflows.
- **Revenue diversification:** A balanced blend of timber income, contracted carbon revenues and potential conservation-related income.
- **Silvicultural transition:** Carbon revenues support a shift from approximately 35-year harvest rotations towards 50 to 60 years, allowing long term value creation in the timber stand while maintaining timber production.
- **Value creation:** Sustainable forest management is expected to nearly double standing timber volumes over 15 years.
- **Stage:** Operational, with harvesting ahead of budget and carbon verification under way.

POSITIVE IMPACT

- Climate: Longer harvest rotations allow trees to mature and store more carbon while maintaining timber production.
- Biodiversity: Sustainable management and conservation easements support habitat protection across a large, contiguous forest landscape.
- Water: Riparian, salmon-habitat and floodplain restoration support freshwater ecosystems.
- Permanence: Conservation easements are intended to secure long-term environmental outcomes while preserving the asset as a productive working forest.

CASE STUDY

Delta – IWC

AT A GLANCE

Asset class	Timberland
Geography	Georgia and Virginia, USA
Entry structure	Brownfield, equity
Target return	7.8% Net IRR

THE INVESTMENT

Between 2020 and 2021, one of IWC's managed funds acquired 3,000 hectares of productive timberland across Georgia and Virginia, for USD 14 million. The investment was sourced by Domain Timber Advisors (DTA) and is located in historically stable timber markets; some of the land also had attractive characteristics for pursuing local highly profitable land sales. DTA was selected by IWC Timberland Investment Advisory team to operate and oversee the complex timberland and real estate strategy on the ground. The investment achieved third-party sustainable forest management certification and is on track to outperform the initial return target.

WHY WE INVESTED

Core timberland investments provide stable returns and inflation hedge, among other benefits, but, in many cases, have limited upsides. To target rarer opportunities with exposure to high potential, non-timber revenues Timberland Investment Advisory team (TIA) partnered with DTA, in its second fund, and established Delta. This vehicle ultimately acquired two main assets in Georgia and Virginia, after screening several opportunities.

Capital at risk. The investment identified does not represent all of the investments purchased, sold, or recommended for the strategy. Developments of the past offer no guarantee and are no indicator for any future returns or trends. No assurance can be given that any forecast, target or opinion will materialise. Trademark, copyright, and other intellectual property rights are and remain the property of their respective owners.

In line with Delta's objective and philosophy, the acquisitions targeted mature pine plantations with well-stocked inventories and geographical features providing land sales opportunities. Moreover, as the sustainability of several assets was unproven, third-party sustainable management certification was successfully implemented.

IWC TIA's and DTA's extensive network in the industry allowed direct negotiations with sellers without bidding processes, thus reducing competition, and the local manager's market knowledge and capability to effectively plan, negotiate, and execute dispositions has been pivotal for Delta's success.

CHALLENGES

- **Access to timber markets:** While historically stable, timber markets in Delta's regions have been relatively weak during IWC TIA's fund ownership. However, the investment's strategic footprint and strong local connections provided a competitive advantage, resulting in prompt harvesting and return of capital from the forest component.
- **Land sales:** The efficient execution of land dispositions has been critical in fully realising the value of the investment and capturing its upside potential. Negotiation tactics were proven fruitful in leveraging the quality of the asset, allowing, for example, access to significant and consistent option payments.
- **Climate risk:** The investment regions are at risk from hurricanes, heavy rainfall events, and flooding. However, IWC TIA's sophisticated climate-risk assessment allowed appropriate risk pricing for the asset strategy.

THE EXPERIENCE SO FAR

- The Georgia asset has been successfully divested above appraised value.
- The Virginia asset is in the process of being divested, in several packages, above appraised value.
- Attractive option payments for solar development have been negotiated and received.
- Timber sales have been executed.
- Third-party sustainable forest management certification has been achieved.
- Overall, return for the investment is currently significantly above target.

Mature forest stand in Delta - ©IWC

Close up on wildflowers in Delta - ©IWC

FINANCIAL RETURNS

- **Target return:** 7.8% net nominal
- **DPI:** 1.03
- **Valuation:** USD 8.7 million as of Q1 2026
- **Current position:** ITD Net IRR above 15%
- **Stage:** Towards full divestment
- **Operator alignment:** Management fee (0.65% NAV) and performance fee with two hurdles (6% and 8%).

POSITIVE IMPACT

Sustainable management: The main positive impact was shaped by establishing institutional level sustainable forest management in Delta's forests. The outcome has been an improvement of several ecosystem services while timber extraction continued according to the forest management objectives. Moreover, after positive third-party evaluation, Delta received sustainable forest management certification.

- **Carbon:** Management practices have been improved to reduce impact on carbon stocks. Carbon fluxes are also now monitored thorough detailed carbon accounting.
- **Biodiversity:** Sustainable forest management certification mandated integration of biodiversity considerations into management, resulting in practices such as biodiversity assessments, harvesting restrictions, and preservation of retention trees.
- **Inputs & water:** Buffer zones around and along waterbodies have been established to prevent erosion and protect water quality.

BLUE ECONOMY

MARKET OVERVIEW AND KEY INVESTMENT STRATEGIES

The blue economy encompasses a range of ocean- and coastal-linked industries that support economic activity while relying on the sustainable use of marine ecosystems. Estimated at approximately USD 2.5 trillion annually[8] and expected to grow significantly over coming decades, the sector includes aquaculture, seafood processing, marine tourism, ports and logistics, shipping, coastal infrastructure and ecosystem restoration.

While less mature than farmland and forestry as an institutional asset class, several blue-economy segments already offer commercial-scale investment opportunities supported by tangible assets, established demand drivers and identifiable cash flows. The investment case is underpinned by growing demand for sustainable protein, expanding trade and logistics networks, increasing coastal tourism and the need for climate-resilient infrastructure.

For institutional investors, the opportunity set is concentrated in several investable subsectors that combine established revenue models with tangible assets and long-term demand drivers.

- **Aquaculture and seafood production.** Fish farming, seafood processing and associated infrastructure benefiting from growing demand for sustainable protein.
- **Marine infrastructure and logistics.** Ports, terminals and cold-chain facilities generating infrastructure-like cash flows.
- **Regulated fisheries and access rights.** Investments linked to quota systems and long-term harvesting rights.
- **Marine tourism and coastal assets.** Tourism and recreation assets associated with high-value coastal environments.
- **Blue carbon and coastal restoration.** Mangrove, seagrass and saltmarsh projects that may generate carbon credits alongside environmental benefits.

RETURN DRIVERS

Blue-economy investments derive returns from a range of operating businesses and infrastructure assets. Returns are typically generated through operating income, concession rights, infrastructure utilisation, resource access rights and long-term demand growth.

Aquaculture and seafood businesses benefit from rising global protein demand, while ports and logistics assets can generate stable cash flows linked to trade volumes. Regulated fisheries may benefit from the scarcity value of access rights and quota ownership.

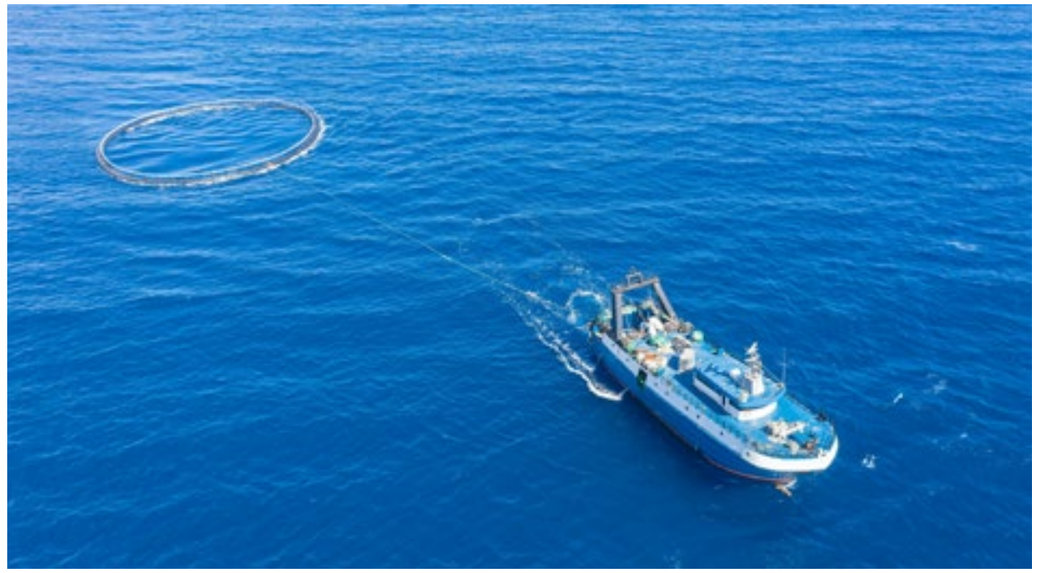
Emerging environmental markets provide additional upside. Blue-carbon projects focused on mangroves, seagrasses and saltmarshes may generate verified carbon credits while enhancing coastal resilience and biodiversity. However, environmental-market revenues should generally be viewed as complementary to, rather than the primary driver of, investment returns.

MAIN RISKS

Blue economy investments face environmental, operational, regulatory and market risks. These include extreme weather events, ocean warming, disease outbreaks, pollution incidents and changes in ecosystem health.

Many investments rely on licences, quotas, concessions or permits, making regulatory risk a key consideration. Changes to fisheries management, coastal-development rules or environmental regulations can materially affect performance.

Market risks include commodity-price volatility, shifts in seafood demand, changes in tourism activity and fluctuations in global trade. Where carbon revenues form part of the investment case, investors should also assess methodology risk, verification requirements, permanence and long-term demand for environmental credits.



[8] UN Environment Programme; *unep.org/topics/ocean-seas-and-coasts/ecosystem-based-approaches/sustainable-blue-economy, accessed 19 September 2026*

Laheq - Red Sea Project

CASE STUDY

A Blue Economy Development Model – Red Sea Global (Public Investment Fund)

Value creation through subsidiary activation — defining a new sector on the Red Sea coast, Saudi Arabia

AT A GLANCE

Asset class	Blue Economy — nature-based enterprise platform
Geography	Red Sea coast, Saudi Arabia (32,000 square kilometers)
Entry structure	PIF-owned platform; portfolio of activated subsidiaries
Target return	12–18% IRR blended across the platform

ABOUT RED SEA GLOBAL

Red Sea Global is the Public Investment Fund giga-project developer of The Red Sea and AMAALA, mandated to deliver regenerative tourism and a 30% net conservation benefit by 2040. Corallium is its flagship marine-science, conservation and education asset.

THE INVESTMENT

Red Sea Global (RSG) began in hospitality and real estate and is now building a new net-positive Blue Economy platform. Rather than keep every function in-house, RSG activates ventures that add foundational, counter-cyclical or diversifying value and localise knowledge: 20+ subsidiaries cascade the Group framework as RSG shifts from development-led to operations-led. RSG is funded by SAR 22 billion+ of green financing, with 72 assets green-certified to LEED and equivalent standards, 100% renewable operations and net zero Scope 1 and 2 from 2030. A digital and AI backbone turns the platform into the largest living laboratory program leading expertise in greenfield and brownfield developments in the sector.

WHY WE INVESTED

Tourism contributes approximately USD 11 trillion to global GDP and accounts for one in every ten jobs worldwide. But tourism also generates up to 12% of global greenhouse gas emissions and consumes nearly 5% of the world's water.

The damage cascades across four linked domains: environmental degradation and biodiversity loss; communities facing displacement and rising costs as benefits bypass them; revenue leakage through fragile supply chains; and visitors encountering over-tourism and packaged experiences that fail to connect.

The imperative for tourism must shift via a theory of change that moves from extracting value from destinations to one focused on generating value for them. RSG refers to this as regenerative gains. The market is ready: 84% of travellers say sustainable travel matters, and the blue economy underpinning it is a ~USD 2.5 - 2.8 trillion market expected to reach to USD 3.9 - 5.29 trillion by 2033, still under-capitalised and not standardised. [9]

RSG's answer was to build the capabilities it judged foundational, for resilience and diversification, turning each from a cost centre into value, then integrate them so every venture can compete alone while together they form a national proposition.

CHALLENGES

- An uncategorised marketplace: The blue economy is not fully mature as an asset class, so returns and risk have no accepted home in investment committees.
- A long journey: Ecological outcomes mature over decades, well beyond conventional fund horizons and holding periods (this is the opportunity for Sovereign Wealth.
- Absent standards: No framework yet captures performance above and beyond compliance, so genuine regeneration cannot be priced or compared (also one size does not fit all).
- Scarce funding: Only patient capital willing to underwrite the risk is available today; mainstream pools remain on the sidelines (requires innovative capital mobilisation pathways).
- Trade-offs and greenwashing: Innovation still concedes financial or ecological compromise, and weak claims crowd out credible ones.

Red Sea Global

[9] *Red Sea Global (2026) Internal analysis.*

THE EXPERIENCE SO FAR

Core business — Scaling hospitality and real estate: from 13 hotels to 28 in 2027, and from 1,800+ to 4,000+ rentable units.

- **Foundational:** Utilities (100% renewable: 760,500 PV panels, 1,200+ MWh storage) and DevCo: without them the destination cannot operate.
- **Counter-cyclical:** REEF and Botanica nursery: coastal monitoring and landscaping revenues when ecosystems are healthy, restoration revenue when they are stressed.
- **Diversifying:** Sports & entertainment, regenerative escapes and mobility: new revenue from nature access, experience and transport, decoupled from room nights.
- **Localising knowledge:** Botanica's 853 native species, REEF's 100+ specialists and vocational programmes: import substitution today, exportable capability tomorrow.
- **Integrating:** A digital and AI backbone across supply chain, mobility and environment, so each function can trade alone yet compounds with the others.

FINANCIAL RETURNS

- **Target return:** Estimated 12–18% IRR blended across the platform's ventures (in line with prevailing return expectations).
- **Valuation:** 7–10x EBITDA, referenced to biodiversity-credit and data-licensing comparables; natural-capital and IP value not yet on the balance sheet.
- **Current position:** 13 hotels today → 28 in 2027; 1,800+ → 4,000+ keys.
- **Stage:** Operating platform scaling; 6–7 years of proof.
- **Operator alignment:** External addressable market & total capital committed.

POSITIVE IMPACT

- **Sector-building:** Defining a new blue economy asset class, not entering one.
- **Blue carbon:** 3 million mangroves at 99% survival; seagrass & sabkha sequestration.
- **Restoration:** 7+ hectare coral and 1+ hectare seagrass translocated; reef creation at scale.
- **Biodiversity:** 11 Key Biodiversity Areas identified; native-species repositories (Botanica), Marine Life Repository (RSMLI).
- **Localisation:** 'Saudisation'— building localised knowledge and import substitution across ventures.
- **Replicability:** A nature-led development model exportable to other coastal economies

Corallium / Red Sea Global

CASE STUDY

Corallium Marine Life Institute – Red Sea Global (Public Investment Fund)

A Blue Economy marine institution — the certainty engine for nature-positive investment, at AMAALA, Saudi Arabia.

AT A GLANCE

Asset class	Blue Economy — nature certainty infrastructure
Geography	AMAALA · Red Sea coast, Saudi Arabia
Entry structure	Greenfield; wholly-owned RSG subsidiary (PIF)
Target return	Estimated 10–15% blended IRR; guest operations at 37–44% EBITDA (modelled)

ABOUT RED SEA GLOBAL

Red Sea Global is the Public Investment Fund giga-project developer of The Red Sea and AMAALA, mandated to deliver regenerative tourism and a 30% net conservation benefit by 2040. Corallium is its flagship marine-science, conservation and education asset.

THE INVESTMENT

Red Sea Global (RSG) developed Corallium, a ~SAR 1.2 billion marine life institute at AMAALA and the first integrated marine institution of its kind in Saudi Arabia, delivered as a LEED Platinum building. Corallium combines a public aquarium, laboratories and nurseries with one of the world's most thermally resilient reefs. Commercial operations fund the visitor asset, while a parallel mission-driven enterprise delivers conservation, science and education. The latter effort convenes a multi-stakeholder

platform across academia, media, conservation and the private sector, which in turn powers a Circular Ecological Model that turns the asset into a validation engine, moving nature interventions from hypothesis to field-ready policy with leading science partners.

WHY WE INVESTED

In the emerging Blue Economy, certainty is the scarcest commodity. Nature assets are characterised by being uncertain, unmeasurable and uninsurable; the Red Sea's reefs provide a proof of concept.

An aquarium earns from ticketing, food and beverage sales, and immersive experiences. Corallium's differentiator is mission income derived not from charitable grants or donations but from a multi-stakeholder platform for academia, media, conservation and the private sector which generates multiple revenue streams: research fees, project commissions, events, access-and-benefit-sharing income, breeding and reproduction (nurseries as industrial-scale marine-life production), IP licensing, data monetisation, publishing royalties, environmental testing (infrastructure-as-a-service), innovation, certification, accreditation and craft resale.

The research and development function operates enterprise-wide, serving regeneration, guest experience, education and citizen science, and marine integration precursor to One Health (the vision that human wellbeing, which is AMAALA's target, and planetary health are inseparable), and building the necessary knowledge base to support regenerative development. This provides a proof of concepts for insurance purposes and long-term conservation.

CHALLENGES

- **Limited guests.** Ultra-luxury positioning means low visitor volumes; the model is built on value per guest and thus the importance of expanding outreach to create additional footfalls via its non-guest mission.
- **Regulatory.** Many activities are nascent, requiring new permits and frameworks to be built in parallel with delivery.
- **Building credibility fast.** Establishing scientific and institutional standing ahead of the December 2026 opening.
- **Creating a new asset class.** Defining the standard rather than competing within an existing category.

Corallium / Red Sea Global

THE EXPERIENCE SO FAR

- 4-in-1 Integrated model: Science, conservation, education and guest experience combine to support advocacy and impact programs.
- ~90% commissioning complete; ~50% of the collection accommodated ahead of the December 2026 opening.
- Assisted restoration locked (SAR 2.4 million, 1:1) — probiotics and multi-taxa programs to cut coral stress.
- A biobanking program to catalogue and preserve unique biodiversity which holds planetary repair opportunities.
- Ecosystem-interaction using nature for targeted 'surgical' conservation.
- National Environmental Academy localising the workforce and retaining Saudi talent.
- Immersion programme to integrate guests, documentary film-making, research, and conservation.

FINANCIAL RETURNS

- **Target return:** From 10–15% IRR blended across guest operations and mission-funded revenue (in line with prevailing return expectations for marine attractions and research institutes).
- **Expected returns:** EBITDA margin ~15–30%, reflecting aquarium and attraction operators at 15–25% and environmental testing, certification and data-licensing services at 20–35%.
- **Valuation:** ~6–9x EBITDA, referenced to attractions and entertainment assets at 4–8x and specialist scientific-services comparables up to 9–10x; IP and natural-capital upside not yet on the balance sheet.
- **Current position:** Mission funding ~60–75% external and philanthropic, 25–40% earned income, in line with peer marine-science institutes.
- **Stage:** Pre-revenue; public opening December 2026.
- **Operator alignment:** ~8–12% blended institutional return, in line with conservation-linked infrastructure combining commercial and impact capital, plus valuation uplift and a parametric-insurance premium as nature-risk transfer markets mature.

POSITIVE IMPACT

- **Certainty:** Makes nature outcomes measurable, validated and insurable.
- **Standards:** Authoring regenerative and sustainable development & One Health methods.
- **Restoration:** Production-scale coral, seagrass & mangrove restoration.
- **Marine production:** Nurseries breeding endemic Red Sea species at scale.
- **Human capital:** NEA marine academy building a Saudi marine-professional pipeline.
- **One Health:** Gap-filling linking marine health to human health & wellbeing.

CASE STUDY

Accelerating Port Electrification and the Sustainable Blue Transition in Greece – Hellenic Growth Fund

From national planning to investment-ready shore-side electricity infrastructure across Greek ports

AT A GLANCE

Asset class	Infrastructure (sustainable/ transport)
Geography	Greece
Entry structure	Direct / portfolio-led infrastructure development
Target return	Not disclosed

ABOUT HELLENIC GROWTH FUND

Recognising the need to address the climate crisis, Hellenic Growth Fund (HGF) has adopted a comprehensive approach to sustainable development, with a particular focus on the decarbonisation and climate resilience of strategic infrastructure. A key pillar of this approach is advancing sustainable blue growth in Greece and supporting the transition of the country's ports towards more sustainable and climate-resilient operations.

As the sole shareholder of several Greek port authorities and through its role as the country's Port Planning Authority, Hellenic Growth Fund is uniquely positioned to support sustainability integration across its port portfolio.

Hellenic Growth Fund's Comms & ESG Department plays a central role in driving this agenda, working closely with port authorities across the portfolio to design and coordinate initiatives that accelerate their sustainable transition. Its work spans port decarbonisation and electrification, climate resilience, sustainability performance assessment and capacity building, access to sustainable finance and EU funding opportunities, and collaboration with public authorities, financial institutions, academia and innovation partners. Through this portfolio-wide approach, Hellenic Growth Fund seeks to develop solutions and expertise that can be scaled across its port assets and contribute more broadly to Greece's sustainable blue economy.

WHY THIS IS A PRIORITY/ OPPORTUNITY

The EU's decarbonisation framework for maritime transport, notably the Alternative Fuels Infrastructure Regulation (AFIR) and FuelEU Maritime Regulation, creates complementary requirements for the availability and use of shore-side electricity from 2030. For Greek ports falling within the relevant scope, this creates an urgent infrastructure challenge, but also a significant investment opportunity. Ports need to anticipate substantial new electricity demand, secure adequate grid capacity and develop technically mature projects within a relatively short timeframe. Hellenic Growth Fund (HGF) responded by using its portfolio-wide perspective to combine national-level strategic planning with the development of concrete projects. Rather than addressing port electrification as a series of isolated investments, the Fund sought to establish a common evidence base, identify and prioritise infrastructure needs, coordinate key stakeholders and create a pipeline of projects capable of attracting EU and other sources of financing. The initiative is built around two complementary pillars.

1. Building the evidence base: National Feasibility Study for Port Electrification

HGF initiated, financed and coordinated a National Feasibility Study for the development of shore-side electricity infrastructure across Greek ports, working with specialised scientific and technical partners and in close cooperation with the Ministry of Maritime Affairs and Insular Policy and its relevant services.

Launched in June 2024 and completed in February 2025, the study established a comprehensive evidence base for the planning and prioritisation of operational infrastructure across the Greek port network.

The study assessed port activity, vessel movements, energy requirements and grid capacity, providing a common framework for identifying and prioritising infrastructure needs. It also assessed investment costs, environmental and social benefits and alternative financing scenarios, supporting ports and public authorities in planning the next stages of operational deployment and identifying potential financing pathways. The study:

- assessed more than 98,000 vessel movements
- identified 20 ports subject to the relevant EU requirements
- identified more than 90 potential shore-power connection points
- assessed total electricity demand of approximately 622 MVA, including 435 MVA for cruise vessels
- estimated total national investment needs of more than EUR 400 million.

The study therefore provides a national investment roadmap for the development of shore-power infrastructure, helping to move the sector from fragmented project needs towards a structured and prioritised pipeline.

2. DECOMPRES project

In parallel, HGF translated its port decarbonisation objectives into concrete project development through DECOMPRES (DEcarbonising the Greek COMPREhensive PortS), bringing together four ports in its portfolio — Rafina, Lavrio, Corfu and Kavala — under a common CEF-funded initiative. HGF coordinated the participation of the four ports in a joint proposal that secured EUR 10 million in EU funding under the Connecting Europe Facility II (CEF II). The project supports the deployment of four OPS positions at Rafina with the preparation of the technical studies required for future OPS deployment at Lavrio, Corfu and Kavala.

By combining project preparation with secured EU co-financing, DECOMPRES provides a concrete pathway for increasing project maturity and strengthening their readiness for future financing and implementation.

CHALLENGES

- **Lack of a common national planning framework:** Greece lacked a unified, technically documented basis for planning shore-side electricity infrastructure across its port network. HGF initiated, financed and coordinated a National Feasibility Study, creating a common evidence base covering vessel activity, port energy demand, grid requirements, infrastructure needs and costs, investment prioritisation and potential financing scenarios.
- **Fragmented project development and financing capacity:** Port electrification requires significant technical preparation, investment and coordination, which can be challenging to address on a port-by-port basis. HGF used its portfolio-wide perspective to bring four port authorities together under a joint CEF proposal, helping secure EUR 10 million of CEF II funding for the consortium. This aggregation approach enabled ports at different stages of maturity to progress within a common framework and strengthened their ability to access European financing.
- **Technical, grid and regulatory complexity:** OPS deployment requires close coordination between port infrastructure, electricity networks, vessel requirements, technical design, environmental considerations and permitting processes. Existing port planning and permitting procedures can also create long lead times for the deployment of such infrastructure. HGF has facilitated coordination among port authorities, the national electricity distribution network operator (HEDNO), public authorities and specialised technical partners to address grid requirements, technical dependencies and regulatory and permitting bottlenecks, and to support the timely maturation of projects.
- **Limited prior experience in delivering OPS infrastructure:** Shore-side electricity remains a relatively new and technically demanding infrastructure area in the Greek port sector. Through DECOMPRES and its broader port electrification activities, HGF is building practical knowledge and institutional capacity across its portfolio, while strengthening collaboration among port authorities, HEDNO, academia and specialised technical partners. The experience and know-how generated can be shared across HGF's port portfolio, supporting the development and implementation of future OPS investments.

THE EXPERIENCE SO FAR

The national feasibility study completed in February 2025, has moved port electrification from strategic assessment towards an increasingly mature investment pipeline. The National Feasibility Study has established a common evidence base for infrastructure planning and investment prioritisation, while DECOMPRES has demonstrated HGF's ability to aggregate port needs, mobilise European funding and coordinate multiple stakeholders around concrete projects.

The DECOMPRES project is currently under implementation, with the grant agreement signed and 50% of the EUR 10 million EU grant disbursed. Technical and environmental studies are progressing across the participating ports, alongside the preparation of the operational infrastructure at Rafina. The project foresees the deployment of four operational positions at Rafina, together with technical studies for 9 positions at Lavrio, 11 at Corfu and 9 at Kavala, supporting the development of a broader pipeline of mature projects across HGF's port portfolio.

PROGRESS AND FINANCING

HGF's approach demonstrates how public asset ownership, portfolio-wide coordination and strategic project preparation can help mobilise public funding and create investable opportunities in the sustainable blue economy. By identifying infrastructure needs at national level and advancing projects across its port portfolio, HGF is helping build a more mature pipeline for future investment and financing.

- **Investment opportunity:** >EUR 400 million in estimated investment needs for shore-side electricity infrastructure identified at national level.
- **EU funding mobilised:** Approximately EUR 10 million funding secured through DECOMPRES to support operational deployment and project preparation across four HGF portfolio ports. (CEF II); 50% disbursed
- **Investment Pipeline:** A prioritised pipeline of infrastructure needs, supported by technical assessment, vessel-demand analysis and energy requirements.
- **Project Readiness:** Increased technical maturity and infrastructure readiness, providing a stronger basis for future financing and investment decisions.

POSITIVE IMPACT

- **Decarbonisation:** Significant reduction in CO_2 emissions associated with vessels at berth through the use of shore-side electricity, supporting the decarbonisation of maritime operations and progress towards climate-neutral port operations.
- **Environmental and community benefits:** Reduced local air pollutants and noise from vessels operating auxiliary engines while at berth, with associated benefits for the environmental quality of ports and surrounding communities.
- **Asset resilience:** Modernisation of port energy infrastructure increasing readiness to meet the evolving requirements of low-carbon maritime transport, and transformation into greener, resilient and technologically advanced facilities, strengthening their attractiveness for future investors
- **Capacity building and partnerships:** Strengthened technical and institutional capacity within HGF and its port portfolio, alongside deeper collaboration with port authorities, public authorities, the electricity distribution network operator, academia and specialised technical partners
- **Scalability:** Development of knowledge, methodologies and practical experience that can be shared across HGF's port portfolio, enabling lessons from individual projects to inform and accelerate the sustainable transition of other port assets and contribute more broadly to Greece's sustainable blue economy.

CROSS-CUTTING THEMES AND FUTURE REVENUE STREAMS

While farmland, forestry and the blue economy each generate returns through productive assets and established value chains, a growing set of environmental markets is creating additional opportunities to enhance value across these strategies. Carbon sequestration, biodiversity restoration and ecosystem-service provision can strengthen asset economics, improve resilience and, in some cases, generate new revenue streams. These markets remain at different stages of maturity and vary considerably by geography and regulatory framework. Nevertheless, they are becoming an increasingly important component of natural-capital investing and represent a significant source of future growth for the asset class. For most sovereign wealth funds, exposure is likely to be gained most effectively through underlying natural-capital assets, with environmental-market revenues providing additional upside alongside core productive returns.

CARBON MARKETS

Carbon markets are among the more developed environmental markets, although their maturity and institutionalisation vary significantly between regulated compliance markets and voluntary markets. They provide mechanisms through which emissions reductions and carbon removals can be translated into financial value. Nature-based carbon projects span forestry, agriculture, wetlands, and coastal ecosystems, generating credits that may be purchased by governments, corporates, or other market participants seeking to meet climate commitments. While carbon revenues are rarely the sole driver of an investment case in mature natural-capital strategies, they can significantly enhance returns, support restoration activities and improve project economics. Increasing demand for high-integrity credits, coupled with evolving regulatory frameworks and voluntary market standards, continues to attract institutional interest across a growing range of nature-based opportunities.

VCM announces first 30 Participants for VCM's November 2026 Carbon - ©Auction

CASE STUDY

VCM – Nature Based Carbon Credits

Scaling nature-based removal carbon credits across the globe through a credible carbon market

AT A GLANCE

Asset class	Nature-Based Carbon Removal Credits
Geography	Various countries including Pakistan, Ethiopia, Malaysia
Entry structure	Purchasing, holding and auctioning carbon credits
Target return	Not disclosed

ABOUT VCM

VCM was established by PIF and Saudi Tadawul Group in October 2022. VCM aims to create a credible voluntary carbon market at speed and at scale with global impact. The market prioritises high-quality carbon credits and positive climate action.

THE INVESTMENT

Nature-based carbon removal credits are one of the most important instruments to scale climate action, by incentivising the planting of trees, mangroves and grasslands at scale.

Saudi Arabia's VCM has since its inception traded more than15 million tons of carbon credits overall, worth more than USD 100 million, through carbon credit auctions and through its exchange platform. Each year VCM is increasing the share of nature-based removals in its auction baskets, starting with 10% in 2023, and is expecting to include 21% in its next carbon credit auction scheduled to take place at the CMF Red Sea Event on 24th November 2026.

WHY WE INVESTED

Nature loss is a key driver of changing weather patterns, contributing 1-5 billion tons of CO2 per year. However, with intervention, emissions through lost forest could be reversed and instead contribute over 6 billion tons of CO2 reduction per year, which could cover one-third of the requirement to get to net zero.

VCM through the support of its Saudi Arabian and international corporate partners who purchase carbon credits, can make a real difference, by providing a financial incentive for project developers to plant trees, mangroves and grasslands, while all the partners in the chain benefit financially. The project developers receive capital to build their projects and support local communities in rural areas. The corporate users benefit in that carbon credits often represent one of the most cost-effective ways to take climate action. VCM obtains a spread for providing the matching and financial infrastructure required.

CHALLENGES

The key issue is how to fund gigaton scale of nature-based emissions reductions. Some financing streams such as tourism, fruit, or managed forestry can help but will not be able to create sufficient scale on their own. Carbon credits are the only instrument which could unleash the scale needed. When individuals, companies and countries use carbon credits, the financing can be used in nature-based projects that reduce emissions, but also bring significant benefits for wildlife, soil quality, and extreme weather resilience. Currently around 80 million tons of nature-based carbon credits are issued every year, roughly the emissions of a small country such as Belgium. But with the right interventions this is only the beginning.

THE EXPERIENCE SO FAR

The inclusion of nature-based removals and their continued increase in the share of VCM's overarching carbon credit portfolio has been successful to date, providing climate impact alongside high community impact and additional co-benefits. Key examples of highly impactful projects for which VCM has traded carbon credits include:

- Reforestation in the Humbo region in Ethiopia which has helped restore agricultural yields and provide additional finance to the communities.
- Delta Blue project in Pakistan which supports flood protection.
- Increasing forest cover in the Kuamut rainforest which helps protect 29 mammal and 12 bird endangered species.

FINANCIAL RETURNS

Financial returns are currently not publicly disclosed. VCM provides attractive financial and non-financial benefits to all partners in the value chain.

POSITIVE IMPACT

- **Carbon:** 15mn tons CO2 emissions reductions and removals enabled by VCM with more than USD 100 million in value.
- **Restoration:** Restoration of mangroves which provide flood protection for vulnerable communities.
- **Biodiversity:** Increased protective cover for several endangered species in the rainforest.
- **Community:** Provision of jobs and community benefits in rural areas.

Delta Blue Carbon in Pakistan

Kuamut rainforest management in Malaysia

CASE STUDY

Carbon Vista – Nigeria Sovereign Investment Authority

A multi-sector climate investment platform unlocking scalable carbon opportunities across Nigeria

AT A GLANCE

Asset class	Investment Fund
Geography	Nigeria
Entry structure	Equity
Target return	Not disclosed

ABOUT NIGERIA SOVEREIGN INVESTMENT AUTHORITY (NSIA):

NSIA is Nigeria's sovereign wealth institution, established to manage and invest sovereign assets on behalf of present and future generations. Through its investment activities, NSIA seeks to generate sustainable financial returns while supporting critical infrastructure and sectors of strategic importance to Nigeria.

THE INVESTMENT

Carbon Vista is an investment platform established by the Nigeria Sovereign Investment Authority (NSIA) in partnership with Vitol to originate, finance and scale high-integrity climate and carbon projects across Nigeria. Structured as an equity partnership, the platform combines NSIA's domestic investment capabilities, institutional relationships and development mandate with

Vitol's international carbon-market expertise and access to global buyers.

Carbon Vista is designed as a diversified climate investment platform, targeting opportunities capable of delivering measurable emissions reductions or removals alongside attractive commercial outcomes. Its developing pipeline spans clean cooking, regenerative agriculture, forestry and waste-to-biofuels, providing multiple pathways through which carbon finance can support viable real-economy investments.

Rather than treating carbon credits as a standalone financial product, Carbon Vista seeks to invest in the underlying activities that generate credible climate outcomes. Its inaugural clean-cooking investment provides an early demonstration of this approach, while the broader pipeline establishes a pathway for Carbon Vista to build a diversified portfolio across Nigeria's emerging low-carbon economy.

WHY WE INVESTED

Nigeria presents a significant opportunity to develop high-integrity carbon projects across sectors with substantial emissions-reduction and removal potential. As noted above, Carbon Vista was established to capture this opportunity through a diversified pipeline spanning clean cooking, regenerative agriculture, forestry and waste-to-biofuels, while supporting the development of Nigeria's emerging carbon market and contributing to the country's Nationally Determined Contributions (NDCs) objectives.

The investment thesis combines NSIA's local investment capabilities and development mandate with Vitol's global carbon-market expertise, creating a platform capable of originating, financing and commercialising scalable climate projects. As international carbon markets develop under Article 6 of the Paris Agreement, Carbon Vista is also positioned to support the development of credible, high-integrity projects that can potentially access international markets and generate internationally transferable mitigation outcomes, subject to the relevant national and international requirements. Carbon finance can strengthen project economics, improve access to capital and connect credible Nigerian climate projects to international markets.

Carbon Vista's first clean-cooking investment provides an early proof point for this strategy, testing project economics, digital monitoring and carbon-credit generation ahead of potential scale-up. The broader ambition is to build a diversified portfolio that delivers commercial returns alongside measurable climate and development impact.

CHALLENGES

- **Evolving Regulatory Framework:** Nigeria's carbon-market architecture was still developing when Carbon Vista was established, limiting regulatory certainty for project developers and investors. The National Carbon Market Framework was formally approved in 2026, with the Federal Government estimating that a functioning market could unlock USD 2.5–3.0 billion annually in carbon finance. NSIA had participated in the intergovernmental process supporting the framework's development
- **Limited project-development capacity:** High-quality carbon projects require specialist capabilities in origination, methodologies, MRV, validation and credit issuance, yet this capacity remains relatively scarce across Africa.
- **Carbon-credit pricing volatility:** Carbon credits are not priced uniformly, with value increasingly determined by project type, integrity, vintage and wider co-benefits. This reinforces Carbon Vista's focus on high-integrity projects and diversified exposure across the above-mentioned categories of clean cooking, regenerative agriculture, forestry and waste-to-biofuels.

THE EXPERIENCE SO FAR

- NSIA contributed to the intergovernmental process that supported the development and approval of Nigeria's carbon-market framework.
- Carbon Vista has established a diversified pipeline spanning clean cooking, regenerative agriculture, forestry and waste-to-biofuels.
- The platform has progressed from development into execution through its inaugural LPG clean-cooking pilot. The pilot covers 40,000 households across Lagos and Oyo States, including 20,000 households funded by Carbon Vista.
- The project is testing deployment economics, digital MRV, customer adoption and carbon-credit generation ahead of potential scale-up.
- Successful validation would support expansion to 1 million cookstoves across Nigeria's six geopolitical zones.

FINANCIAL RETURNS

Financial returns are currently not disclosed.

POSITIVE IMPACT

- **Climate:** Builds a scalable platform for originating and financing projects capable of generating measurable emissions reductions and removals across multiple sectors.
- **Communities and livelihoods:** The platform can deliver benefits extending beyond carbon, including healthier households, employment, rural economic opportunities and more resilient livelihoods.
- **Market development:** Carbon Vista helps demonstrate how Nigerian climate projects can be structured to meet the requirements of institutional investors and international carbon markets, contributing to the development of a deeper domestic climate-finance ecosystem.
- **Article 6 and NDC delivery:** By developing high-integrity carbon projects aligned with Nigeria's climate priorities, Carbon Vista can strengthen Nigeria's capacity to participate in international carbon markets under Article 6 of the Paris Agreement, while supporting the delivery of the country's NDCs and attracting international climate finance.
- **Project financing and aggregation:** The platform can provide financing to project developers, helping projects move from concept to implementation while aggregating smaller projects across sectors into larger, investable portfolios. This can improve economies of scale, reduce transaction costs and create a stronger pipeline of projects capable of attracting institutional and international capital.
- **Capital mobilisation:** By establishing commercially credible projects and proving their underlying economics, Carbon Vista can help crowd additional private and institutional capital into Nigeria's climate transition.

Four-month-old stand planted in Gavião farm

CASE STUDY

Mombak – BNP Paribas Asset Management

Afforestation, Reforestation, Revegetation (ARR) - Nature-based carbon removal in Brazil and the Amazon region.[10]

AT A GLANCE

Asset class	Carbon removal (ARR)
Geography	State of Pará, Brazil
Entry structure	Developer equity Project financing: asset-level SPV equity
Target return	Mid-teens IRR

THE INVESTMENT

BNP Paribas Asset Management (BNPP AM) Alts Natural Capital acquired an equity stake in Brazilian carbon project developer Mombak in July 2023, alongside committing more than USD 50 million directly investing in native Amazon rainforest restoration on degraded pastures in Brazil. Through this co-investment into Mombak's projects, we aim to support the reforestation of over 10,000 hectares of degraded pastureland, through diverse native species plantations, generating up to 6 million high-quality carbon credits.

WHY WE INVESTED

Established in 2021 by tech and finance entrepreneurs, Mombak is supported by a blend of operational staff hired from commercial plantations forestry businesses and technical staff hired from NGOs focused on native species forest restoration. BNPP AM (AXA IM at the time of investment) served as a primary foundational institutional backer for its Amazon basin restoration projects.

Carbon removal projects supported by BNPP AM's natural capital strategy consist in buying or leasing degraded pastureland to establish conservation forests which are managed for 50 years before being legally converted to protection forests. Revenues are generated through the issuance and sale of high-integrity carbon removal credits, targeting high-profile brands with exacting quality demands.

The business model has been designed in collaboration with Microsoft, who in December 2023 signed what was then their largest ever nature-based removal contract through a 1.5-million-ton forward offtake agreement.[11]

CHALLENGES

- **Restoration execution at scale:** Through direct resource integration from nurseries to planting staff, Mombak currently plants 1 tree per second[12] in the Brazilian Amazon and has the ambition to become the world's largest carbon removal company and reach issuance of up to 1 million tons per annum of removal carbon credits.
- **Secure long-term offtake contracts:** To support the multi-decade model and lower execution risks, long-term emissions reduction purchase agreements are necessary to mitigate carbon price risk and achieve quality premiums.
- **Access to capital:** Strong deployment ambitions require access to large pockets of capital in what is still seen as a nascent asset class. BNPP AM's project financing is deployed alongside a separate investment fund that Mombak has raised. Additional debt financing has also been built on the back of offtakes, supported by the World Bank and BNDES.

Remnant forest patch and target end state

Existing land use – degraded pasture - ©Mombak

[10] *Capital at risk. The value of investments may fall as well as rise and you may not get back the full amount invested. The investment identified does not represent all of the investments purchased, sold, or recommended for the strategy. There is no guarantee that the investment we make were or will be profitable. Developments of the past offer no guarantee and are no indicator for any future returns or trends.*

[11] *Bloomberg article link*

[12] *Average figure based on annual planting activity, source: Mombak.*

THE EXPERIENCE SO FAR

- Initial 2023 equity investment followed by a new Series A round in 2025 including new investor backing.
- Project financing commitment almost fully secured for identified farms totalling more than 10,000 hectares of usable land.
- Full planting strategy in place on all acquired and leased land for conservation.
- Debt partnerships with World Bank and BNDES signed and executed.
- First carbon credit issuance for ARR project executed in 2026 ahead of schedule on Isometric registry with volumes exceeding initial targets on the back of strong biological growth.
- Forward ARR voluntary carbon purchases signed with Microsoft, Google, McLaren F1 team.
- Pilot Enhanced Rock Weathering carbon credits issued and sold on Isometric registry.

POSITIVE IMPACT

- **Land use:** Degraded extensive pastureland to pure conservation native forest; more than 18,000 hectares under sustainable management
- **Carbon:** ~7m VCUs to be generated (based on 50-year project term)
- **Restoration:** Up to 100 native species planted on over 10,000 hectares of degraded land
- **Biodiversity:** Partnership with Google DeepMind's Perch team to help quantify biodiversity benefits of restoration work using AI and bioacoustics monitoring – 12 IUCN red list species with strengthened conservation
- Community: Creation of NTFP zones as part of its broader strategy to continue creating jobs and enable controlled access for local communities

FINANCIAL RETURNS

- **Target return:** Mid-teens IRR (at BNPP AM fund-level) / >2x MOIC
- **Holding period:** ~10 years
- **Revenue drivers:** High-quality carbon credits sold on voluntary markets (spot and/or forward contracts) to premium corporate buyers. Designed in collaboration with Microsoft, first nature-based project selected by Symbiosis coalition.
- **Stage:** BNPP AM's first equity investment (seed) prior to first land acquisition and planting season, followed by Series A participation. First ARR carbon credits issued in 2026, ahead of schedule.
- **Operator alignment:** Management fee on deployed capital plus incentive fee above mutually agreed IRR hurdle

CASE STUDY

Imperative Spekboom – Mirova

Restoring degraded agricultural land in South Africa

THE INVESTMENT

The Spekboom project aims at restoring 60,000 hectares of degraded land in South Africa's Eastern Cape and generating high quality carbon credits. The investment is an innovative and scalable financing model: the combination of World Bank outcome bond capital, institutional streaming finance, and long-term corporate offtake agreements demonstrates a replicable model for financing ecosystem restoration at infrastructure scale. Mirova has committed USD 31.5 million through a Voluntary Emissions Reduction Purchase Agreement, or VERPA. Developed by Imperative and implemented by NatCarbon Africa across five private farms, the project has secured USD114 million in total capital.

AT A GLANCE

Asset class	Natural Capital / Environmental Assets
Geography	South Africa
Entry structure	Blended Carbon Finance Structure
Target return	Double digit

WHY WE INVESTED

The Eastern Cape's native thicket has been severely degraded by decades of overbrowsing, creating a major opportunity to restore ecosystems at scale. At the same time, growing demand for high-integrity carbon removals offers a means of financing this restoration.

The project replaces degraded vegetation with native spekboom, an "ecosystem engineer" that supports the return of local flora and fauna. Imperative's large-project execution capabilities, combined with NatCarbon Africa's on-the-ground restoration expertise, help de-risk delivery across 60,000 hectares.

Returns are driven by the sale of verified carbon credits, supported by long-term offtake agreements that provide revenue visibility. The investment also offers significant impact upside through carbon removal, biodiversity recovery, job creation and support for local businesses and communities.

CHALLENGES

- **Early-stage financing gap:** Phase 1 used catalytic capital to de-risk the first 10,000 hectares and build investor confidence for expansion.
- **Execution at scale:** Imperative's major-project capabilities are combined with NatCarbon Africa's local restoration expertise and field presence.
- **Revenue visibility:** Long-term carbon-credit offtake agreements, including the Phase 2 ERPA with Amazon, support predictable revenues.
- **Carbon integrity:** The project uses Verra's VM0047 ARR methodology and has received a BeZero Carbon 'AA pre' rating.

THE EXPERIENCE SO FAR

- **High-quality carbon project:** The project is being developed under Verra's VCS VM0047 ARR methodology, is pursuing ABACUS and CCB Gold certifications, and received a BeZero Carbon AA pre ex-ante rating with Low Execution Risk, placing it among the highest-rated ARR projects globally.
- **Strong environmental recognition:** Spekboom restoration initiatives in South Africa were designated a UNEP World Restoration Flagship in December 2025. The project's carbon credits may also be eligible under South Africa's domestic carbon tax framework, creating additional market opportunities.
- **Long-term ERPA secured with Amazon:** The offtake agreement provides the long-term revenue visibility required to support and finance Phase 2 of the project.

FINANCIAL STRUCTURE

Imperative has closed a USD 91 million blended project financing to support the 50,000-hectare Phase 2 expansion. The financing combines USD 25 million of capital directed from a USD 120 million outcome bond issued by the International Bank for Reconstruction and Development (IBRD), structured by BNP Paribas, with a USD 66 million syndicated streaming facility from GenZero, Mirova, Rubicon Carbon and Bregal Sphere. The outcome bond is a World Bank principal-protected instrument.

A portion of the fixed coupon ordinarily payable to bond investors is channelled to support the project's Phase 2 expansion; investors receive a coupon that includes a fixed component plus a variable component linked to nature-based carbon removal credits delivered by the project to Amazon.

This builds on the 10,000-hectare Phase 1 previously announced in May 2024 that was funded by Mirova, GenZero and Rubicon, leading to a total funding of USD 114 million for phase 1&2.

POSITIVE IMPACT

- **Land use:** 60,000 hectares of degraded agricultural land restored with native spekboom
- **Carbon:** More than 22m tCO_2e expected to be sequestered
- **Restoration:** 180 million trees targeted across five farms
- **Community:** Located in a high-development-potential region of South Africa, the project is expected to generate approximately 11,000 jobs by 2031 while promoting inclusive economic development. More than 40% of contracted SMMEs are female-owned.

Mirova site visit

BIODIVERSITY AND ECOSYSTEM SERVICES

Biodiversity has emerged as a major investment theme as governments, companies and financial institutions increasingly recognise nature loss as a material economic and financial risk. Emerging biodiversity markets seek to create financial incentives for the protection, restoration and enhancement of ecosystems and species, using instruments such as biodiversity credits, conservation agreements and outcome-based payments. The development of these markets varies significantly by geography and instrument. In the United States, for example, mitigation banking provides a relatively mature and established market framework for financing ecological restoration and conservation through regulatory compliance mechanisms. Other biodiversity-credit and nature-market models remain at an earlier stage of development and are benefiting from growing policy support and corporate demand driven by nature-related disclosure requirements and sustainability commitments. For investors today, biodiversity is most commonly captured as an additional source of value and resilience within farmland, forestry and restoration projects rather than as a standalone revenue stream.

Beyond carbon and biodiversity, natural assets provide a wide range of ecosystem services that support economic activity and human well-being. These include water purification, flood protection, coastal resilience, soil conservation, recreation and other environmental benefits that can increasingly be measured, valued and monetised. In some regions, regulatory frameworks and public-sector programmes have created investable opportunities linked to the delivery of these services, particularly in areas such as watershed restoration and water-quality improvement. Although ecosystem-service markets remain fragmented and often depend on local regulation, they illustrate how natural-capital investments can deliver multiple sources of value beyond traditional commodity production while contributing to broader environmental and social outcomes.

Maryland Water Quality Project in Maryland, United States – ©EIP

CASE STUDY

Maryland Water Quality – IWC

Stream Restoration, Maryland, United States

AT A GLANCE

Asset class	Stream restoration, pay-for-success mitigation
Geography	Maryland, USA
Entry structure	Greenfield equity
Target return	>50% gross unlevered IRR

THE INVESTMENT

Since 2018, IWC Timberland Investment Advisory team's partner Ecosystem Investment Partners has been awarded with different pay-for-success contracts by the Maryland State Highway Administration and the Department of Natural Resources for the restoration of 31 kilometres of streams across Cecil County, Maryland, for USD 45 million. Land was therefore acquired or leased, and restoration practices have been implemented with the aim of reducing agricultural pollution in the Chesapeake Bay. Operations have now ended, restoration has been successful from environmental perspective, capital was promptly returned to investors, and the asset is now in divestment phase.

WHY WE INVESTED

Many waterbodies across the US are assessed as impaired, failing to meet quality standards. To support restoration of impaired waters, the Clean Water Act establishes Total Maximum

[13] *Capital at risk. The investment identified does not represent all of the investments purchased, sold, or recommended for the strategy. Developments of the past offer no guarantee and are no indicator for any future returns or trends. No assurance can be given that any forecast, target or opinion will materialise. Trademark, copyright, and other intellectual property rights are and remain the property of their respective owners.*

Daily Loads, the amount of pollutant allowed to be released and relative reduction targets. In 2010, these targets were established for nitrogen, phosphorus, and sediments within the Chesapeake Bay, heavily affected by algal blooms. The case for environmental restoration and the clear and supportive regulatory framework were key drivers for the initial investment consideration.

Moreover, IWC's partner Ecosystem Investment Partners has been able to create an attractive investment opportunity to meet the Bay restoration targets. They had a positive track record, specialised capabilities, and close relationships with the entities relevant for the success of the project such as operators and landowners.

Ultimately, the high expected return profile and secure revenue streams linked to measurable milestones, paired with a relatively low investment risk, resulted in the final investment decision.

CHALLENGES

- **Land acquisition and divestment:** Land was strategically acquired or leased from local landowners targeting highest restoration potential and most efficient contracting. At restoration completion, land was either returned to the owners or successfully divested while maintaining the restoration benefit through conservation easements.
- **Restoration:** Local experts and contractors have been hired to conduct operations under the supervision of EIP's operations team, resulting in the successful achievement of all environmental milestones.
- **Restoration revenues and return of capital:** Project revenues have been tied to the delivery of measurable environmental benefits. As the restoration entered in the monitoring phase, part of the revenue streams has been sold to a third party, accelerating the pace of capital return to the investors.

THE EXPERIENCE SO FAR

- All stream restoration operations were successfully completed in 2020.
- The monitoring of the restored areas continues along with the achievement of environmental milestones, activating the performance payments.
- Part of the revenues from the projects have been sold to a third party to anticipate capital return.
- Conservation easements have been placed on the land to guarantee permanence of the restoration benefits.
- All land has been successfully divested.
- Final divestment phase with USD 1.5 million left in the project.

Before

After restoration at the Maryland Water Quality Project site - ©EIP

FINANCIAL RETURNS

- **Target return:** >50% gross unlevered IRR
- **Valuation:** USD 1.5 million today
- **Current position:** ~ 56% gross unlevered IRR
- Stage: Divestment, final revenues to be received, land fully divested
- **Operator alignment:** Base management fee at fund level (1.5%), with performance fee hurdle at fund level (8% net nominal).

POSITIVE IMPACT

- **Land use & restoration:** About 31 km of degraded agricultural stream corridors converted to naturalised riparian buffers via natural channel design, riffle-pool sequencing, and floodplain reconnection, now permanently protected with conservation easements.
- **Carbon:** Riparian reforestation along restored corridors provides incremental carbon sequestration and storage.
- **Biodiversity:** Restored habitat and reduced sedimentation benefit fish and macroinvertebrate communities in Chesapeake Bay tributaries.
- **Inputs & water:** Reduced nitrogen, phosphorus, and sediment loading to the Chesapeake Bay; e.g. one area alone verified a reduction of 10,000 lbs of nitrogen, 1,902 lbs phosphorous and 2.15 tons sediment each year.
- **Community:** Partnered with Cecil County Land Trust and local landowners and delivered by local environmental restoration and construction firms. Communities all around the restoration benefit directly from the restoration and the reduced pollution in the waterbodies.

Rize input testing in rice fields – ©Rize

CASE STUDY

Rize – BNP Paribas Asset Management

Sustainable agriculture – Methane emission reduction from rice production in South-East Asia.[13]

AT A GLANCE

Asset class	Sustainable agriculture / growth equity
Geography	Vietnam, Indonesia
Entry structure	Series B preferred equity
Target return	20%+ IRR

THE INVESTMENT

In July 2026, BNPP AM Alts led Rize's Series B fundraise through a preferred-equity investment in its Singapore TopCo. The USD 20 million equity round, alongside USD 11 million of additional debt, will fund working capital and scale Rize's integrated sustainable-rice platform across Vietnam and Indonesia.

WHY WE INVESTED

Rice paddies supply half the global population with staple food but also account for ~48% of greenhouse gas (GHG) emissions from croplands and are responsible for 12% of global methane emissions. Alongside methane reduction, Rize aims to modernise an inefficient sector employing 140 million typically low-income people across Asia and make the sector more resilient in the face of climate change (e.g., water shortages).

Rize supports farmers to adopt alternate wetting and drying, reducing greenhouse-gas emissions by around 40% and water use by 20–30%, while maintaining yields within a stated -5% to +5% range. BNPP AM invested behind rapid operating growth, a strong management team and investor base, and a diversified revenue model combining inputs, services, carbon credits and traceable-rice offtake fees.

The company will provide investors exposure to methane super-pollutant carbon credits that are increasingly sought after by a variety of buyers, diversifying the BNPP AM Natural Capital portfolio exposure. The project received a BeZero Carbon ex ante rating of 'A'1 with low project execution risk. BeZero's benchmarking indicates that an equivalent A rating sits within the top 11% of ex post global Nature-Based Solutions ratings. The project is currently progressing through Gold Standard certification, with more than 1 million credits forecast over the next five years.

CHALLENGES

- **Scaling multiple revenue streams:** Long-term profitability depends on expanding revenues per hectare through provision of inputs and services, ensuring returns from efforts into farmer acquisition and retention.
- **Manage farmer relationship and credit risk:** Data must be gathered and strong relationships and systems built to manage relationships and credit risk across many smallholder farmers.
- **Managing climate risk:** Changing weather patterns are affecting water cycles and threatening crops. A diversified farmer base is needed to spread risk accompanied by technical assistance in best practices to mitigate risks.
- **National carbon policies:** Credits must go through various national approval processes for issuance and export. These are evolving and Rize is a pioneer developer in the sector, so strong relationships with government are key.

Rize process map and warehouse site visit – ©Rize

THE EXPERIENCE SO FAR

- Founded in 2023, Rize has built an integrated sustainable-rice platform spanning farm inputs and services, agronomic support, carbon measurement and verification, and market access.
- BNPP AM's investment was executed in June 2026 with a target holding period of 10+ years.

FINANCIAL RETURNS

- **Target return:** 20%+ IRR
- **Stage:** Scale up with over 17,000 farmers on the platform across 2 countries
- **Operator alignment:** Typical equity incentives for key staff

POSITIVE IMPACT

Impact targets for investment period

- **Land use:** 167,000 hectares of rice under sustainable management.
- **Inputs & water:** Water use reduced 20-30% and transition to sustainable inputs.
- **Greenhouse gases:** 50% reduction in emissions through implementation of 'alternative wetting and drying' (AWD) production method. 8.0 million tonnes of CO2e avoided through reduced methane emissions.
- **Community:** 30% increase in farmer yields and empowering rice farmers with access to modern rice value chain infrastructure and digital services.

[14] Capital at risk. The value of investments may fall as well as rise and you may not get back the full amount invested. The investment identified does not represent all of the investments purchased, sold, or recommended for the strategy. There is no guarantee that the investment we make were or will be profitable. Developments of the past offer no guarantee and are no indicator for any future returns or trends. Sources: Rize data and BNPP AM analysis; BNPP AM Alts press release, 16 July 2026.

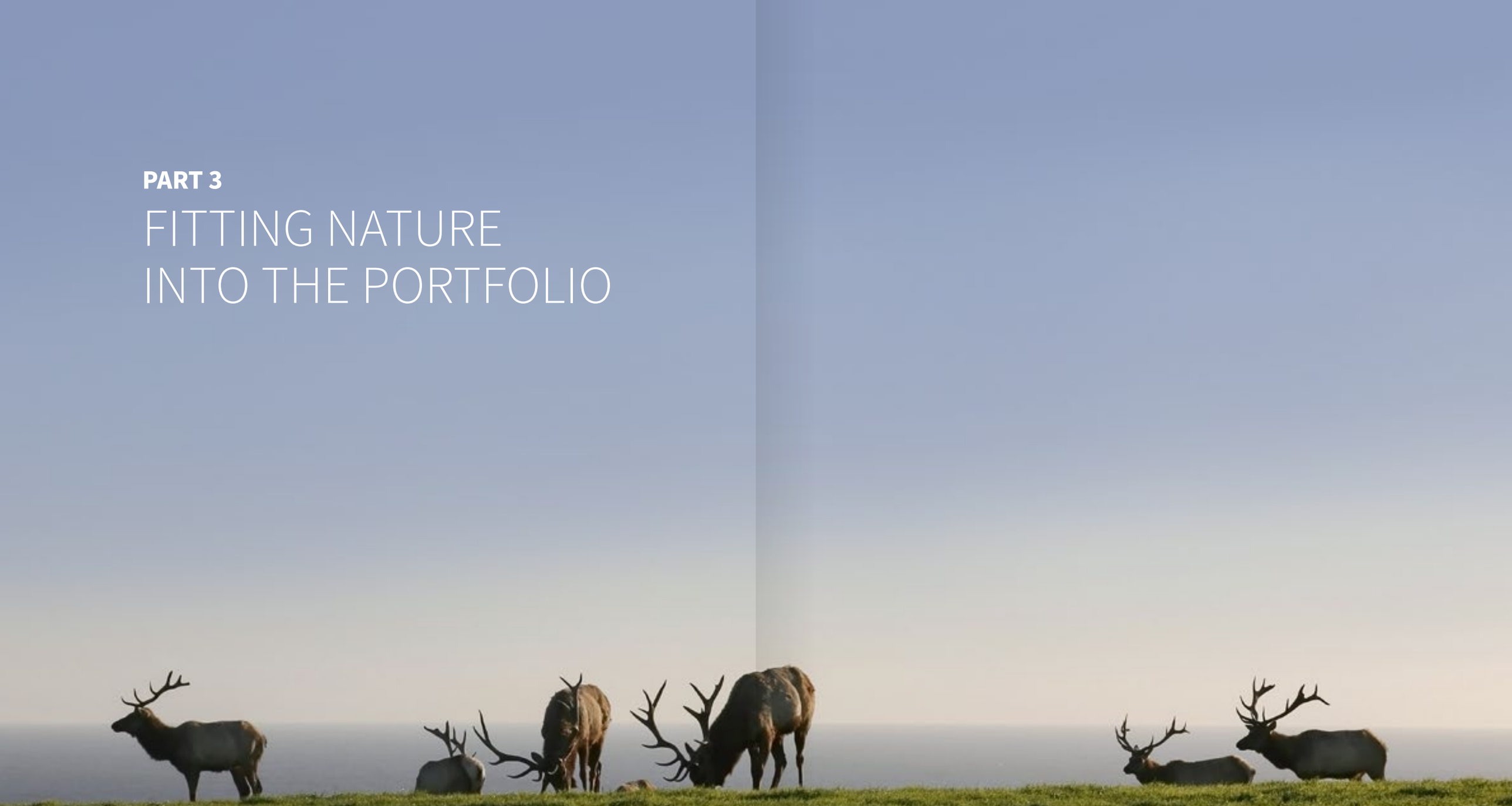
CONCLUSION

The investment case studies presented in this chapter illustrate the breadth of the nature investment opportunity. Across farmland, forestry, the blue economy and emerging environmental markets, investors can access opportunities ranging from established productive real assets with recurring cash flows to newer strategies built around restoration, carbon, biodiversity and other ecosystem services.

While these opportunities differ materially in maturity, liquidity, risk and return drivers, they share a common investment logic: better management of natural assets can strengthen productivity and resilience, protect or enhance underlying asset value, and in some cases create additional revenue streams. The examples also demonstrate that nature investment can take many forms and offer multiple entry points for institutional investors, depending on their objectives, capabilities and risk appetite.

PART 3

FITTING NATURE INTO THE PORTFOLIO



The next two sections look at overcoming common institutional barriers in allocating capital to nature, in particular, the lack of an appropriate asset class bucket to house this investment and a lack of internal expertise to assess nature-based investment opportunities. This section focuses on how investors can fit an investment in nature into their investment framework. Section Four considers the practical steps an investor can take to execute nature-related investments.

Most institutional asset owners are too large to effectively consider each individual investment at the whole-of-fund level. They are therefore often split into asset class or opportunity teams. While a central team, often called the asset allocation team, makes decisions about which asset classes to invest in, the asset-class-specific teams make decisions about the actual investments to make.

Few institutional investors currently have internal teams with experience in investing in nature. In our discussions with institutional investors and asset managers, both have highlighted that figuring out which asset class should hold nature-related investments, and which team has the expertise to analyse them, can be challenging.

Because different investors have different investment frameworks and investment team structures, there is no one-size-fits-all answer to this problem. Instead, we propose three potential solutions. The first is to create a standalone asset class (or classes) related to nature (or forestry/agriculture). The second is to find a natural fit for a nature-related investment within an existing asset class. The third is to build the case for these investments as an impact investment. The method that works best will depend on the investor's approach and mandate.

The rest of this section is divided into three parts built around these different approaches. Part 1 walks through why creating a nature asset class could be attractive and provides recommendations on data sources to support expected returns, risk and correlation estimates. It also provides a case study from the New Zealand Superannuation Fund on how NZSF has created two nature-based asset buckets.

Part 2 looks at the various ways nature can be accessed through existing asset classes and provides a directory of nature-related funds to provide a jumping-off point for teams beginning a manager appointment process. It also provides a case study from COFIDES on how they have invested in nature through their existing asset classes. Part 3 considers guidelines for assessing the impact of a nature-based investment, including thresholds for something to be considered good and adverse indicators to consider. It also explores how sovereign wealth funds can meet their national development mandates while investing in diverse, global portfolios. Last but not least, it provides a case study from ISIF on how they are investing in nature to drive impact.

CREATING A NATURE-RELATED ASSET CLASS

In theory, the cleanest way to introduce nature into the portfolio is to create a standalone asset class or asset classes for it. In order to implement this approach, sovereign wealth funds will need to decide how to define nature, and whether to create one or multiple buckets for it. There is no one-size-fits-all answer to this question, as it will depend on the sovereign wealth fund's broader investment framework, particularly how much flexibility it wants to provide to its asset class teams and the desired size of each opportunity. There are some common characteristics across these sectors, namely: low correlation to equity markets, inflation hedging and growing institutionalisation. However, the strength of each of these drivers varies by sector.

There is much deeper empirical data around traditional forestry and agriculture than there is around the other sectors so those two sectors might present a more natural starting point for funds looking to deploy billions of dollars of capital quickly.

The main public benchmarks for traditional agriculture and forestry are the NCREIF Farmland Property Index and the NCREIF Timberland Property Index. These indices are trusted, widely accepted, institutional-grade data sets. They can provide granular data on regional and production-type returns.

However, they have some known weaknesses. They are US-centric, lacking exposure to other major institutional agriculture and forestry regions such as LATAM, Europe and Oceania.

There are a number of other proprietary data sources that may be available to OPSWF Network members on request. Nuveen has a set of location- and production-specific volatility data. IWC has a mix of forward-looking forestry data and a proprietary data set that offers a more geographically diversified reference point than NCREIF.

Ecosystem services, particularly forestry projects with both timber and carbon revenue streams, appear to be offering higher risk-adjusted returns than traditional agriculture and forestry, so investors who are more open to smaller, less established opportunities may also find these options financially attractive and high impact. Further, there is growing evidence that these ecosystem services are becoming a critical part of forestry returns stream.

For the compliance carbon markets / ETS side, the International Carbon Action Partnership (ICAP) Emissions Trading Worldwide Status Report is an excellent complementary source. It provides a good overview of the different emissions trading systems globally, with detailed factsheets for systems in operation, under development and under consideration.

European, Californian, RGGI (Northeastern USA), and New Zealand spot or futures contract data can be pulled directly from Bloomberg. However, it is worth noting that the market designs of the Californian and New Zealand markets include price floors and price ceilings, which should be considered when determining expected returns and correlation. One approach that shows promise is to consider the carbon unit as a bond that pays a 5% real coupon with a stapled option where first option's strike is the price floor at a given date and the second option is the price ceiling.

The World Bank's State and Trends of Carbon Pricing offers coverage of emissions trading systems, carbon taxes and carbon-crediting mechanisms globally, and is accompanied by an interactive Carbon Pricing Dashboard with downloadable data.

For the voluntary carbon market, Ecosystem Marketplace's State of the Voluntary Carbon Market provides a useful public overview of global voluntary carbon-credit supply and demand, pricing, and market developments. Finally, for investors interested in the development of international carbon markets under Article 6 of the Paris Agreement, the UNFCCC's Article 6 resources are a useful primary source for understanding the regulatory framework and its development.

COUNTRY RISK PREMIUMS

Many of the most attractive forestry and agriculture projects arise in emerging markets, particularly LATAM. This raises the question: how should investors deal with the geographical risk that these countries entail? This is not an issue unique to nature-related assets, so many sovereign wealth funds may already have a method for addressing this.

For those who do not, Aswath Damodaran's work on country risk premiums is an excellent starting point.[14] Damodaran starts from a mature-market equity risk premium, then adds a country-specific increment built from that country's sovereign default spread — derived from its Moody's rating and traded bond/CDS spreads — and scales it up by the relative volatility of the country's equity market versus its bond market, on the logic that equity investors bear more risk than bondholders in the same economy (Damodaran, Country Risk 2025). The result is a per-country premium that can be dropped directly into a discounted cash flow model. It is transparent, free, and refreshed regularly.

Note, however, that Damodaran himself cautions that his premiums are easy to misuse when applied without understanding the assumptions behind them. Country risk in nature investing carries wrinkles the standard approach doesn't fully capture. Export-oriented, USD-denominated forestry cash flows may be far less exposed to local macro deterioration than the headline CRP implies, while long-dated physical climate and tenure risks may be materially understated by a rating-driven spread. Therefore, this data should simply be treated as a starting point.

REAL OPTION VALUE

Forestry investments contain a valuable real option in the timing of harvest that a standard discounted-cash-flow valuations miss. Because standing timber keeps growing and can be held at relatively low cost, owners are not locked into a fixed rotation. They can delay harvest when prices are low (letting the trees add volume and value) or bring it forward to capture a price spike. This flexibility acts as a natural hedge against price volatility and adds value over and above the expected net present value of the stand, which the owner captures through a 'reservation price' strategy of harvesting only when prices are high enough. This flexibility is economically equivalent to holding an option.

The value of this option is enhanced when forestry projects earn a second revenue stream from carbon because they can also consider the relative price of carbon and timber in making their decisions. Using a simple, discounted cash flow analysis (DCF) will not reflect this option value. Instead it is important to follow the steps below to properly reflect option value:

Build the conventional DCF.

- Identify embedded options explicitly.
- Ask whether management can realistically exercise them.
- Assess whether competitors can quickly replicate them.
- Estimate option value separately.
- Add option value to NPV rather than mechanically increasing discount rates.

[14] *Damodaran, Aswath. "Country Default Spreads and Risk Premiums" (data set), NYU Stern School of Business, 2026,*

SOVEREIGN WEALTH FUND CASE STUDY 1

NZ Super – Forestry and Rural Land as asset classes

The New Zealand Superannuation Fund (NZ Super) has long invested in natural capital, with approximately 5% of NAV allocated to timber and rural land as distinct asset classes. The portfolio includes traditional timber and carbon forestry, as well as dairy, beef and tree crops. Currently, it deploys roughly 5% of NAV into natural capital. Within these asset classes, NZ Super invests in a mix of traditional timber and carbon forestry as well as dairy, beef and tree crops. While it does not exclusively target regenerative assets, it seeks to apply these practices where they can deliver an attractive return on a risk-adjusted basis. NZ Super considers timber and rural land to be attractive because of their low correlation, inflation hedging and growing institutionalisation.

The biggest challenge NZ Super has faced in deploying to natural capital is finding solid evidence to justify investing in more sustainable practices. It has tackled this through trials and by taking small bets to build up internal knowledge and expertise.

Timber has delivered value-add since inception. Agriculture has also outperformed its benchmark since inception. Importantly, these investments have tended to outperform when many of NZ Super's other investments were underperforming.

NZ Super does not report the carbon flow from its forestry investments, as this would create significant fluctuations in its annual carbon emissions. However, it estimates that over the long run, the net removal from its forestry assets is equivalent to double-digit percentages of total fund emissions. Further, NZ Super has invested USD 100 million in a fund that is explicitly targeting carbon revenue, alongside timber revenue. This is expected to generate annual emissions reductions equivalent to >40% of the total scope 1 and 2 emissions of NZ Super's whole portfolio.

While agriculture, particularly its beef and dairy farms, has high carbon intensity, the Fund has been able to reduce emissions through land conversion and by integrating more regenerative practices into land use without compromising returns.

INVESTING IN NATURE WITHIN EXISTING ASSET CLASSES

In some cases, it may not be practical for an investor to create a separate asset class for nature. Investors can still access nature-related opportunities by integrating them into their existing asset classes.

As shown in Section 1, there are many ways to invest into nature, and these ways span many traditional asset classes. Nature-related opportunities can be found across thematic equity funds, bonds, real assets, and private equity. In short, a focus on nature can be incorporated into existing portfolio structures without requiring a separate asset class allocation.

Finding a good fit for assets often comes down to finding specific investments which closely match the return and risk characteristics that particular asset class team values. For example, equity investment teams may put weight strategies that have an equity beta of close to one. Bond investors may be seeking a portfolio that matches their parent index duration and average credit score, providing a low tracking error. Infrastructure focused managers may prefer investments with signed offtakes with investment-grade counter parties so that the investment has a long-term cash flow stream common in infrastructure investments. Real estate teams may prefer investments to have fixed rent payments, thereby avoiding operational exposure to farming assets.

Below is a list of fund offerings from OPSWF Network members. It is not intended to be a comprehensive list or to replace a formal manager search process, but rather to provide a starting point for investors considering investing in nature. It is worth noting that most managers also offer Separately Managed Accounts, which can be tailored to individual clients' needs.

Asset class	Name	Description	Investment drivers	Term	Target region
Real Assets	AXA IM Natural Capital Opportunities Fund SCSp SICAV-RAIF	Targets enterprises that implement positive changes in land-use resulting in the generation of carbon credits	Levered exposure to carbon credits, long climate action, economic growth and inflation hedging	15-17 years	
Natural Capital	Climate Asset Management: "Natural Capital Fund II"	Invests in regenerative agriculture and sustainable forestry assets, generating returns from land productivity, biological growth, natural capital enhancement and ecosystem services. Investors have the option to choose between forestry only, agriculture only, or blended strategies.	Agriculture & timberland returns, biological growth, land appreciation, ecosystem services.	12-13 years from final close.	Europe, North America, Australia and New Zealand
Nature-Based Solutions [1]	Ardian Averrhoa Fund	The Fund offers comprehensive solutions to restore forests & natural ecosystems financed by carbon credits. The Fund will invest in Nature-Based Solutions projects such as Afforestation, Reforestation and Restoration of forests, mangroves and peatland. The Fund aims to deliver positive biodiversity, social, and climate impact. The Fund is expected to deliver yield to its investors through the sale of carbon removal credits SFDR Article 9 [2]	The Fund's primary goal is to restore nature, which in most cases has been degraded by human pressure through activities such as cattle grazing or intensive agriculture, investing in both greenfield and brownfield projects. Green infrastructure targeting long-term cash flows and potential proceeds upon asset sale. Exposure to a growing carbon market. Investment in emerging markets, with potential limited currency exposure, as carbon credits are generally generated in dollars or euros. Targeted extra-financial outcomes with stringent KPIs related to carbon, climate, biodiversity, and social impact.	15 years duration	75% non-OECD countries 25% OECD
Forestry	BNPP Future Forest Fund	Invests directly in sustainably managed forest assets with a focus on biodiversity, climate change resilience, and carbon sequestration; SFDR Article 9	Biological growth, timber sales revenues, land appreciation, carbon credits, inflation	12-15 years	North America, Oceania, Europe
Forestry	BNPP Evergreen Partners Fund III	Invests in diversified sustainable forest assets across developed markets through external managers, with a focus on climate adaptation; SFDR Article 9	Biological growth, timber sales revenues, land appreciation, inflation	Evergreen	North America, Oceania, Europe
Farmland	BNPP European Farmland Strategy	Invests directly in high-quality European farmland and supports the transition towards regenerative and/or organic farming practices; SFDR Article 9	Lease income, agricultural income, land appreciation, inflation.	12-15 years	Europe
Natural capital / Carbon	AXA IM Natural Capital Opportunities Fund	Provides exposure to companies and projects that protect, restore, and sustainably manage natural capital. The strategy predominantly focuses on enterprises implementing positive changes in land use, including tree planting, avoided deforestation or degradation, and wetlands restoration and conservation; SFDR Article 9	Generation and sale of carbon credits from the removal or avoidance of greenhouse gas emissions	15–17 years	Emerging markets focused

[1] Information provided for illustration purposes only, no binding contractual force.
[2] This fund is intended exclusively for professional investors within the meaning of Directive 2014/65/EU. It should be noted that the European legal and regulatory framework for sustainable finance is still developing. Hence, it cannot be excluded that the European regulatory authorities will in the future take positions and directions that do not support the current categorization of the Fund under SFDR.

SOVEREIGN WEALTH FUND
CASE STUDY 2

COFIDES – Delivering investments in nature through traditional asset classes

THE INVESTMENT

COFIDES invested in and sponsored the Kuali Fund, a EUR 250 million blended finance private debt fund managed by GAWA Capital. Rather than investing directly in farmland, forestry or restoration projects, the fund provides financing to financial institutions and specialized lenders in Latin America and India, enabling them to expand lending to smallholder farmers, rural SMEs and climate-focused businesses. This approach allows nature-related financing to be channelled through a conventional financial asset class while reaching sectors where access to capital remains limited. Through its portfolio, the fund supports activities such as climate-smart agriculture, agroforestry, sustainable land management, water-efficiency measures and other nature-positive production systems.

WHY WE INVESTED

The investment demonstrates that exposure to nature-related outcomes does not necessarily require direct ownership of land, forestry or other real assets. By investing through financial intermediaries, many dispersed farmers and SMEs can be reached that would otherwise be difficult to finance directly. This creates the potential for scale and diversification while retaining the characteristics of a traditional private debt investment.

The opportunity is also attractive because it addresses a significant financing gap. Smallholder farmers and rural enterprises are among the economic players most exposed to climate and environmental risks, yet they remain underserved in financial terms. By supporting financial institutions that develop specialised green lending products, the fund contributes to the adoption of more resilient agricultural practices, improved resource efficiency and nature-positive business models.

At the same time, the blended finance structure helps attract private capital into segments that are often perceived as high-risk. The catalytic contributions secured by COFIDES, through the Spanish Cooperation Agency, Green Climate Fund resources, together with support from the European Union, helped attract a significant volume of private investment that would otherwise have been difficult to mobilise. This demonstrates the effectiveness of blended finance structures in reducing perceived risk and crowding in commercial investors to support nature-positive and climate-resilient activities.

CHALLENGES

One of the key challenges was the perceived risk associated with investing in a business model that combines environmental restoration with long-term commercial value creation. Nature-related investments in agriculture and rural economies are frequently characterised by small transaction sizes, dispersed beneficiaries and exposure to climate variability, which can make risk assessment more complex. To address this, COFIDES secured a capital structure for the vehicle through a blending mechanism in which donors such as the Spanish Cooperation Agency, the Green Climate Fund and the EU assume project risk by covering a first loss equity tranche while leaving the upside potential to private investors. As a result, private investors benefited from both a reduction in risk exposure and an enhanced return profile, helping mobilise additional capital towards a nature-positive investment that may otherwise have struggled to attract commercial financing.

In addition, the fund incorporates a dedicated technical assistance facility (over EUR 10 million) that supports portfolio companies in strengthening climate risk management, environmental and social systems, impact measurement and the development of specialised green financial products. This combination of capital and capacity-building has been key to expanding financing in underserved markets.

THE EXPERIENCE SO FAR

The experience has been positive from both a financial and impact perspective. The fund has successfully built a diversified portfolio of financial institutions operating across multiple countries and has continued deploying capital into underserved climate and agricultural finance markets. Financial performance has remained broadly in line with expectations during the portfolio construction phase, demonstrating that nature-related outcomes can be pursued through mainstream investment structures.

From an impact perspective, the fund has expanded access to finance for vulnerable rural populations, smallholder farmers and SMEs while promoting the adoption of more sustainable and climate-resilient practices. Through financing for climate-smart agriculture, agroforestry, sustainable land management and resource-efficiency measures, the fund contributes to strengthening ecosystem resilience and improving livelihoods. Importantly, the model also helps transform local financial systems by embedding environmental and climate considerations into lending practices, thereby increasing the long-term availability of financing for nature-positive activities.

CONCLUSION

COFIDES' support to Kuali demonstrates that nature-related outcomes can be achieved through mainstream financial instruments without requiring direct exposure to natural assets. By investing in financial intermediaries that serve smallholder farmers and rural SMEs, private debt can become an effective channel for scaling capital towards climate-smart agriculture, agroforestry and sustainable land management.

The experience highlights the importance of blended finance in addressing persistent financing gaps for nature-positive activities. Combining catalytic capital with technical assistance helps mitigate risk, build institutional capacity and create investable opportunities that can attract commercial investors over time.

More broadly, the case illustrates how investors can integrate nature objectives within existing asset classes, expanding the flow of capital towards resilient and sustainable economic activities while maintaining financial discipline. This approach offers a practical pathway for mobilising larger pools of capital to support biodiversity, climate resilience and rural development at scale.

INVESTING IN NATURE AS IMPACT

Some sovereign wealth funds have a separate impact mandate or an explicit directive to invest in national development. Nature investments often make good fits for these investment mandates because of their potential to have outsized positive impacts. They can also be attractive because they can support national and food security objectives.

To fit within an impact or development mandate, an investment generally must demonstrate that it has strong positive impacts and that it does no significant harm.

The IRIS+ framework, developed by the Global Impact Investing Network (GIIN), is a useful tool for helping investors define, measure, manage and communicate positive social and environmental impact. In the context of sustainable forestry, for example, it provides a convenient structure for selecting impact indicators and tracking outcomes.

The New Zealand Taxonomy – Agriculture and Forestry provides thresholds and definitions for green and transition activities in a New Zealand context.

The EU Taxonomy provides a classification framework for environmentally sustainable economic activities, including criteria such as Do No Significant Harm (DNSH), while SFDR provides the relevant framework for sustainability-related disclosures and the consideration of adverse impacts.

DIVERSIFICATION VERSUS NATIONAL MANDATES

Often, sovereign wealth funds with a development mandate have an explicit requirement to deploy a proportion of their capital within their own country. This can create conflicts with getting a well-diversified portfolio, which is critical to reducing volatility from localised weather impacts, as well as accessing leading managers with deep sustainability expertise.

One way that sovereign wealth funds have addressed this challenge is by agreeing that a certain proportion of the total assets of the pooled fund being raised will be invested in the sovereign wealth fund's country.

BLENDED FINANCE

For high-impact projects, government support or blended finance is sometimes available. Generally, this finance enhances investors' returns either by taking the first loss or accepting a cap on its own upside. While this is generally pure upside for those supplying traditional or market-rate funding, it is important to recognise the full range of outcomes rather than just the central or base-case estimate.

Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
National Treasury Management Agency

Ciste Infheistíochta Straitéisí d'Éirinn
Ireland Strategic Investment Fund

SOVEREIGN WEALTH FUND CASE STUDY 3

ISIF – Delivering impact through nature

THE INVESTMENT

The Ireland Strategic Investment Fund (ISIF), managed and controlled by the National Treasury Management Agency (NTMA), is a EUR 16.1 billion fund (at end December 2025) comprised of the Discretionary Portfolio (EUR 9.7 billion) and the Directed Portfolio (EUR 6.4 billion). The Discretionary Portfolio has a 'double bottom line' mandate to invest on a commercial basis in a manner designed to support economic activity and employment in Ireland. ISIF's double bottom line mandate makes it one of several sovereign funds globally that invest to support both economic activity and employment, in addition to delivering commercial returns.

ISIF prioritises the use of its capital and resources to address strategic challenges. It focuses its efforts on making transformational investments across its four key investment themes of:

1. Climate and Energy Transition
2. Scaling Businesses
3. Food, Agriculture and Marine
4. Housing, Infrastructure and Sustainable Development

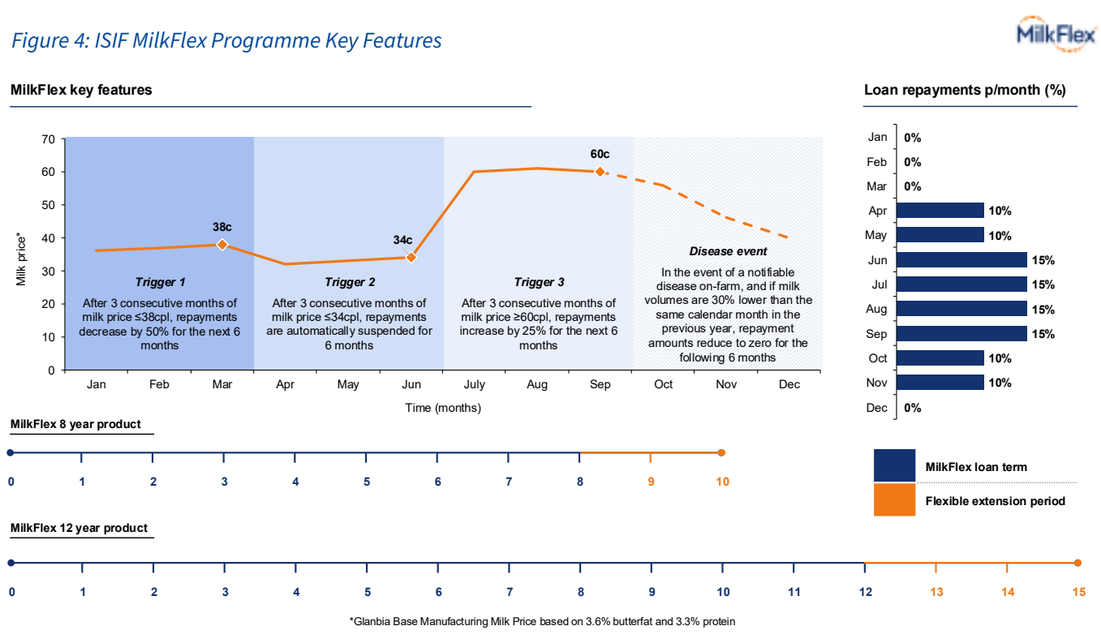
In addition, ISIF pursues cross-theme investment opportunities that can deliver significant economic impact and retains the flexibility to respond to nationally important opportunities through its National and Compelling Investments theme. Including third-party co-investor commitments, a total of EUR 23.4 billion arising from ISIF investments has been committed to investment in Ireland since ISIF's inception in 2014.

ISIF's mission under the Food, Agriculture and Marine theme is to collaborate with key stakeholders in these sectors to seek to deliver transformational commercial investments that support Ireland becoming a world leader in sustainable food systems supporting the National Food Vision 2030 Strategy.

The ISIF approach includes the deployment of patient flexible capital, leveraging deep sectoral and financial expertise, strong relationships with stakeholders and industry, nationally and internationally to address gaps in the market and solve sustainable food systems challenges.

One such investment under the Food, Agriculture and Marine theme is the MilkFlex lending platform, an innovative loan programme developed in partnership with Tirlán (formerly Glanbia, and one of Ireland's largest dairy co-operatives), Rabobank, and Finance Ireland. The platform was launched in 2016 and subsequently rolled out nationally in 2018 to dairy farmers across Ireland. MilkFlex was designed to provide Irish dairy farmers with access to long-term capital while helping them manage the challenges associated with market volatility and seasonal cash flows. The product incorporates flexibility mechanisms (see Figure 4) that can adjust repayment terms in response to movements in milk prices and certain adverse events. Loan repayments are also structured to reflect the seasonal nature of milk production. Security is provided via a priority deduction from participating farmers' milk receipts, with the deducted amounts paid directly by the dairy processors to the lender. This mechanism avoids the need for traditional security over land (where the finance is not used for land purchases) or other assets, thereby reducing associated costs and administrative burden. By late 2025, the platform had advanced more than €350 million in loans to approximately 2,600 farmers throughout rural Ireland.

Figure 4: ISIF MilkFlex Programme Key Features



WHY WE INVESTED

Food, Agriculture and Marine is one of ISIF's four investment themes and remains a strategically important sector for the Irish economy. The sector is Ireland's largest indigenous exporting industry, accounting for approximately EUR 21 billion of exports in 2025 and supporting more than 170,000 jobs.

ISIF identified an opportunity to support the long-term development of the dairy sector through a financial product specifically designed around the unique characteristics of agricultural production. The investment aimed to address financing requirements at farm level while supporting resilience in a sector exposed to commodity price fluctuations and other external shocks.

The investment also aligns with Ireland's Food Vision 2030 strategy and the increasing focus on sustainable food production. The MilkFlex platform is now being used to support sustainability-related investments on farms, helping farmers invest in technologies and infrastructure that improve environmental credentials and resilience.

CHALLENGES

A key challenge within agriculture is that farm incomes can be influenced by factors outside farmers' control, including commodity prices, weather conditions and disease events. Traditional lending products do not always reflect these sector-specific risks or the seasonal nature of income generation on dairy farms. MilkFlex was developed as a tailored financing solution that incorporates built-in flexibility mechanisms. These include repayment triggers linked to milk prices and repayment schedules aligned with seasonal milk production. Through collaboration between ISIF, financial institutions, and industry stakeholders, the platform was able to offer a lending solution better suited to the needs of dairy farmers.

THE EXPERIENCE SO FAR

The platform has grown into one of ISIF's largest investments within its Food, Agriculture and Marine portfolio, supporting investment across rural Ireland with more than EUR 350 million advanced to approximately 2,600 farmers by late 2025.

While MilkFlex was initially established to support scaling and investment following the abolition of EU milk quotas, its focus has increasingly shifted towards sustainability-related investment at farm level, with approximately 70% of new loan advances now predominantly being used to support environmental and sustainability initiatives on farm. Examples include solar panels, low-emission slurry spreading technology, more efficient bulk tanks, slatted tanks, and herd monitoring technology. Farmers availing of MilkFlex loan facilities are required to participate in the Bord Bia Sustainable Dairy Assurance Scheme (SDAS), an independently audited sustainability and quality assurance programme for dairy farmers.

MilkFlex illustrates how sovereign funds can contribute to nature outcomes beyond direct investment in natural assets. Through an innovative and collaborative financing model, ISIF has helped farmers adopt more sustainable farming practices and invest in technologies that improve environmental performance and resource efficiency. With approximately 70% of recent loan advances supporting on-farm sustainability initiatives, the platform demonstrates how targeted capital can accelerate the transition to more sustainable land management while maintaining the economic viability of rural communities and food production systems, supporting the resilience and competitiveness of a strategically important rural sector.

CONCLUSION

There is no single approach to fitting nature into an institutional portfolio. Depending on an investor's mandate, governance and existing investment framework, nature can be approached through a dedicated allocation, integrated into existing asset classes, or pursued through an impact or development mandate.

The key is to fit the investment structure to the underlying opportunity. Established sectors such as agriculture and forestry may support dedicated allocations, while other nature-related opportunities can be accessed through existing asset classes or impact mandates. In each case, investments should be assessed using the same disciplines applied elsewhere in the portfolio—including expected return, risk, liquidity, diversification and implementation capability—alongside any environmental or development objectives.

For sovereign wealth funds, this flexibility creates multiple pathways to build exposure to natural capital without requiring a single portfolio model. The practical question is therefore not where nature "belongs", but which approach best enables each fund to capture the investment opportunity within its mandate, portfolio and capabilities.

PART 4

EXECUTION

CAPTURING RISKS PRIOR TO PROJECT START

Forestland, farmland, ecosystem restoration and blue economy represent a long-duration asset class. They align with multi-decade horizons and diversification objectives. They also enable scalable, resilient and strong long-term upside.

Nature investments are currently perceived to be riskier than they are, primarily because institutional investors have had limited exposure to this asset class. Furthermore, different types of nature-related investments have different risk profiles. Although ecosystemic services and aspects of the blue economy are less established and therefore have higher risk profiles, agriculture and forestry are long established and face very little volatility. The key across all these sectors is to apply a tailored set of operational management processes, to manage these risks. The objective of this section aims to help investors seeking exposure to nature investment select an operational model consistent with their risk appetite. Investors can draw from a menu of nature-related investment options, including choices suited to every risk profile. This section demonstrates that risks are today well-identified, can be anticipated, and effectively mitigated through the involvement of asset managers who possess proven knowledge and expertise.

RISKS ASSESSMENT AND MITIGATION MEASURES

The risks involved, while real, are well understood, manageable and can be de-risked through disciplined execution. Risks should be assessed during the pre-investment phase so that they can be de-risked during execution through selecting the right asset management strategy. In nature related investments, many challenges stem from the project's preexisting situation. If not identified and addressed sufficiently upstream, these issues are likely to crystallise into risks. Rigorous due diligence, conducted upstream with specialised advisors, makes it possible to identify, contain, and neutralise these risks as early as the investment phase.

Risks can be readily identified, sequenced and actively managed at every stage of a nature capital project.

Operational risk	Main mitigation measure
Land acquisition & land-related risk *How can we build a clear land approach and avoid the legal and reputational risks of forced evictions or past litigation?*	• Rigorous long-term title due diligence • Transparent negotiation and pricing frameworks • Robust tenure contract practices
Development and operational risk *How can we give investors confidence that agronomic yields can be reliably forecast and delivered over the asset's life?*	• Strong on-the-ground technical capacity and team presence • Locally aligned strategy and planning • Sound silviculture/agronomic practices • Certified carbon credit methodology • Systematic monitoring and evaluation (lessons learnt)
Social risk *How can we enhance asset durability and additionality, focusing on sustainable impact-aligned returns and on the social licence to operate?*	• Proactive community engagement • Rigorous FPIC processes • Thorough land use change risk assessment • Comprehensive emergency response plan and awareness campaign
Offtake risks *How can we secure long-term revenue visibility and reduce dependency on a single buyer or price for carbon credits, timber or crops?*	• Structured carbon credit offtake strategy • Diversified buyer base (avoiding single counterparty concentration) • Continuous supply/demand balance monitoring • Long-term offtake agreements with credit-worthy counterparties • Protective price floor/collar mechanisms in offtake contracts • Regular market benchmarking to reprice/renegotiate terms • Active market demand trend tracking • Tracking on voluntary versus compliance market demand trends (regulatory shifts, corporate commitment trends)
Environment and nature *How can we safeguard the underlying natural asset and ensure resilience against the environmental and climate-related risks that could affect yield and carbon integrity?* *Climate risks need to be assessed, and mitigation (an adaptation plan) needs to be defined for assets that are climate dependent.*	• Thorough biodiversity and baseline studies and impact assessment • Comprehensive climate-related physical risks related to climate change assessment (fire, flood, etc) • Proactive pest management/prevention plans • Diversified species/genetic diversification composition (to reduce mono-culture exposure) • Strict alignment with international standards (e.g. IFC Performance Standards, FSC, no-deforestation commitments) • Adaptative ecological monitoring and ongoing ecological monitoring and adaptive management
Regulatory risk and financial risks *How can we anticipate the regulatory frameworks that shape the execution and manage the financial exposures (FX) that come with operating across jurisdictions?*	• Ongoing regulatory horizon-scanning • Legal and compliance review of local land-use, agricultural and environmental regulations • Active tracking of carbon credit standard/methodology evolution (voluntary versus compliance) • Structured FX hedging policy for revenues and costs in different currencies • Scenario analysis on regulatory or policy shifts

EXIT PLANNING

A plan for the exit should be completed before the decision to invest. Setting the exit strategy (timing, target valuation and potential buyers) while the investment is still being structured shapes the key decisions on governance, reporting and legal structuring.

The exit strategy and pathway also depend on the type of initial investment. In the case of a greenfield asset, the objective is to sell an asset whose main risks (technical, regulatory, operational) have been resolved over the course of the project's development, thereby offering the acquirer a significantly reduced risk profile compared to the launch phase. In the case of a brownfield investment, the logic is different: the aim is to enhance the value of the existing asset by developing new revenue streams that complement the core activity. This can, for example, take the form of carbon credits for an agricultural project, or revenues linked to ecotourism for a reforestation project. This revenue diversification may not only increase the asset's intrinsic value but also makes it more attractive to a wider range of potential acquirers at the time of exit.

Exit routes include infrastructure funds, other institutional investors and corporates. Several of these channels should be pursued in parallel, so that the investment never depends on a single type of buyer. Each of them looks for something different: funds for mature, cash-generative assets, institutional investors for long-term yield, and corporates (timber industry, energy companies, businesses with carbon offset obligations) for a strategic or supply-chain asset.

Holding the project over several years can itself be the value-maximising path, particularly where carbon and forest assets deliver ongoing yield instead of requiring a one-off exit. Because these projects generate recurring income streams such as carbon and timber, a longer holding period may lift total value by combining current yield with asset appreciation, so that a quick exit is neither necessary nor even desirable.

A clean exit also depends on the quality of the land title and permits, and on the credibility of the claims established during execution. That is precisely why risks, both project-related and contextual, are assessed at the start: doing so keeps them manageable during execution and de-risks the asset ahead of the exit phase. Land valuation and land tenure (concession, lease or acquisition) represent a real added value in their own right and can be valued at exit.

Offtake strategies for carbon credits

When pursuing a carbon credit strategy, it is important to develop an offtake strategy. Offtake strategies should cover the market outlook (market, volumes, prices and offtakers' motivations and profile) as well as the strategies available to de-risk the investment. Offtakers represent a genuine and growing source of demand, confirming that a real market exists for carbon credits and forest and agricultural output.

According to a BloombergNEF[15] article published in August 2025, global carbon credit supply could grow 20- to 35-fold by 2050 from today's levels, catalysed by a market reset already underway that focuses on integrity and impact. Carbon credits will allow compliance with a range of regulated and unregulated markets, driving long term growth but the winners from the reset could range from nature-based solutions to technology-based carbon removal.

Understanding who is buying, and why, is key to validating the commercial viability of the asset class.

- The buyer pool is diversified (corporates with net-zero commitments, compliance-market participants, commodity traders and institutional off-takers).
- Structural demand for high-integrity units is growing, driven by regulatory tightening (compliance markets) and voluntary corporate climate commitments.
- Price discovery mechanisms are maturing as transaction volumes increase, reducing valuation uncertainty.
- Reputational and due diligence requirements from off-takers are rising, as buyers increasingly scrutinise additionality, permanence and MRV quality, which requires rigorous project-level compliance to remain competitive for offtake agreements.

Ultimately, a critical dimension of the offtake strategy lies in understanding how the market is likely to see the quality of the units the investment produces, since that perception will directly determine both the

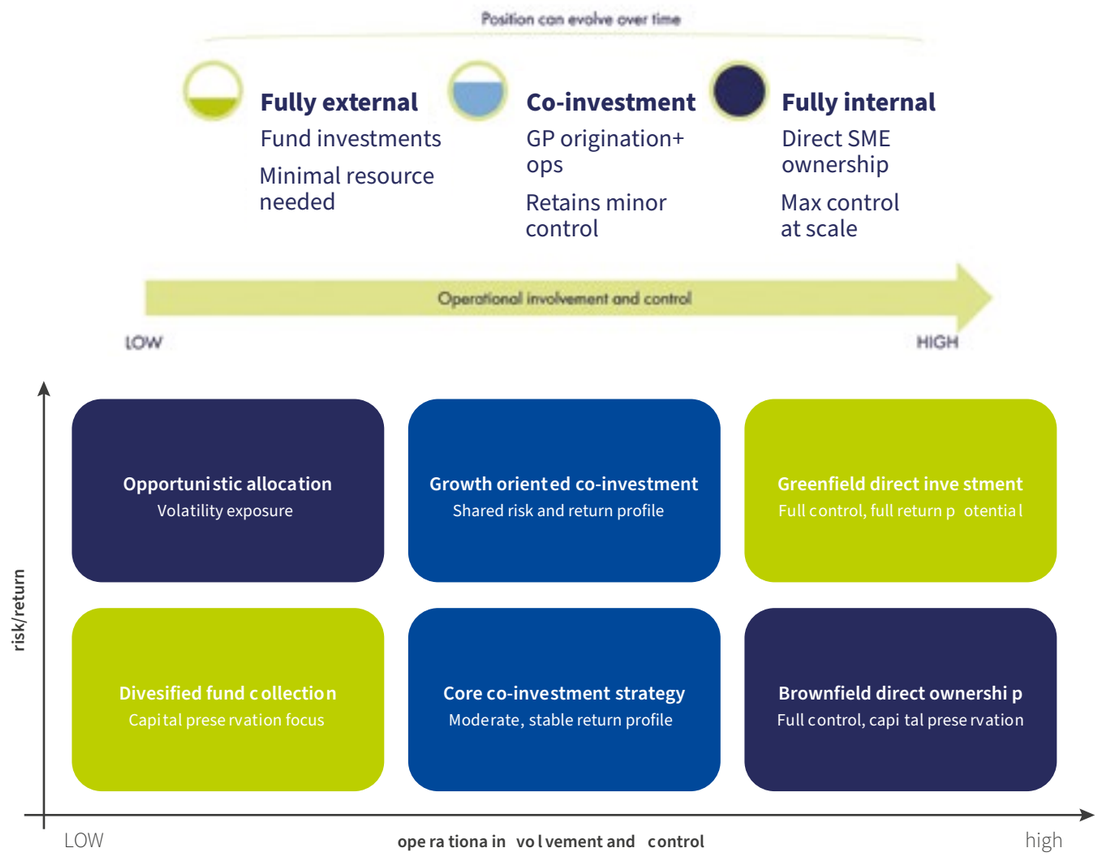
[15] *BloombergNEF, Long-Term Carbon Credit Supply Outlook 2025 (New York: Bloomberg Finance L.P., August 26, 2025)*
Long-Term Carbon Credit Supply Outlook 2025 | BloombergNEF.

CHOOSING AN EXECUTION MODEL

There are various ways to gain exposure to these types of assets without having to invest directly in the assets themselves. A spectrum of execution models allows investors to position themselves according to their risk/return appetite and to evolve over time, rather than having to resolve operational aspects upfront. The options for execution range from fully externalised (third-party fund) to fully internalised (direct investment).

In deciding which strategy to pursue, the investor should consider their level of internal expertise, the size of their desired deployment to this asset class and the value they place on diversifying their portfolio.

Figure 5: Spectrum of execution models



The strategy should be developed before selecting the asset manager. The right point on the spectrum depends on internal capability, scale and desired control.

- Fully external exposure (fund investments) carries a low resource requirement and relies on the manager and on governance rights rather than on direct operational control.
- Co-investment is a middle path that combines the asset manager's origination and operating capability with direct governance rights. The co-investor keeps minor control.
- Fully internal exposure (direct ownership through investment in SMEs) offers maximum control and potentially greater sufficient cost savings, but it requires internal capacity and a dedicated team and is only viable at scale.

Focus on new asset classes

Understanding contextual risks (market, experience and knowledge of the project developer) is key to anticipating risks. This must be considered when selecting the execution model and assessing its cost-benefit balance. In particular:

- The limited number of projects
- The limited track record (first or second generation, which limits the length and depth of verifiable track record)
- An evolving regulatory and voluntary market landscape (eligibility criteria, evolving policies and reputational uncertainty)
- Emerging countries can present higher political, currency, and operational risks, which require careful underwriting and appropriate risk mitigation

CHOOSING THE RIGHT EXECUTION SOLUTION

The selection of the asset manager is one of the most important decision in an investment process, given its central role in controlling and steering every execution phase. The asset manager should therefore be assessed against a consistent framework.

The operational value chain is typically structured as follow: the asset manager[16] (or general partner), the project developer, a technical partner where relevant, and sub-contractors. The asset manager holds overall responsibility for the investment, defines the strategy, and oversees performance. The project developer implements the project on the ground, from structuring through to operation. A technical partner may provide support where the project requires specific expertise (carbon, forestry management, agronomy). Subcontractors, in turn, carry out, specific operational tasks.

The asset manager is expected to demonstrate strong structuring and governance capabilities, rigorous investment monitoring and transparency toward investors. The project developer is assessed on their technical expertise, effective on-the-ground presence, track record and command of local regulatory and social issues. The main challenges of a project can be addressed through the asset manager, drawing on a range of mitigation measures and internal skills and knowledge.

- Limited experience in the asset class can be mitigated through infra-like operational expertise and local partners, staged capital deployment and the consideration of co-investment or blended finance.
- An evolving regulatory landscape can be mitigated by diversifying registries and methodologies and through independent verification, buffer pools, contractual flexibility and MRV (Monitoring, Reporting and Verification).
- Geopolitical and national legal framework risks can be mitigated through insurance, an experienced team, a DFI or blended-finance investment structure, alignment with international standards (IFC Performance Standards) and contextual risk assessment.

The asset manager relies on project developers for on-the-ground project implementation (land acquisition, planting, community consultation, stakeholder engagement, biodiversity monitoring, and monitoring and evaluation). Where the project developer is external to the asset manager, that fact should be assessed as a risk factor in its own right.

A strong operating project developer plays a critical role in managing social risks (community relations, land-use change and FPIC[17]) and for technical execution (carbon yield and timber, farming and carbon methodologies).

Local partners are a real added value, as they provide 'boots on the ground' presence. In addition, development finance institutions (DFIs) contribute valuable expertise on emerging markets, safeguards and risk management.

In short, the team requires a specific mix of skills, combining local operational expertise with investment rigour.

Governance and control rights are the counterpart to asset manager selection; once capital is deployed, they are what allow the investor to monitor and support execution and thereby secure value creation. They typically include board seats or observer rights, enhanced information rights and E&S reporting, covenants tied to international standards, independent verification (carbon, biodiversity, E&S), an exclusion list, and insurance or risk-transfer mechanisms. Alignment of interests on value sharing completes the framework. Linking sustainability-linked carried interest to verified biodiversity, environmental and social outcomes, rather than to financial performance alone, can help ensure that sustainability commitments are not merely reported but actively incentivised and independently verified. Taken together, active management, offtake and governance rights are what convert the theoretical investment case into realised returns.

To illustrate this, a checklist can be developed, organised into four blocks:

- **Asset manager capabilities:** Assessing the asset manager's track record, governance and overall capacity to lead the investment.
- **Execution strategy/model:** Examining how the asset manager deploys and coordinates its execution chain, including local partners and technical resources on the ground.
- **Risk profile and mitigation practices:** Reviewing the risk profile of the portfolio/pipeline and the mitigation measures already in place.
- **Residual risk and insurance:** Addressing any remaining risk exposure through appropriate insurance coverage.

A sample checklist is included at the end of this section.

CONCLUSION: WHY EXECUTION IS CRITICAL

A clear-eyed view on execution (including value creation and exit) allows actors to price risks appropriately in nature investment.

Execution begins well before the first capital is deployed. Land, development, social, commodity, offtake and environmental risks are all identifiable, and each has a known mitigation, from rigorous title due diligence and FPIC processes through to hedging, a diversified offtake base and adaptation planning. Regulatory risks, and for financial institutions currency risk, sit alongside them. Assessing and sequencing these risks during the pre-investment phase is what makes them manageable later.

Planning the exit at entry belongs to the same discipline. The quality of the land title and permits, and the credibility of the claims established during execution, are what ultimately determine whether the asset can be sold cleanly to an infrastructure fund, an institutional investor or a corporate, or held for longer because the recurring yield makes holding the more valuable option.

The investor then has to decide how much control it wants. The spectrum runs from fully external fund exposure, through co-investment, to fully internal ownership of SMEs, and the right position depends on internal capability, scale and desired control. Whatever the model, the selection of the asset manager remains the highest-leverage decision: it controls and steers every phase and, through its project developers and local partners, carries both the social licence to operate and the technical execution.

Value is then created through active management, offtake and governance rights, including board seats or observer rights, enhanced information and E&S reporting, covenants tied to international standards, independent verification and risk-transfer mechanisms. These are what turn risk diversification, inflation protection, ecological return and capital appreciation from characteristics of the nature asset class into realised returns.

[16] This role is also sometimes the general partner, or GP. For the sake of consistency, the authors refer to 'asset manager' throughout this section.
[17] Free, Prior and Informed Consent, an internationally recognised human right that allows indigenous peoples and local communities to give, withhold, or withdraw their permission for any project or activity that may affect their lands, territories, resources, or livelihoods.

ASSET MANAGER CHECKLIST TEMPLATE

EXECUTION SOLUTION SELECTION: THE HIGHEST-LEVERAGE DECISION

- Selecting the asset manager is the single highest-leverage decision in the investment process.
- It determines who controls and steers every execution phase.
- Assessing candidates against a consistent framework allows Investors to compare asset managers.

  It provides a like-for-like basis and structures a focused operational discussion, rather than a generic due diligence conversation.

Assessment dimension	Key questions/discussion
Track record and strategy fit	• What is the asset manager's realised track record in this specific strategy? • How does its pipeline match the stated strategy?
Team and organisation	• What are the key areas of expertise among the team? • Does the asset manager (or its partner) have a local presence on the ground?
Alignment of interest	• What is the asset manager's commitment? • How does the fee/carry structure align with the Investor outcomes?
Operational capability	• Does the asset manager have in-house capability to steer origination, structuring, asset management and exit? • Does the asset manager rely on third party?
Governance and risk management	• What internal governance and risk committees oversee execution decisions?
Responsible investment	• How is ESG embedded in sourcing, underwriting and monitoring?
Reporting & transparency	• What is the frequency, granularity and auditability of reporting?

THE CENTRAL ROLE OF THE ASSET MANAGER

The asset manager sits at the center of every execution phase, controlling and steering the process from origination through to exit. It must be clear to the Investor where the asset manager adds value directly and where it depends on external parties.

Execution dimension	Key questions/ discussion
Origination and due diligence (e.g. sourcing deals, leading due diligence, sending due diligence terms)	• How much sourcing is proprietary versus intermediated?
Structuring and closing (e.g., negotiating structure, governance rights, legal terms)	• What governance and minority protections does the asset manager secure for the Investor?
Asset Management and operation (e.g., steering companies, assets post-close)	• Who executes operationally? The asset manager directly or a developer/operating partner?
Monitoring and reporting	• What KPIs and escalation triggers are in place?
Exit	• Does the asset manager have an exit policy? • What is the asset manager exit track record in comparable assets?

KEY CHALLENGES AND SOCIAL LICENCE TO OPERATE

The asset manager relies on third parties for land acquisition, planting, community consultation, stakeholder engagement, biodiversity monitoring, and monitoring and evaluation.

A strong presence on the ground is the primary line of defence on (i) social risk management and social licence to operate (e.g. community relations, land-use change and FPIC); and (ii) technical execution (e.g., carbon, commodities, timber, agriculture and ecosystem services).

Challenge	Key questions/ discussion
Geopolitics and national legal framework	• What political, operational, and legal risk mitigants are contractually embedded in the structure?
Contextual risk	• Has the project assessed the contextual risk (e.g. land conflicts, encroachment, etc)?
Local partners	• What formal role and incentive do the local partners have on the ground? • Do they have local knowledge and prior relations/links with the affected people/ communities?

CONTRIBUTORS

The OPSWF Nature Investment Playbook was developed with the support and contributions of members of the OPSWF Network and its Nature Investment Workstream. We would like to thank the following organisations for sharing their investment experience, expertise, and practical insights.

[Logo]

We are grateful to all contributors for their time and expertise, and to the wider OPSWF Network for the discussions and exchanges that helped shape the Playbook.

OPSWF Network members provided helpful early input during roundtable discussions held in June 2025 at the OPSWF Mid-Term Meetings in London, hosted by QIA and Growthfund, and in June 2026 at the OPSWF Mid-Term Meeting in Paris, hosted by PIF. The Nature Investment Workstream members sincerely thank our colleagues for their thoughtful guidance which did much to shape the Playbook's ultimate direction.

We would also like to thank the following organisations for their support, expertise and contributions to the development of the Playbook:

- **Children's Investment Fund Foundation (CIFF)**
- **Circular Bioeconomy Alliance (CBA)**
- **Danu Advisory**
- **WAVE**

ASSET MANAGER DETAILS

BNP Paribas Asset Management (BNPP AM) is the asset manager of BNP Paribas, a leading banking group in Europe[18] with international reach. Among the top three asset managers in Europe , the firm manages over EUR 1.6 trillion in assets for institutional, corporate, retail, and wealth clients worldwide. BNPP AM has a global network of local experts in 35 countries[19], combining global reach with local expertise.

The IWC Group is a leading natural capital investment expert, with over 35 years of experience investing globally in sustainably managed forestland, farmland, and ecosystem restoration. IWC currently oversees more than USD 6 billion in institutional natural capital mandates and is majority-owned by BNP Paribas Asset Management.

A partnership of HSBC POLLINATION

Climate Asset Management (CAM) was established in 2020 as a joint venture between HSBC Global Asset Management and Pollination and founded with the ambition to become one of the world's leading natural capital asset managers. Its mission is to develop investment solutions that support the transition to a more nature-positive and climate-resilient future, generating financial returns while delivering measurable benefits for nature, people, and the planet.

Mirova was established as a standalone asset manager in 2014 and is an affiliate of Natixis Investment Managers. A mission-driven, B-Corp certified company since 2020, it seeks to combine long-term value creation with positive environmental and social impact. Its natural capital platform focuses on three main strategies: carbon credits, sustainable land use and agro-infrastructure.

[18] IPE 2025 and companies' financial communication as of 31/12/2025.
[19] Source: BNPP AM, as of 31 March 2026. Assets under management including assets under advisory.

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