WORLD ECONOMIC FORUM

Investing in Mangroves:
The Corporate Playbook

WHITE PAPER

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Images: Getty Images

Contents

Preface

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Mangroves support global goals for sustainable development, nature and climate. In addition to being carbon sequestration powerhouses, mangroves provide strong adaptation and resilience to coastal communities, they offer a home to species that support local food security as well as endangered species, and they provide livelihoods for millions of people in coastal regions.

Investment into these ecosystems has traditionally relied heavily on public and philanthropic investment. Yet with mangroves in decline globally, these funds alone cannot support the level of conservation and restoration needed to meet global goals. Corporate investment will be the game-changer in realizing mangrove conservation and restoration at scale – and it has already started.

In March 2023, the World Economic Forum launched the Blue Carbon Action Partnership (BCAP) to drive investment into mangroves, seagrasses and tidal marshes by linking national planning with high-quality investment. In collaboration with the Forum's trillion trees initiative, 1t.org, BCAP has convened the Mangroves Working Group to raise ambition and deliver action towards the conservation and restoration of mangrove forests, by engaging corporate and expert partners in ecologically and socially responsible mangrove investment.

Corporations have a ready opportunity to drive investment by creating a race to the top for high-quality projects. They can support the broader uplift of project pipelines by leveraging their unique capabilities and strengths, through investment that creates strategic value for their operations while achieving corporate sustainability goals. This Playbook is a guide for corporations that have their climate and nature strategies in place, and are seeking detailed opportunities to take action with the utmost integrity, highest value and lowest risk.

We are facing a time of unparalleled global crises in soaring emissions, plunging biodiversity and derailed sustainable development, demanding interconnected action that delivers simultaneous solutions for people, nature and climate. Mangroves are the prime nature-based answer to provide this convergence of solutions. Corporations that leverage their capabilities and leadership to invest in mangrove-positive action will generate gains in their own value chains, while accelerating progress along blue carbon pathways towards a better future for us all.

Preface

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At Deloitte Netherlands, we recognize that the transition to a net-zero and nature-positive economy is both an urgent challenge and a significant opportunity. Businesses must take decisive action to decarbonize their operations, reducing emissions at the source through energy efficiency, renewable energy adoption and sustainable supply chain management. Only once these foundational steps are firmly in place should organizations consider complementary approaches, such as investing in nature-based solutions, to further enhance climate resilience and carbon sequestration.

Investing in mangrove conservation and restoration offers a powerful opportunity to invest in both nature and climate. These coastal ecosystems provide immense environmental, social and economic benefits. They act as carbon sinks, protect communities from extreme weather events and support biodiversity and local livelihoods. For businesses striving to go beyond emissions reductions, investing in mangroves creates lasting value, aligning with broader environmental, social and governance (ESG) goals and strengthening corporate sustainability strategies.

At Deloitte Netherlands we have experienced first-hand the challenges of ensuring integrity in carbon and nature projects. In the past, we encountered initiatives that failed to meet the high standards of transparency, effectiveness and credibility that we uphold, exposing us to reputational risk. Acknowledging the need for such projects and the gap in supply, we decided to establish our own projects to learn by doing.

This report explores the potential of mangrove investments as a means of enhancing climate and nature action, while delivering core benefits for local communities. By approaching sustainability with a structured, science-based approach that embraces innovation and partnerships to overcome challenges, businesses can make a meaningful impact in the fight against climate change, biodiversity loss and social inequality.

We invite you to delve into the insights presented in this report and explore how mangroves can complement your organization's journey towards a sustainable future, whether through ESG or within your supply chain, while delivering benefits to people, nature and the climate.

Executive summary

Pressure on corporations to act for people, nature and climate is mounting. Mangroves offer powerful nature-based solutions while delivering economic gains. What is important now is the "how".

Scientists predict that, by 2050, the climate crisis will reduce global GDP by approximately 19% and average agricultural yields by 30%, while the biodiversity crisis puts 55% of global GDP (worth about $58 trillion) at risk. These crises will have profound impacts on corporations. Yet while 79% of companies have set climate-related targets, just 26% report on nature-related indicators. There is a growing consensus that companies can only achieve their net-zero goals through nature-positive action. Consequently, action on nature is likely to have nearly as big an influence on corporate strategy and governance as climate action.

Many of the global challenges facing sustainable development, biodiversity and climate can benefit from solutions designed to address these crises holistically. One-third of the planet's population (2.75 billion) lives within 100 kilometres of the coast and many of these people are among the most vulnerable in the world. Meanwhile, deteriorating coastal ecosystems threaten local livelihoods, food security, access to resources, land tenure and fishing rights. Mangrove conservation and restoration provide a significant opportunity to address these intertwined social and ecological crises, delivering core benefits to people, climate and nature.

Blue carbon ecosystems – comprising mangroves, tidal marshes and seagrasses – store three to five times more carbon per hectare than terrestrial forests; while 151 countries contain at least one of these blue carbon ecosystems, 71 countries contain all three. The conservation and restoration of blue carbon ecosystems also provide huge potential benefits to local communities. The combination of benefits that these ecosystems offer to people and nature represent a significant opportunity to address the climate and nature crises in a socially and ecologically integrated way.

Yet despite their multitude of benefits, mangroves are among the planet's most threatened ecosystems, with half the estimated 147,000 km^2 of mangroves at risk. Mangrove conservation and restoration efforts have been growing, but to achieve scale, project economics need to be clarified, land tenure issues addressed and the complexity of coastal areas navigated. Stakeholder coordination should focus on a shared vision, aligning investors' expectations with local needs and leveraging expertise to mitigate reputational risk.

As a nexus solution, mangroves are uniquely positioned to respond to the interconnected challenges of the climate crisis, nature loss and Sustainable Development Goals (SDGs). As an investment, mangrove-positive action provides companies the opportunity to achieve their net-zero, nature-positive and SDG targets, while generating commercial value. Mangroves offer outstanding value beyond a corporation's balance sheet – for example, they can reinforce operations through cost savings, adaptation and resilience benefits, while generating stackable carbon and biodiversity credits.

Companies interested in investing in mangroves can explore Four Avenues or entry points: (1) Sustainability credit buying, (2) Supply chain offtaking, (3) Project development and (4) Ancillary engagement (see Figure 4).

To ensure successful mangrove-positive investment, companies should leverage principles such as the *High-Quality Blue Carbon Principles and Guidance* and accompanying *Practitioners Guide 2024*, developed by the World Economic Forum and its partners. Additional principles for companies looking to invest in mangroves include the following:

- Successful project-level engagement places people at the core.
- Multi-stakeholder collaboration unlocks more and better engagement opportunities.
- Sustainable mangrove investments ensure local communities are incentivized.
- Jurisdictional and landscape approaches maximize the value of interventions.
- Corporate coalitions improve market access to viable mangrove-positive investments.

While a myriad of actors is needed to scale-up mangrove conservation and restoration globally, the private sector can play a crucial role by leveraging its operational and technical capacities. In doing so, companies will support global goals that benefit both their strategic values and the global community.

Introduction: Using this Playbook

Turning strategies into high-quality corporate action.

This Playbook is aimed at corporations and organizations that are:

- Already committed to investing in projects with people, nature and climate-related goals, but are undecided on the types of investments that will best deliver on those goals.
- Ready to take mangrove-positive action now, in support of their climate and nature strategies.
- Looking to elevate the integrity and impact of their existing mangrove-positive action.
- Aiming to understand systemic interactions around mangroves, so they can make more informed decisions for mangrove-positive action.
- Exploring further opportunities for value creation through corporate sustainability-related goals.

BOX 1 **Essential reading**

This Playbook builds on the foundations of three core publications that provide principles and guidance for corporate engagement in mangrove conservation and restoration:[1]

High-Quality Blue Carbon Principles and Guidance (see Figure 1)

Mangrove Breakthrough Financial Roadmap

High Quality Blue Carbon Practitioner's Guide (see Box 2)

The Playbook maps how mangrove-positive action can help companies deliver on their climate and nature-positive strategies and goals, and how that action can also benefit their broader economic strategies. Its aims are to catalyse corporate mangrove-positive engagement, present potential avenues for action, help companies manage reputational risk in their sustainability claims, and support innovation around corporate and global goals for people, nature and climate.

FIGURE 1 | High quality blue carbon principles and guidance

Source: *High-Quality Blue Carbon Principles and Guidance*.

BOX 2 | ***High-Quality Blue Carbon Practitioners Guide* facilitates mangrove-positive action**

In February 2025, a partnership comprising Conservation International, International Blue Carbon Institute, The Nature Conservancy, Ocean Risk and Resilience Action Alliance (ORRAA), Salesforce and the World Economic Forum published the *High-Quality Blue Carbon Practitioners Guide 2024* to provide a resource that links market definitions of high-quality project development and financing with on-the-ground activities to improve a shared understanding of what constitutes "high quality" in blue carbon projects.

The *Practitioners Guide* helps to foster more transparent and effective collaboration between corporations, project developers, investors and other stakeholders that can support high-quality mangrove-positive action. Corporations can leverage the *Practitioners Guide* to improve the quality of their mangrove-positive action, better assess potential project quality and identify capacity gaps.

1 Mangroves offer a powerful solution for the climate, nature and social crises

A systemic approach to investing in mangroves will maximize investment opportunity, value and impact.

1.1 The case for mangroves

One-third of the planet's population lives within 100 kilometres of the coast and they are among the most vulnerable in the world.

The world is facing social and ecological crises as a result of climate change, biodiversity collapse and social inequality. These intertwined crises threaten human well-being through impacts to livelihoods, food security and public health, all of which have a disproportionate impact on marginalized communities.[2]

The interdependencies between society, biodiversity and climate demand that these crises be considered together,[3] through holistic solutions that support a just transition, which – in the words of the United Nations (UN) Global Compact – "ensures that environmentally sustainable economies are promoted in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind".

BOX 3 | **Datapoints underlining the urgency of simultaneous social and ecological action**

- Exceeding 3ºC global warming above pre-industrial levels is predicted to inflict losses worth at least 18% of global GDP by 2050.[4]
- The current climate trajectory could result in ~132 million people falling into extreme poverty by 2030,[5] 2.8 billion people experiencing high or extreme water stress by 2040,[6] 1.2 billion more people becoming climate refugees[7] and a 30% decline in average agricultural yields by 2050.[8]
- 55% of global GDP – equivalent to about $58 trillion – is moderately or highly dependent on nature;[9] meanwhile, current extractive economic models threaten further habitat loss.
- Costs of addressing biodiversity loss could double if delayed 10 years, adding at least $500 billion per year to the bill for addressing climate change.[10]
- Leaders of Indigenous Peoples and local communities (IPs & LCs) have warned that the Global Biodiversity Framework's 30x30 target to protect at least 30% of land and sea by 2030 could lead to the biggest land-grab in history, if their land ownership and participation are not secured.[11]
- The top four global risks over the next 10 years, cited by respondents in the World Economic Forum's *Global Risks Report 2025*, are: extreme weather events, biodiversity loss and ecosystem collapse, critical change to Earth systems and natural resource shortages.[12]

“ Mangroves sequester carbon annually at a rate up to 10x greater than mature tropical forests and store 3x to 5x more carbon per equivalent area than tropical forests.

Coastal ecosystems present multiple opportunities to address the crises affecting climate, biodiversity and sustainable development. One-third (2.75 billion) of the planet's population lives within 100 kilometres of the coast[13] and they are among the most vulnerable in the world. Deteriorating coastal ecosystems put the livelihoods, food security, access to resources, land tenure and fishing rights of coastal communities at serious risk.

Certain coastal ecosystems offer significant potential to deliver both local climate adaptation and global climate mitigation. These “blue carbon ecosystems” are defined by the UN as highly productive coastal ecosystems that are particularly important for their capacity to store carbon, including mangroves, tidal marshes and seagrasses.[14]

Blue carbon ecosystems store three to five times more carbon per hectare than terrestrial forests;[15] while 151 countries contain at least one of these blue carbon ecosystems, 71 countries contain all three.[16] The conservation and restoration of blue carbon ecosystems also provide huge potential benefits to local communities.[17] The combination of core benefits that blue carbon ecosystems offer people and nature represents a significant opportunity to address the climate and nature crises in a socially and ecologically integrated way.

FIGURE 2 | **The far-reaching benefits of mangroves for climate, nature, people and business**

Climate mitigation

Carbon

Sequester carbon annually at a rate up to 10x greater than mature tropical forests and store 3x to 5x more carbon per equivalent area than tropical forests.[18]

Hold ~12 billion tonnes of carbon globally,[19] out of ~450 billion tonnes of carbon held by the world's vegetation.[20]

Release more CO_2/ha than any other type of forest when destroyed.[21]

Climate adaptation

Adaptation & resilience

Reduce intensity of tidal wave energy by ~70%.[22]

Reduce flood depths by 15-20% (over 70% in some areas) during 1-in-100 year storms.[23]

5x more cost-effective as coastal defences against flooding and erosion than artificial defences.[24]

Flood damage would increase by an estimated 16% and $82 billion annually if remaining mangroves are destroyed.[25]

Protect people and infrastructure by strengthening soil conditions against erosion.

Nature & biodiversity

Biodiversity

Act as biodiversity hotspots that support 341 threatened or endangered animal species.[26]

>5,700 plant and animal species across 21 phyla identified in Indian mangroves alone.[27,28]

48 birds, 14 reptiles, 1 amphibian and 6 mammals endemic to mangroves globally, with 40% of these facing extinction.[29]

Provide nursery habitats and protection from predation for juvenile fish, important for supporting both biodiversity and fisheries.[30]

An estimated 80% of global fish populations are dependent on healthy mangrove ecosystems.[31]

Food & water systems

Food security

Support the four dimensions of food security – food availability, economic and physical access to food, food utilization and stability over time.[32]

Water treatment

Act as natural water filters for fertilizers, toxins and pollutants, lowering potential remediation costs.[33]

Salinity regulation

Depletion of mangroves leads to increasing salinity of groundwater after seawater encroaches inland due to coastal erosion.[34]

Reduce potential infrastructure repair costs.[35]

Reduce negative effects of salinity on agricultural yields.[36]

Livelihoods & communities

Fishing

Support an estimated 2 million fishers in Indonesia alone.[37,38]

1% increase in mangrove loss results in decline in fishers' income of up to 10%.[39]

Support the annual production of around 1.4 trillion commercially important fish, prawns, bivalves and crabs.[40]

Around one-third of all wild fish landings in South-East Asia are mangrove-dependent species.[41]

Aquaculture

Aquaculture is the world's fastest growing food production sector globally, with crustaceans comprising 21.5% of coastal and marine aquaculture;[42] but shrimp aquaculture is a leading driver of mangrove deforestation.[43]

Restoration and management of mangroves increases catch for higher-value shrimps.[44]

Integrating mangroves with shrimp aquaculture can boost yields and garner premium prices.[45]

Tourism

The Everglades National Park in Florida generates $135 million/year in tourism revenues, supporting nearly 2,000 local jobs.[46]

Gender equality

Typically fished more by women than by men but often not reflected in official fisheries data collected by governments.[47]

Gleaning activities (collecting aquatic animals and plants) by women provide important additional nutrition for families.[48]

1.2 Challenges remain in capturing the full potential benefits offered by mangroves

Half of all mangrove forests have been destroyed since 1950. Of the estimated 147,000 km² of mangroves that remain worldwide, half are under threat.

Mangroves remain one of the planet's most threatened ecosystems, despite their multitude of benefits for people, nature and climate. Half of the estimated 147,000 km² of mangroves remaining worldwide are under threat;[49,50] 50% of mangrove forests have been destroyed since 1950[51] and 17% of mangroves lost between 1996 and 2016 are not restorable.[52] While the pace of mangrove destruction has slowed down,[53] significant threats to mangroves remain, especially from sea-level rise and more frequent and severe weather events resulting from climate change.[54] Clearing for aquaculture, rice and palm oil collectively accounted for 43% of mangrove destruction between 2000 and 2020;[55] 40% of mangrove ecosystems are now in protected areas[56] and efforts to scale-up mangrove conservation and restoration have been growing.

To support and accelerate this work, blue-carbon stakeholders need to take the following priority actions, explored in more detail beneath:

- Project investability should be enhanced by clarifying project economics
- Government agencies should align on addressing land tenure issues
- Best practice should be followed to navigate the complexity of coastal areas
- Stakeholders should coordinate to enable action and mitigate risks
- Investors' expectations should align with local needs for project success
- Investors should leverage expertise to mitigate reputational risk

Project investability should be enhanced by clarifying project economics

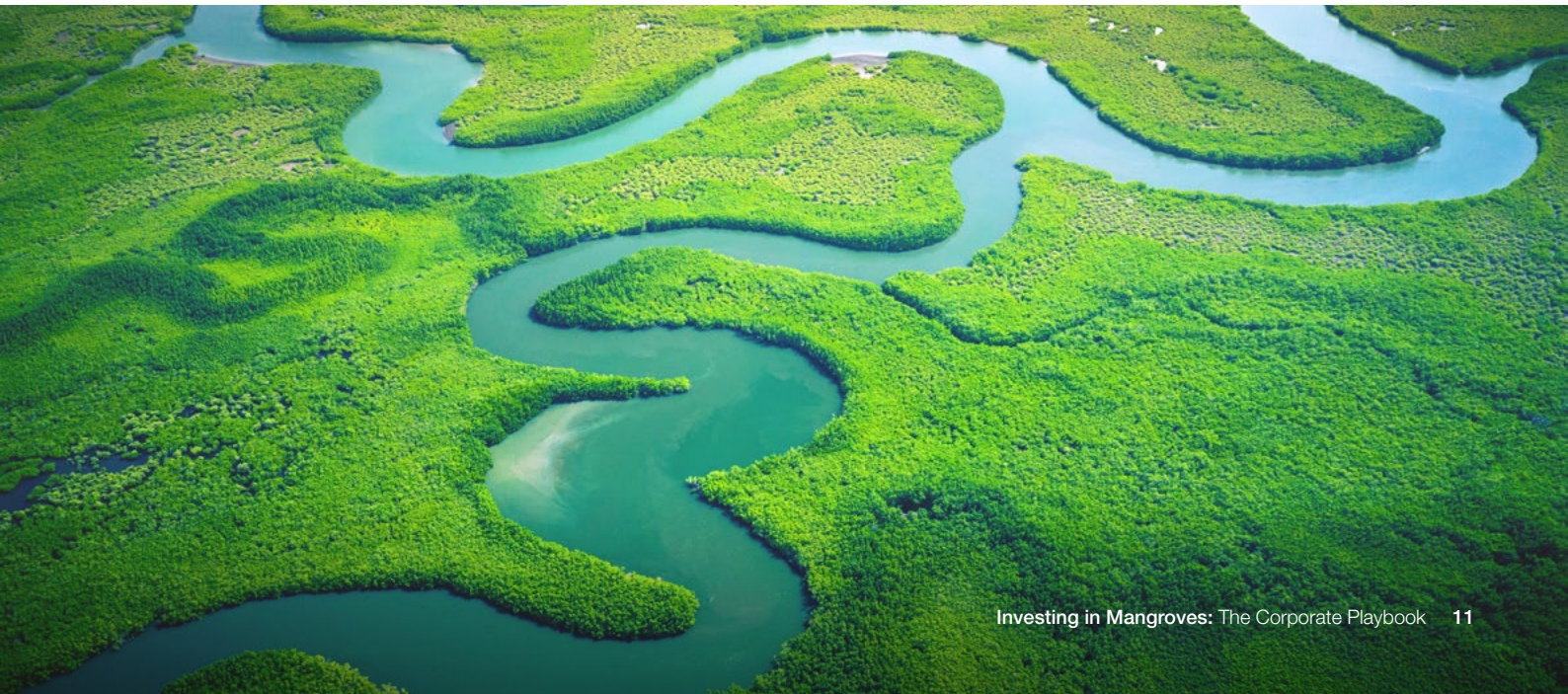
Mangrove conservation and restoration projects are not being designed in a commercially investable manner, due to a lack of clarified revenue streams and understanding of investability criteria at the various stages of project maturity. By clearly communicating commercial value proposition requirements to project developers, investors can encourage a more economically successful, and thus scalable, market.

Clarification of what "investable" means at each project stage will support overall investability, as will clarification of available revenue models that can monetize the benefits that mangroves bring to people, nature and climate. Capacity building through investor-driven technical assistance programmes could work to enhance such clarification within project development.

Government agencies should align on addressing land tenure issues

Land tenure can be defined as "the relationship, whether legally or customarily defined, among people, as individuals or groups, with respect to land".[57] Land tenure is especially complicated along coastlines, due to the natural variance of the intertidal zone, multi-layered legal claims, interdependencies, and often unacknowledged customary and collective tenure[58] – the latter of which is often a central issue shaping past injustices and conservation negotiations.

In addition, governments do not have a standard approach to defining mangrove ecosystems, sometimes defining them as forests, sea-beds, neither or both, leading to misalignment of agency



> Mangrove conservation and restoration projects are not being designed in a commercially investable manner, due to a lack of clarified revenue streams and understanding of investability criteria at the various stages of project maturity.

jurisdictions to resolve mangrove land-tenure issues. These issues could be solved more swiftly if government agencies aligned to clearly define responsibility over jurisdictions relevant to mangroves and invited stakeholders with interests in those jurisdictions into planning processes.

Best practice should be followed to navigate the complexity of coastal areas

Intervening in coastal areas for conservation and restoration activities is complex for a number of reasons. There is the potential for overlapping terrestrial and marine-based regulatory jurisdictions, which can lead to disjointed government strategy and policy for mangrove conservation and restoration. Coastal ecosystems are home to diverse stakeholders with potentially conflicting economic interests, presenting a significant challenge for governance. The hydrology of mangrove systems poses challenges in restoring ecosystem functions. The resulting complexity of coastal interventions therefore requires integrated cross-sectoral approaches and multifaceted community-led development projects. These projects must also consider the necessary balance of people, nature and climate factors that address underlying drivers of degradation.[59]

Datasets capturing local environmental, socio-economic, cultural and regulatory factors could help facilitate this work, but are largely unavailable for blue carbon ecosystems and coastal economies.[60] To ensure that mangrove-positive projects consider all the complexities inherent in coastal areas, best practice guidelines should be followed, such as the Global Mangrove Alliance's *Best Practice Guidelines for Mangrove Restoration*, as well as robust project-level carbon measurement methodologies such as those in the Blue Carbon Initiative's *Coastal Blue Carbon* manual for assessing carbon stocks and emissions factors in mangroves.[61]

Stakeholders should coordinate to enable action and mitigate risks

Effective coordination and communication between public, private and philanthropic stakeholders at various levels is necessary to establish the required infrastructure for successful and scalable mangrove-positive solutions. Stakeholder alignment and data sharing are important for proper risk assessment. To ensure that projects are of high quality, relevant stakeholders must align on a shared vision and principles, such as the *High-Quality Blue Carbon Principles and Guidance*, and establish effective learning and knowledge exchange platforms to support each other's capacities in engaging in mangrove-positive action at varying levels.

Investors' expectations should align with local needs for project success

The local needs of blue carbon projects are unique to each context and are critical for the success of that project, due to the specific social, environmental, cultural and economic characteristics of each locality. To ensure the effective scaling-up of mangrove-positive solutions, it is essential to elevate and integrate these localized needs into investment policies and due diligence processes.

However, the uniformity of project criteria that investors typically demand to reach economies of scale does not align well with blue carbon projects that need to gain the trust of Indigenous Peoples and local communities, as well as to ensure that project leadership builds on their knowledge and experience.

As a result, financiers looking to invest in mangroves must adjust their expectations and investment processes to allow for this increased level of localization and differentiation compared to investments into conventional solutions.

The localized needs of blue carbon projects can be aggregated and mainstreamed through processes such as "fractal scalability" – defined as "a way of achieving project 'scale' that demonstrates how a combination of results from a larger number of smaller, localized projects can deliver more value than a singular, larger, generalized project."[62]

One way to protect localized needs is to set caps on the scale or land area that a project can cover within its impact principles, otherwise projects can become so big that they lose the unique values of specific localities. Mangrove-positive markets and investment approaches must be kept regionally relevant, with the importance of local partners reflected throughout investment processes to ensure projects remain faithful to local needs, accessibility, integrity and ultimate delivery.

Investors should leverage expertise to mitigate reputational risk

There have been a number of challenges to both the integrity and investment value of carbon- and nature-positive projects supported by private capital through global media,[63] as well as challenges to the credibility of climate and nature solutions such as mangroves through misinformation and disinformation campaigns. As a result, investors are hesitant to engage with climate and nature projects, due to the reputational risk of making sustainability claims.[64]

To mitigate this risk, corporations can leverage resources that provide relevant expertise such as the *High-Quality Blue Carbon Practitioner's Guide*, partner with organizations such as the Global Mangrove Alliance, and consider collaborating with high-quality project pipelines such as those associated with initiatives like the Mangrove Breakthrough, backed by the UN's High Level Climate Champions (see Box 4).[65]

Corporations can improve the scientific rigour of their decision-making processes by registering with standards organizations. For example, companies can reference:

- ICROA Endorsement for a selection of carbon crediting programmes independently assessed and endorsed by ICROA, based on a number of criteria to reinforce integrity.[66]
- Precise monitoring and evaluation of outcomes (such as through VeriTree)[67] to support the credibility of mangroves as climate and nature solutions.

While companies can outsource some reputational risk to standards organizations, they should remain vigilant, as some standards bodies have suffered reputational damage and may have conflicts of interest.[68]

Nevertheless, waiting for the perfect solution is not an option. Corporations interested in mangrove-positive action have no choice but to act now, navigate the uncertainty, and lead and learn in the open[69] to help build nascent markets, despite the absence of clear market standards and regulation.

1.3 Governments should create enabling conditions that invite high-quality investment

The Mangrove Breakthrough, which has set global ambitions for mangrove conservation, restoration and related finance, is now endorsed by 36 national and subnational governments.

Governments can play an essential role in increasing investment into mangrove ecosystems and communities that depend on them, by creating the legal and policy frameworks within which projects can thrive and investors can feel confident.

To support governments in this, the World Economic Forum launched the Blue Carbon Action Partnership (BCAP) with support from the UK Blue Planet Fund. Through BCAP, countries can create National Blue Carbon Action Partnerships (NBCAP). The NBCAP serves as a country-driven platform to coordinate stakeholders and create national roadmaps for blue carbon action and finance, creating the enabling conditions to help de-risk investment in relevant projects.

In Indonesia, the Philippines and Viet Nam – countries that collectively account for 23% of the world's total mangrove area[70] – NBCAPs under development highlight the leadership of these governments in supporting a blended finance approach to increasing investment in mangrove ecosystems and their communities.

Governments around the world are increasingly working to bolster mangrove conservation and restoration. Notably, the Mangrove Breakthrough (see Box 4), which has set global ambitions for mangrove conservation, restoration and related finance, is now endorsed by 36 national and subnational governments. Companies reading this Playbook can look to these geographies for enabling conditions to maximize corporate investment impact and scalability in blue carbon ecosystems.

BOX 4 Mangrove Breakthrough establishes global goals

The Mangrove Breakthrough was launched at the UN's COP27 climate conference in Sharm el-Sheikh in 2022, in collaboration with the Global Mangrove Alliance and the UN's Climate High-Level Champions. This global initiative seeks to mobilize $4 billion and protect 15 million hectares of mangroves globally by 2030. The Mangrove Breakthrough brings together various stakeholders, including governments, non-governmental organizations (NGOs) and financiers to work collectively towards four goals:

- Reduce net mangrove losses driven by direct human actions to zero.
- Restore mangroves to cover at least half of all recent losses.
- Double the protection of remaining mangroves, from 40% to 80%.
- Ensure sustainable, long-term finance for all existing mangroves.[71]

Key to meeting the goals of the Mangrove Breakthrough will be strengthening strategic partnerships between governments, public and private financial institutions, NGOs and philanthropies behind the initiative.

Corporate investment from multiple angles is essential to achieve the target to mobilize $4 billion for mangroves. Multi-stakeholder collaboration between corporations and other stakeholders is essential to ensure high-quality investment. The Mangrove Breakthrough aims to facilitate these actions for global mangrove-positive efforts.

Source: Mangrove Breakthrough.

1.4 Nexus approach: harnessing corporate action to deliver on people, nature, climate and business goals

of global GDP—equivalent to around $58 trillion—is at risk due to the biodiversity crisis

Scientists predict that, by 2050, the climate crisis will reduce global GDP by approximately 19%[72] and average agricultural yields by 30%,[73] while the biodiversity crisis puts 55% of global GDP (worth about $58 trillion) at risk.[74] These crises will have profound impacts on corporations. Yet while 79% of companies have set climate-related targets,[75] just 26% report on nature-related indicators.[76]

There is a growing consensus that companies can only achieve their net-zero goals through nature-positive action.[77] Consequently, action on nature is likely to have nearly as big an influence on corporate strategy and governance as climate action.[78] Leading companies will therefore look for high-value solutions that can deliver on goals that benefit people, nature and climate, alongside commercial benefit to operations and value chains.

The latest research takes a "nexus approach" to understanding how multiple crises – such as biodiversity loss, water and food insecurity, health risks and climate change – "interact, cascade and compound each other in ways that make separate efforts to address them ineffective and counterproductive".[79] It is now well-established that focusing exclusively on climate – commonly dubbed "carbon tunnel syndrome" – can result in negative outcomes in other areas such as food or biodiversity. Consequently, the solutions to such interconnected crises need to be equally integrated and coordinated, to deliver benefits to people, nature and climate over the long-term (see Box 5).

BOX 5

Nexus solutions

In December 2024, the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) published its *Thematic Assessment Report on the Interlinkages among Biodiversity, Water, Food and Health*. Known as the Nexus Report, it represents a landmark scientific assessment of the complex interconnections between five "nexus elements": biodiversity, health, water, food and climate change.

It defines nexus solutions as "actions or policies that can help advance governance and sustainable management of one or more elements of the nexus between biodiversity, health, water, food and climate change."

Source: IPBES, 2024.[80]

Mangrove-positive investments provide the kind of integrated opportunities to achieve these interconnected goals (see Figure 2). They enable companies to draw new, holistic insights from different thematic areas (e.g. impacts on people, climate, nature), decreasing the potential for sustainability claims to be undermined by the unconsidered adverse effects of interventions.

Understanding mangrove-positive investments as nexus solutions also allows corporations to nest their interventions within existing company policies for "nexus elements" such as biodiversity, health, water, food and climate change, rather than establishing new policies for new, individual approaches.

Nevertheless, such interconnected climate and nature solutions may carry new risks for which mitigation strategies have not been fully developed. So this journey demands a willingness from corporations to channel their creativity, innovation and capital to the highest value solutions in the face of risk and uncertainty, if these solutions are to be successful.

For corporations interested in mangrove-positive investment, there are three main questions to consider, addressed in the following chapters:

1. Where can different types of companies start to turn their people, nature and climate commitments into mangrove-positive action? (see Chapter 2: Mapping systemic interactions).

2. What tools, methods and practices maximize the access to and value of mangrove-positive action? (see Chapter 3: Enabling high-quality corporate action).

3. How can companies demonstrate leadership in taking high-integrity action that mitigates reputational risk and builds global momentum towards broader corporate action on climate and nature? (see Chapter 4: Key takeaways for successful corporate investment).

This playbook will answer each of these questions, with examples of corporations and other partners currently engaged in efforts to support mangroves as a solution for people, nature and climate.

"The Nexus Assessment reveals the deep interconnections between biodiversity, water, food, health and climate – demonstrating that tackling these challenges together is our only path to sustainability.

Source: WWF[81]

2 Mapping systemic interactions to inform decisions and improve opportunities

Before embarking on any journey, it is prudent to study a map to determine the best start points and routes that journey could take.

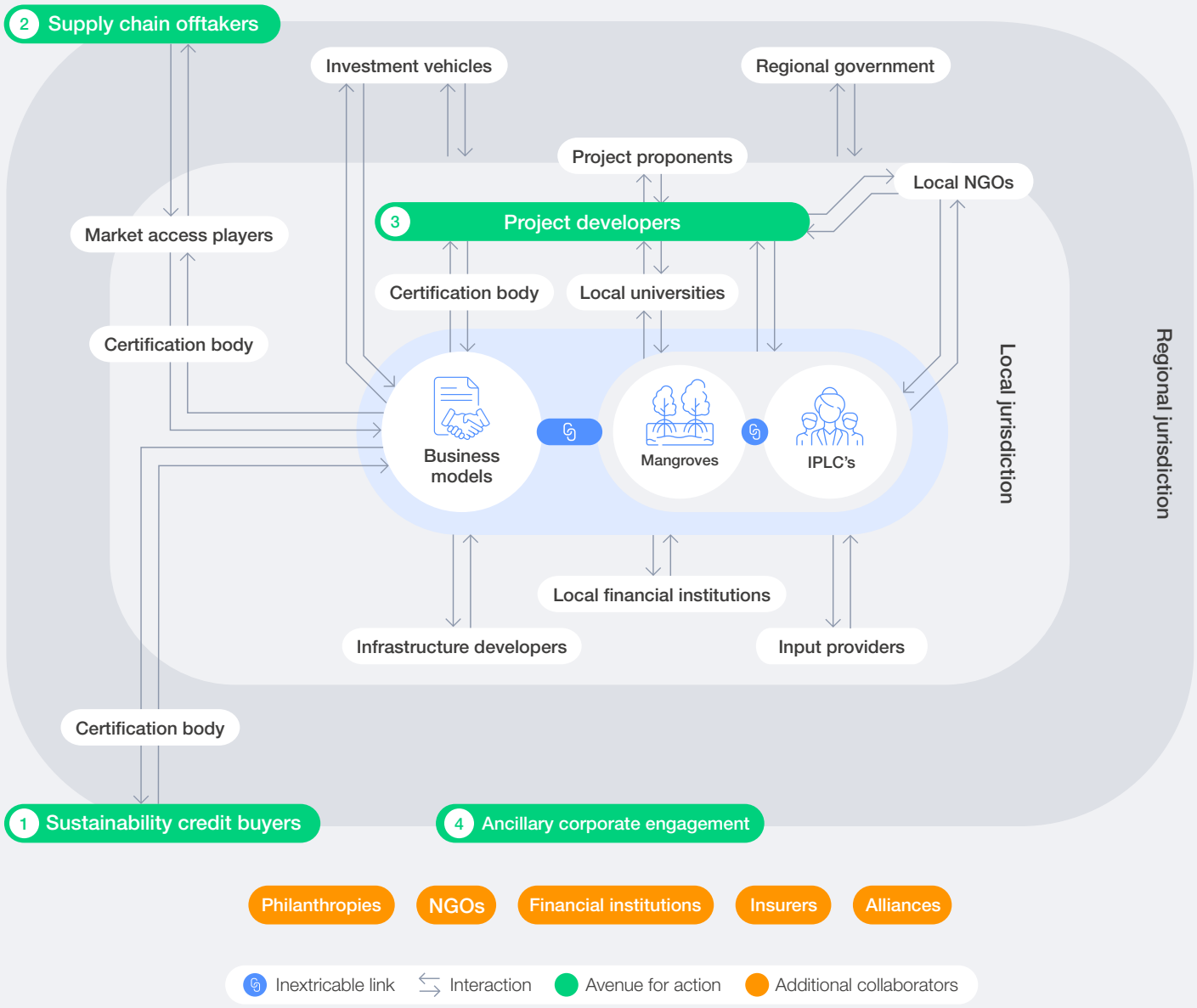
2.1 System Map for mangrove-positive corporate engagement

When companies consider opportunities to engage in mangrove-positive action after they have established their broader social, nature and climate strategies – such as those outlined in the World Economic Forum's October 2024 insight report *Nature Finance and Biodiversity Credits: A Private Sector Roadmap to Finance and Act on Nature* – they may ask a basic question: Where do I start? By taking a systemic perspective, corporations and other stakeholders are best able to answer this question through a methodical exploration of different entrance points.

To establish that systemic perspective in the context of mangrove-positive corporate engagement, the System Map proposed at Figure 3 outlines corporate-relevant components around mangroves, engaged stakeholders and how they interact, where the money goes and key corporate intervention points, based around the following Four Avenues or entry points:

1. Sustainability credit buying
2. Supply chain offtaking
3. Project development
4. Ancillary engagement

FIGURE 3 | System Map for mangrove-positive corporate engagement



Note: For more detail on the stakeholders and elements included in this System Map, see Table 1.

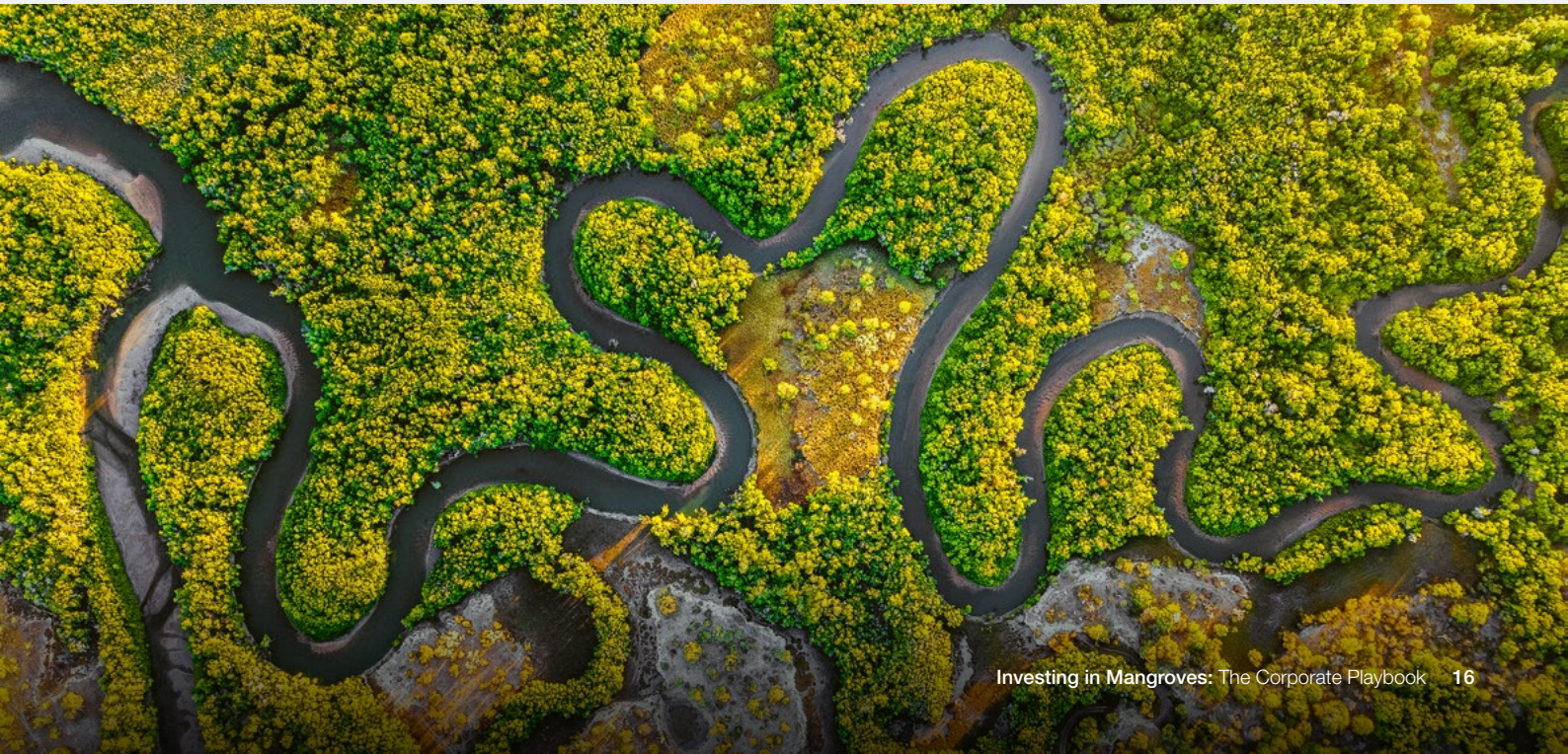


TABLE 1 | **Components and interactions of the mangrove-positive System Map**

Mangroves	– Ultimate targeted beneficiary of mangrove-positive interventions, in addition to Indigenous Peoples and local communities (IPs & LCs).
Indigenous Peoples and local communities (IPs & LCs)	– Inextricably linked to mangroves in numerous social, cultural, economic and environmental ways. – Necessary leaders and partners for any successful mangrove-positive intervention.
Business models	– Must incorporate both mangroves and IPs & LCs in a combined manner. – Owned by project proponents and include all types of commercial and non-commercial arrangements that provide a vehicle for mangrove-positive engagement, either directly or indirectly. – Can include those within established supply chains, infrastructure projects, SMEs, carbon crediting projects and insurance schemes.

Project developers	– Include any stakeholders that directly develop mangrove-positive projects and business models themselves or participate directly in projects by integrating them into their business models (e.g. infrastructure, supply chains, input providers).
	– Follow a multi-step process to test the feasibility of business models and can, if appropriate, construct and own them.
	– Partner with IPs & LCs from the outset to ensure project integrity, local adaptability and IP & LC leadership.
	– Often private companies that employ:
	  – Local NGOs for project development activities, especially to leverage longstanding trusted community relationship.
	  – Local universities for expedited research permits, local capacity and knowledge, and receive capacity and project information in return.
	  – Certification bodies to validate the integrity of their business models.

Certification body	– Responsible for the verification of data and claims and for the validation of a blue carbon ecosystem's effectiveness in storing carbon, thus validating the quality of blue carbon credits. – Represent impartiality in the system, playing a crucial role in investing, monitoring and transparency.
Local NGOs	– Hired by project developers as they are often the stakeholders most trusted by communities, have existing and long-standing relationships with community members, know appropriate experts that are crucial to the project development process, and can help ensure project integrity.
Local universities	– Engaged by project developers to provide capacity for scientific measurements of feasibility assessments and project outcomes, as well as engagement processes for IPs & LCs. – Partnering with local universities for project feasibility assessments can expedite access to research permits.
Project proponents	– Owners of the project, these may or may not be the project developer. – Ideally they are a local entity to ensure long-term commitment and knowledge of the local environment and local communities.
Input providers	– Can be defined as stakeholders (e.g. seed/feed providers, nurseries, hatcheries) that enable the business model's ongoing operations. – Provide seed, feed and technical training for business models that are dependent on such inputs (e.g. mangrove-positive aquaculture, agriculture, reforestation). Receive payment from business model owners or market access players. – Can play a pivotal role in supply chain financing, risk assessment of business models, ensuring sustainable inputs to help qualify for sustainability certifications, and technical training required to upgrade business models or meet sustainability certification requirements.
Local financial institutions	– Include local commercial banks, credit unions, central banks and cooperatives. – Provide critical funding and technical assistance at the project level and attract international financiers by de-risking projects through grants and leveraging local, often informal, knowledge that improves risk assessments. – If mangrove-positive business models do not meet national or international standards, local banks can help them meet those standards by bundling them together through a portfolio approach to increase the ticket size and de-risk the models in aggregate (as long as each individual project is sufficiently de-risked on its own to avoid risk amplification).

TABLE 1 | **Components and interactions of the mangrove-positive System Map** (continued)

Infrastructure developers	– Both public and private infrastructure developers, who participate directly in mangrove-positive projects by integrating them into their business models (e.g. through nature-based solutions) and ensuring that infrastructure development conserves and restores mangroves in project areas. – Can play key roles in providing the necessary shared infrastructure that enables access to business models through jurisdictional approaches (defined in section 3.4) and supports the needs of both mangroves and IPs & LCs. – Receive a financial or impact return. To ensure the effectiveness of infrastructure, those maintaining it require ongoing support, education and training.
Investment vehicles	– Financial instruments or structures used by individuals, institutions or organizations to allocate capital with the aim of generating returns or achieving specific investment goals.
Regional governments	– Provide necessary regional support and regulation, receiving taxes in return. – Help de-risk mangrove-positive action by providing clear and stable regulation, an enabling environment and concessionary capital.
Sustainability credit buyers	– Purchase sustainability credits such as carbon credits, biodiversity credits, stormwater credits and more, to invest directly into business models that are based on natural capital restoration and/or conservation. – Interact with multiple certification bodies, for example to verify and validate credits on a market and ensure socio-economic considerations are applied with care. – Sustainability credits have a unique role in enabling commercial viability of business models in more remote areas, where conventional logistical supply chains can be costly and/or unfeasible.
Market access players	– Stakeholders such as processors, middlemen, domestic retailers, traders and others that enable the business model's product to reach market. – Receive financial and/or impact return from supply chain buyers. – Play a key role in providing advance market commitments that de-risk business models and influence production activities (including certification processes). – Critical to supply chain transparency as they interact with certification bodies, often necessary for supply chain offtakers and business models to achieve a sustainable product certification.
Supply chain offtakers	– Purchase product from market access players and sell to consumers, or consume the product themselves. – Play a key role in providing advance market commitments that de-risk business models and influence production activities, including certification processes.
Philanthropy, NGOs, finance, insurance and alliances	– Provide multiple points and methods of support for mangrove-positive action, including capacity building and project team training. – The detailed roles of these components are varied and beyond the scope of this report, and in many cases warrant their own engagement maps.

With a System Map like the one at Figure 3, companies can:

- Better assess the materiality of existing and potential interactions, including which intervention opportunities match their values and strengths.
- Understand and expand the transformative potential of their interactions, while better avoiding unnecessary risks and trade-offs of those interactions.
- Identify and encourage innovative value creation opportunities and valuable multi-stakeholder partnerships.
- Better frame the need for necessary policy change that will enable further corporate mangrove-positive action.

When companies see their role within the framework of actors involved in mangrove action, this holistic view that caters to people, nature and climate supports high-quality action and avoids maladaptation that can result from too narrow a focus, maximizing the beneficial outcomes for corporations while avoiding integrity issues.[82]

On a broader level, having a map of the entire system can support an understanding of what is possible for each stakeholder to do, expose untapped collective value opportunities, outline which interventions are most marginally beneficial, reinforce the need for multi-stakeholder collaboration, and support the monitoring and evaluation of interventions.

BOX 6 | **Nature strategies as foundations for action**

To identify where their material impacts and dependencies are for nature, businesses can establish nature strategies, such as those outlined in the World Economic Forum's insight report *Nature Finance and Biodiversity Credits: A Private Sector Roadmap to Finance and Act on Nature*. Tools like heatmaps can highlight those dependencies and impacts illustratively, better enabling businesses to decide which actions to prioritize, based on relevant action entrance points such as those in the System Map (Figure 3).

Databases, including the Taskforce for Nature-related Financial Disclosures (TNFD) Tools Catalogue, can provide more resources for companies looking to assess the materiality of specific natural ecosystems such as mangroves, before taking further action.

2.2 Mapping the system ensures opportunities and trade-offs are identified from the start

To use the System Map, corporations should take as fundamental an approach as possible when mapping their potential mangrove-positive actions, engaging with key players and considering potential impacts. An evaluative approach is suggested in Box 7 below.

Corporations should connect with expert organizations such as the members of the Global Mangrove Alliance for capacity building and technical expertise.

BOX 7 | **Evaluative approach to mapping corporate mangrove-positive actions**

1. Given your existing social, nature and/or climate strategies, which societal, environmental and economic values do you seek to achieve through your action?

2. Where are your operations located within the System Map? Which areas can you directly and indirectly influence?

    a. Leveraging your firm's nature strategy, where are your operations impacting or dependent on mangroves?

    b. What are the opportunities to support mangroves and communities within existing operations? Can your business models be integrated with mangroves?

3. What actions can you take and/or are uniquely placed to support mangrove-positive agendas? Are there stakeholders unique to each action?

    a. What are the risks and value creation opportunities for each identified action?

    b. Are there identified bottlenecks to mangrove restoration and conservation in the system context that you can support (e.g. scarcity of market access players, technological support)?

    c. How can you use existing skills and assets to move relevant business models forward?

    d. What are the relevant upstream influence opportunities that can catalyse necessary downstream action?

    e. What are the mangrove-positive opportunities outside your value chains that could help you reach your strategic objectives?

4. Which of the Four Avenues for action – Sustainability credit buying, Supply chain offtaking, Project development and Ancillary engagement – is most suitable for your business capabilities, values and strengths?

    a. Which external initiatives or projects can you connect with for the opportunity to take that action now?

5. How do your internal policies enable or inhibit your desired actions?

6. Which stakeholders can you engage or partner with to fill any gaps or constraints for you to take those actions successfully and prudently?

2.3 Four Avenues for corporate mangrove-positive action

Corporations can become involved in mangrove-positive initiatives through Four Avenues or entry points, summarized in Figure 4 and explored further in this section: (1) Sustainability credit buying, (2) Supply chain offtaking, (3) Project development and (4) Ancillary engagement.

FIGURE 4 **Four Avenues for corporate mangrove-positive action**

Avenue #1 | Sustainability credit buying

Examples of relevant business models

Carbon credits	Stormwater retention credits
Biodiversity credits	Resilience credits

By offering project developers advance purchase agreements for sustainability credits, companies can play a critical support role in project development, especially if they act as a primary buyer, offer a premium price or provide pre-feasibility funding.

Companies that buy carbon, biodiversity, stormwater retention or resilience credits directly inject capital into sustainability activities.

While carbon credits are the most advanced, biodiversity, stormwater retention and resilience credits are maturing quickly and are particularly relevant for mangrove conservation and restoration.

However, before purchasing mangrove-positive carbon or biodiversity credits, corporations should take the following necessary steps towards reducing their impacts on nature and climate:

- Follow the mitigation hierarchy:[83]
  a. Take steps to avoid creating impacts.
  b. Minimize the extent of impacts that cannot be avoided.
  c. Restore ecosystems damaged by corporate impacts.
  d. Only then purchase offsets or credits to compensate for any residual, adverse impacts.
- To facilitate this process, companies can formulate science-based net-zero and nature-positive targets that align with the Paris Agreement and the Kunming-Montreal Global Biodiversity Framework.

Buying sustainability credits allows companies to further contribute to climate-, nature- and people-focused actions, driving additional positive impact beyond their immediate operations. It is important to signal demand for high-quality verified credits through the purchase process, which can be done by ensuring credits and underlying projects meet the *High-Quality Blue Carbon Principles and Guidance.* Biodiversity credit quality can be supplemented through the *High Level Principles to Guide the Biodiversity Credit Market*.[84] This can also help spur high-quality pipeline generation.

To ensure integrity while making such purchases, corporations can perform their own project-specific due diligence, if they have the appropriate capacity, supplemented by the *High-Quality Blue Carbon Practitioners Guide 2024* and the World Economic Forum's 2024 community paper, *Biodiversity Credits: A Guide to Identify High-Integrity Projects*.[85] Corporations can also make use of resources from the Global Mangrove Alliance or Fair Carbon. Alternatively, they can hire an external consultant or third-party verifier to conduct due diligence on projects.

Corporate credit buyers should include in their portfolio early projects or engage with facilities that cater to early-stage projects, as they offer companies the opportunity to help grow those projects in line with corporate targets, and help ensure they meet high quality criteria. By offering project developers advance purchase agreements for sustainability credits, companies can play a critical support role in project development, especially if they act as a primary buyer, offer a premium price or provide pre-feasibility funding. This supportive action is magnified if taken when the requested price for carbon credits is above the current demand price, or when the project is in early development stage.[86] In addition, companies can assume various carbon financing roles to support credit-generating projects.

Importantly, when purchasing high-quality blue carbon credits, corporations are also purchasing benefits to local communities, while supporting biodiversity, coastal resilience and benefits such as improved water quality. As such, carbon credit pricing should reflect this. Pricing of carbon credits that includes the full value of the project's scope enables developers to properly establish projects and include core people, nature and climate benefits, which in turn increase the value of the project and likelihood of long-term delivery.

CASE STUDY 1

Vida Manglar project, Colombia – more than carbon credits

The Vida Manglar project is preserving 11,000 hectares of mangroves in Cispatá Bay, on Colombia's Caribbean coast, and was the first blue carbon project in the world to fully measure and monetize mangrove carbon storage using methodologies certified under the Verified Carbon Standard.

For Apple's Earth Day 2018 Give Back campaign, Apple partnered with Conservation International to protect and restore the 27,000 acre mangrove forest in Cispatá Bay.

The project is a pioneering cross-sector public-private-philanthropic partnership, which reinvests up to 92% of its revenue from blue carbon credits in the local community and conservation activities. These funds support biodiversity monitoring, community-driven restoration efforts and sustainable livelihoods, including ecotourism and women-led beekeeping ventures. By engaging local mangrove associations, the project enhances environmental stewardship and empowers communities economically.

Partners:

- **Corporate:** Corporación Autónoma Regional de los Valles del Sinú y del San Jorge, Apple
- **NGO:** Conservation International
- **Government:** Columbia's Ministry of Environment and Sustainable Development
- **Philanthropic:** Omacha Foundation
- **Academic:** Instituto de Investigaciones Marinas y Costeras (INVEMAR)

Source: Conservation International.[87]

Avenue #2 Supply chain offtaking

Examples of relevant business models

Wild-caught fisheries	Timber harvesting
Shrimp aquaculture	Saltwater agriculture
Salt production	Rice cultivation

Certainty of demand will incentivize producers and manufacturers to transition their operations to become mangrove-positive.

Supply chain offtakers that integrate mangrove conservation or restoration activities into a corporation's supply chain provide both a market signal and financial capital for mangrove-positive interventions.

Commercially established supply chains that have either existing or potential interactions with mangroves can provide powerful, long-lasting investment into mangroves as well as sending demand signals for mangrove-positive action.

For companies that use products in their supply chains that interact with mangroves or have the potential to do so in the future, there is an opportunity to shift supply chains to become mangrove-positive through specifications in offtake agreements that explicitly prohibit mangrove destruction or reward mangrove conservation and restoration. Specifications can also prohibit purchases from supply chains that have net-negative effects on mangroves after an agreed cut-off date. Effective transparency along the supply chain is needed to ensure supply chain purchases follow these specifications. In many cases, additional financial, technological or social support is needed to ensure that transparency.

Through offtake agreements of mangrove-positive products, including those sourced through jurisdictional and landscape approaches (discussed in section 3.4), corporations can support mangrove-positive markets by creating confidence in the demand for such product. Certainty of demand will incentivize producers and manufacturers to transition their operations to become mangrove-positive.

By leveraging the influential nature of offtake agreements on upstream stakeholders, such as producers and market access players, corporations can also help unlock bottlenecks unique to specific localities and supply chain dynamics, such as formalized land tenure or regulatory inefficiencies. Companies can design offtake criteria to include impact targets that address such bottlenecks, as well as criteria developed by the local community (via fractal scalability) for people, nature and climate goals.

Technical assistance can play a key role in enabling offtake agreements to incorporate mangrove-positive elements, by funding jurisdictional shared infrastructure and resources (e.g. laboratories, communication platforms for disease outbreaks, water management, improved roads, transparent pricing platforms) that are fundamental to successful sourcing through those agreements. For corporations with philanthropic arms, funding such shared infrastructure through technical assistance can provide attractive opportunities for the commercial business by improving accessibility to high-quality and sustainable products.

CASE STUDY 2

Ecuador – building deforestation-free shrimp supply chains

In Ecuador, WWF works with the Cámara Nacional de Acuacultura (Ecuador's National Chamber of Aquaculture, or CNA) to increase the transparency and traceability of Ecuador's farmed shrimp supply chains and decrease the environmental impact of farmed shrimp production. In October 2022, CNA members made a national-level commitment to mangrove conversion-free production.

The Seafood Task Force (STF) is an industry-led platform that includes some of the world's largest producers, traders and buyers of farmed shrimp and tuna. STF's members have committed to changes in production and sourcing practices that include mangrove conversion-free farmed shrimp in multiple countries, especially Thailand.

Clark University has spent the last 10 years building a set of publicly available maps that document coastal habitat change in the 17 countries where significant mangrove habitats have collided with farmed shrimp production. CNA and its government counterparts have agreed with Clark University to use its maps to measure whether Ecuador's shrimp industry is adhering to the CNA's conversion-free shrimp commitments. The maps are also being used by STF's membership in Thailand.

The three initiatives above are driven by a range of incentives that are important to the shrimp industry, including market access, market differentiation, product health, inventory tracking, reputational risk, and the prospect of both ecological and economic benefits in maintaining nearby or adjacent mangrove stands.

Partners:

- **Corporate:** Seafood Task Force (industry-led platform)
- **NGO:** World Wildlife Fund (WWF)
- **Government:** Cámara Nacional de Acuacultura, Ecuador
- **Philanthropic:** Gordon and Betty Moore Foundation
- **Academic:** Clark University

Source: Gordon and Betty Moore Foundation.

Avenue #3 | Project development

Examples of relevant business models

Wild-caught fisheries	Saltwater agriculture
Shrimp aquaculture	Rice cultivation
Ecotourism	Onshore renewable energy generation
Salt production	Public infrastructure resilience
Timber harvesting	

Embedding mangrove-based solutions within infrastructure has the potential to make that infrastructure more resilient to climate change effects and add longer-term value to infrastructure assets.

This is when corporations become directly involved in developing mangrove-positive business models, pursuing mangrove conservation and restoration projects, or integrating the above into existing operations through "carbon insetting".

Corporations can participate directly in mangrove-positive project development through their in-house project development capacities. This avenue supports the supply of high-quality projects, allows companies to work in their priority geographies and de-risks their future mangrove-positive investment.

Direct project development also provides opportunities to converge people, nature and climate goals and include other targets that align with a company's internal objectives. However, this avenue requires in-house mangrove and community development expertise, or partnering with expert project-level organizations.[88]

This approach can help overcome common project development barriers. For example, to address the lack of funding for pre-feasibility project work, corporations can establish deposit accounts, which the project developer can utilize at pre-defined stages to move the project to the next milestone. Companies can also provide concessionary capital to pay for certification costs.

Corporations can reduce emissions in their own supply chains by carbon insetting – defined by the International Platform for Insetting as "interventions along a company's value chain that are designed to generate GHG emissions reductions and carbon storage, and at the same time create positive impacts for communities, landscapes and ecosystems."[89]

Developed with partners along their value chain and tailored for the operations and impacts of the company, insetting enables corporations to:

- Work towards climate targets.
- Secure long-term sourcing by providing adaptation services.
- Increase supplier resilience.
- Deliver products to consumers that support holistic people, nature and climate benefits.[90]

Coastal and marine ecosystems are significantly and increasingly impacted by infrastructure investments, given that many coastal areas of the world lack adequate infrastructure for basic community needs.[91] By integrating mangrove-positive business models with green-grey coastal construction approaches,[92] corporations can enhance the effectiveness of infrastructure through cost savings, improved resilience and other ecosystem services that support value-chain operations, while supporting mangrove habitats.[93]

Meanwhile, nature-based solutions can protect, manage and restore natural or modified ecosystems, address societal challenges and provide human well-being and biodiversity benefits.[94] Embedding these solutions within infrastructure has the potential to make that infrastructure more resilient to climate change effects and add longer-term value to infrastructure assets.[95]

CASE STUDY 3

Blue Carbon Plus – accelerating innovative blue carbon-positive business models

Led by Conservation International and The Nature Conservancy, with support from partners including the Mangrove Breakthrough and the Global Mangrove Alliance, Blue Carbon Plus (BC+) is a first-of-its-kind collaboration that accelerates innovative early-stage and community-led business models that integrate ecosystem protection and production goals. BC+ also seeks to secure funding for coastal conservation by engaging with governments, local stakeholders and financial institutions.

BC+ focuses on developing regenerative blue carbon business models that enhance healthy ecosystems, increase revenue generation and enhance ecological function, while minimizing disturbance to blue carbon ecosystems. BC+ achieves this by identifying and scaling-up successful business models and encouraging widespread adoption through grants and technical assistance for implementing partners.

Through this model, local communities will protect nature because coastal habitat conservation and restoration are a fundamental part of their business.

By 2050, the programme aims to:

- Conserve and restore up to 16.9 million hectares of mangroves, seagrasses, tidal marshes and kelp.
- Achieve climate benefits of up to 2.2 gigatonnes (Gt) of CO_2-equivalent sequestered.
- Increase incomes for over 50 million people.

Partners:

Alliances: Mangrove Breakthrough, Global Mangrove Alliance

NGOs: Conservation International, The Nature Conservancy

Source: The Nature Conservancy.[96]

Avenue #4 | Ancillary engagement

Examples of relevant business actions

- Investing into mangrove-positive financial vehicles
- Biodiversity identification
- Site protection
- Connecting project areas through biodiversity corridors
- Certification of projects and credits
- Monitoring and evaluation technology
- Establishing facilitation platforms for conservation and restoration, market exchange and matchmaking

This comprises corporate action that supports the first three avenues of action through indirect means, addresses systemic bottlenecks or involves capacity-building partnerships.

Corporations can also take mangrove-positive action by enabling and improving mangrove conservation and restoration outside direct project development or their own supply chains. This can include investing in financial vehicles that are structured to fund mangrove-positive business models or relevant innovations, or financing intermediaries to structure projects and transactions. Companies may offer in-kind support such as technology for data sourcing, baselining and governance.

Corporations can also provide ancillary support to generate carbon credits – for example, by investing in early-stage credit-generating projects prior to credit issuance, engaging in intermediary credit buying and supporting market liquidity through exchange platforms.[97]

CASE STUDY 4

Public-private collaboration in the Philippines protects biodiversity corridors

In the Philippines, a recent Memorandum of Understanding between the Department of Environment and Natural Resources, Department of Energy and major private sector players, including Aboitiz Equity Ventures, San Miguel Corporation and Metro Pacific Investments, underscores the integration of financial strategies into environmental protection in the Verde Island Passage.

The passage includes 1.14 million hectares of coral reef, mangrove and seagrass habitats and possesses a unique abundance of marine life. It provides livelihoods to millions of people through fishing and ecotourism, serves as a major commercial shipping channel and houses significant industrial complexes along part of its shoreline.

Private corporations are committing substantial financial resources to achieve objectives such as establishing marine science research stations and transitioning to low-carbon development, which directly benefits mangroves and other coastal ecosystems.

Additionally, the partnership emphasizes investment in inclusive platforms that improve the livelihoods of coastal communities. By protecting mangroves, which act as natural barriers and biodiversity hubs, the private sector is helping to secure the fisheries and tourism industries that many local economies depend on. These efforts ensure that economic gains from the Verde Island Passage's resources are reinvested into conservation and community welfare, creating a cycle of sustainable financial support for the region.

Partners:

Corporation: Aboitiz Equity Ventures, San Miguel Corporation, Metro Pacific Investments

Government: Department of Environment and Natural Resources, Department of Energy, Philippines

Source: Philippine News Agency.[98]

2.4 Tools for corporate engagement

Once a company has worked through the Systems Map to select its preferred entry point and route, it will require a toolbox for corporate engagement to take on the journey (see Table 2).

TABLE 2 **Toolbox for corporate engagement**

Core business operations	Explore existing and potential points of interaction with mangroves within core business operations, especially those operations with impacts and dependencies on nature (as per corporate nature strategy) and shift those interactions to become mangrove-positive.
Financial support seeking financial return	Purchase high-quality carbon credits from or invest return-seeking financial capital directly into mangrove-positive projects or financial vehicles that support the development of such projects. Corporations should ensure credits are verified or engage a third-party verifier to avoid greenwashing.
Financial support seeking impact return (including corporate social responsibility)	Provide concessionary financial capital or grants directly to mangrove-positive projects, financial vehicles or broad enablers that support the development of such projects.
In-kind support	Explore which capacities and capabilities companies have in-house that are relevant for the development of mangrove-positive projects and provide supporting services to such projects and initiatives accordingly.
Societal influence	Leverage corporate influence to advocate for government mangrove-positive policies and promote the importance of mangrove-positive business models, themes and knowledge to support a broader uptake with other corporations of mangrove-positive efforts.
Peer-to-peer action	Champion mangrove-positive efforts and share learnings with peers. Corporations can combine efforts with their peers to share responsibility for conservation efforts and establish demand signals for mangrove-positive products from relevant supply chains. The 1t.org Corporate Alliance operates as a community for peer-to-peer exchange to support action.
Employee activities	Support employee-led initiatives that connect with mangrove-positive action.

3 Enabling high-quality corporate action

Pioneers of mangrove-positive action have helped generate hard-earned insights. Companies should do their best to embody them.

This chapter outlines principles that companies should consider when engaging in mangrove-positive action to:

Increase the value, decrease the risk and ensure the long-term success of their interventions.

Improve access to high-quality investment opportunities.

Leverage collaboration opportunities for increased impact.

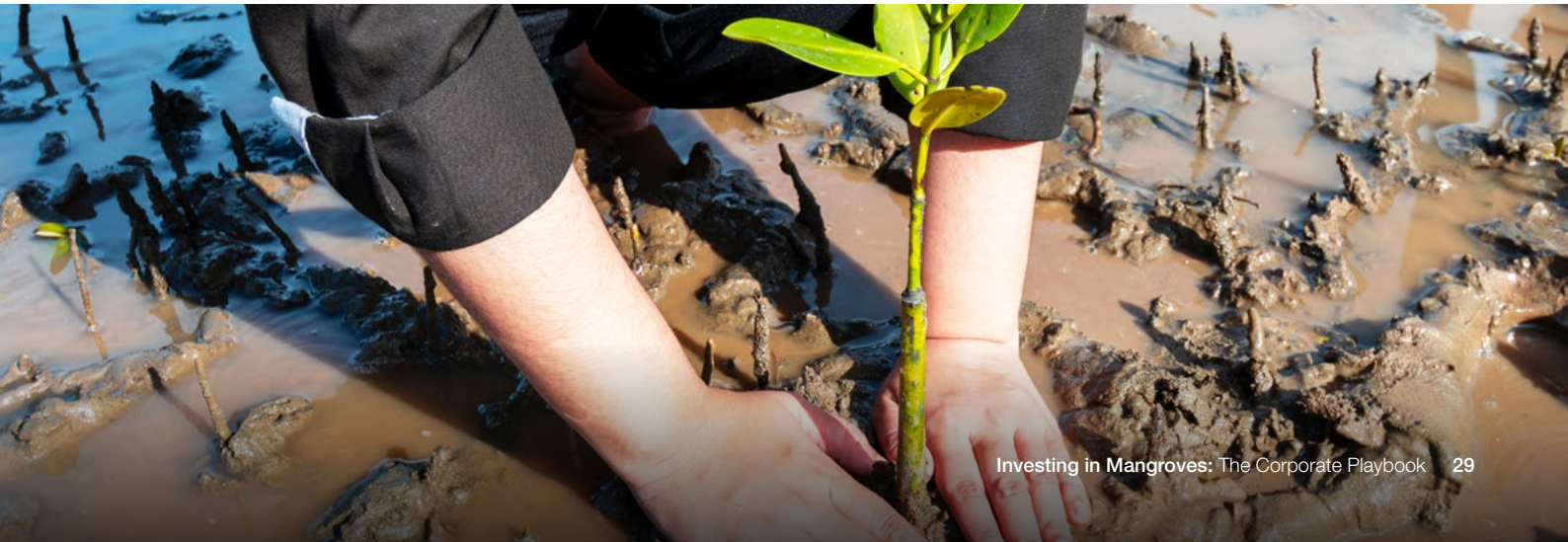
3.1 Successful project-level engagement places people at the core

“ Mangrove-positive initiatives that leverage and support pre-existing traditional management systems tend to be more successful.

High-quality projects involve deep engagement with Indigenous Peoples and local communities connected to the project site.[99] IPs & LCs have successfully managed landscapes for many generations, and hold a repository of valuable local knowledge with the potential to support successful mangrove conservation and restoration. Indeed, mangrove-positive initiatives that leverage and support pre-existing traditional management systems tend to be more successful.[100] Such knowledge is crucial to addressing underlying drivers of destruction and degradation, understanding diverse stakeholder interests within local communities and identifying conservation methods that are most effective for the local area.

Mangrove-positive interventions that are equitable for IPs & LCs and meet their socio-economic and well-being needs are most effective. This is especially true for biodiversity solutions, as well-being, governance and conservation effectiveness are linked.[101] It is therefore imperative for corporations investing in mangroves and communities to understand and support the specific role of IPs & LCs within such solutions for them to be successful and ensure that clear property rights are secured for IPs & LCs prior to full engagement.

To secure the benefits of IP & LC leadership for project-level engagement of mangrove-positive action, a comprehensive participatory process



Projects should work with community leadership to identify mutually valuable targets for the project, which will in turn lead to more effective and successful mangrove-positive action.

should be followed, to ensure that IPs & LCs are fully bought-in to the project. Projects should work with community leadership to identify mutually valuable targets for the project, which will in turn lead to more effective and successful mangrove-positive action.

Additional complexities include the following:

- Community leadership does not always represent the best interests of the community or landscape.[102]
- Reporting requirement formats may have to be modified to match IP & LC practices and local languages. [103]
- How authority is exercised within sustainability programmes is more appropriate than who holds authority. [104]
- Governance is an ongoing process of negotiated interests and should be culturally appropriate and locally led where possible; this often goes beyond guidelines within existing policies and programmes.[105]
- While deep IP & LC engagement is essential to effective projects, companies and organizations must ensure they do not place excessive "cultural load" (i.e. demands for consultation and project responsibility that may be at odds with cultural norms) on IPs & LCs, which can cause discomfort, stress and strain and can exacerbate past cultural tensions.[106]

Corporations involved in project development should invest in trust-based relationships and maintain rapport with IPs & LCs through regular in-person meetings, from the visioning stage of project development through to implementation (see Table 3). Corporations should work directly with project developers, NGOs and local universities with long-standing relationships in the project area to facilitate meaningful and trusted engagement with IPs & LCs, both to ensure high-quality projects and to accelerate the project development process.

3.2 Multi-stakeholder collaboration unlocks more and better engagement opportunities

The urgent need for combined people, nature and climate solutions requires a collaborative approach. Multi-stakeholder collaboration is an important enabling condition for scaling-up mangrove-positive action, whether that involves creating broader project coalitions or capacity building between partners to enhance a shared understanding of opportunities and challenges. Corporations should seek such collaboration to successfully implement sustainable business practices, ensure streamlined and aligned policies, and de-risk finance over the long-term.

Public-private-philanthropic partnerships (4Ps) enable the private sector to advance their investment activities, while philanthropies de-risk, test and offer security on those investments, and the public sector creates a positive enabling environment. Through 4Ps, early-stage investors get to build capabilities and thought leadership alongside the investment process, later investors can deploy seed capital and other resources, while partners can target new areas for project intervention.

Establishing a System Map (Figure 3) is a helpful first step in planning for any mangrove-positive action to ensure all relevant stakeholders are engaged.

3.3 Sustainable mangrove investments ensure local communities are incentivized

Socio-economic incentives have a front-and-centre role to play in the long-term success and practical effectiveness of mangrove-positive initiatives, by ensuring that the potential value of Indigenous Peoples and local communities to projects is included. Socio-economic incentives can include upfront cash payments for project engagement, economic shares of project upside, job creation and stability of worker compensation. To design effective incentives for a project, the interests of project proponents should be understood, especially the interests of IPs & LCs, which may include livelihoods and family needs. Any engagement must appropriately consider the economic vulnerability of IPs & LCs.

IP & LC incentives should also reflect values beyond socio-economics and include a holistic and contextually adaptable definition of well-being, which includes income, assets, health, security

and subjective social, cultural, psychological, political and institutional factors – all of which are increasingly recognized as potential positive drivers to support conservation.[107] In a similar manner, project governance and IP & LC well-being are intertwined, since having agency in projects is another aspect of well-being.[108]

Community benefit-sharing agreements are critical social-ecological-economic drivers that provide important links between international and local communities. The benefits that are shared should be decided in a comprehensive, participatory approach and can take the form of non-monetary aspects, such as education and shared infrastructure. Aside from actual project activities, IPs & LCs should be compensated for land-use, local ecological knowledge contributing to the project, the risk of changing jobs and consultation requests during project development stages.[109,110]

There is no existing consensus for best practice when reviewing community benefit-sharing for mangrove-positive projects, but corporations should nonetheless ensure expert organizations are consulted when formulating approaches to benefit-sharing.

CASE STUDY 5

Multi-stakeholder collaboration for urban mangrove conservation in Indonesia

In Indonesia, the Taman Wisata Alam (TWA) Angke Kapuk mangroves in North Jakarta have become a focal point for innovative collaborative financing and investment mechanisms aimed at balancing conservation with urban development. Public-private partnerships and innovative financing have been instrumental in supporting mangrove conservation and ecotourism development. One prominent example is Pertamina, Indonesia's state-owned oil and gas company, which funds mangrove planting programmes, focusing on rehabilitating degraded areas and educating local communities about the importance of coastal ecosystems.

Additionally, the UBS Optimus Foundation has brought its collective impact philanthropic model to the region, collaborating with local organizations to fund results-orientated mangrove reforestation and livelihood programmes, emphasizing measurable impacts such as carbon sequestration and biodiversity restoration.

Revenues generated from ecotourism are reinvested into conservation, while programmes such as those from Pertamina and UBS Optimus help build local capacity and ensure long-term ecological and economic benefits. This multi-stakeholder approach positions TWA Angke Kapuk as a leading example of urban mangrove conservation through innovative financing and collaboration. In total, over a dozen private entities have been involved in various capacities.

Partners:

Corporate: Pertamina

Philanthropic: UBS Optimus Foundation

Source: Earth Security.[111]

3.4 Jurisdictional and landscape approaches maximize the value of interventions

A landscape approach, according to CDP, a US environmental non-profit organization, is "a place-based management approach that involves stakeholders collaborating in a landscape to advance shared sustainability goals and build resilience. It aims to reconcile and optimize social, economic and environmental objectives across many economic sectors and land uses".[112]

Jurisdictional approaches differ from landscape approaches in that they are "aimed at advancing shared sustainability goals in landscapes defined by administrative boundaries of subnational and/or national governments. Also, this approach is implemented with a high level of government involvement compared to landscape approaches".[113]

Corporate mangrove-positive investment can be bolstered through the use of jurisdictional and landscape approaches, which bring benefits such as partnerships and cost reductions, diversification, improvements in risk management and maximization of positive social and environmental impacts.[114,115] Corporations are thus encouraged to select and support mangrove-positive projects that employ such approaches when possible, for example to supplement sustainable supply chain purchasing. Jurisdictional and landscape approaches help maximize the convergence of people, nature and climate solutions in a given jurisdiction or landscape, increase project permanence if it is state-sponsored and align diverse stakeholder interests.

3.5 Corporate coalitions improve market access to viable mangrove-positive investments

Corporations can band together to shape best practices for specified engagement activities.

Corporations can work with their peers to enable better action for each other and access viable mangrove-positive investment opportunities. Internally, corporations have opportunities to tailor their due diligence methods to the principles outlined in this Playbook, as well as those outlined in the World Bank's *Blue Carbon Readiness Framework*.[116]

To enable broader action, corporations can band together to shape best practices for specified engagement activities and, in the process, promote transparency and integrity by holding each other accountable. For example, 1t.org Corporate Alliance members commit to inspire and engage their peers to action and share lessons learned, engaging in dialogues for forest-positive action and pioneering approaches.

Through community-centric buyers' clubs, corporations can encourage community leadership. Such clubs can lead with the principle of "branded differentiation", whereby the uniquely social and sustainable aspects of each product are actively marketed to the consumer, to reflect the value added by community leadership in the production process. SourceUp, an online platform that connects buyers and other stakeholders in agri-commodity supply chains with landscape and jurisdictional initiatives in production areas,[117] is an example of a platform that supports branded differentiation of sustainable solutions in a scalable manner that could be applied to mangrove-positive agriculture.

The Business Alliance for Scaling Climate Solutions (BASCS) is a global platform of climate solutions funders, project developers and other solution providers, together with NGO partners. BASCS focuses on building the capabilities of companies to enter the voluntary carbon market (VCM), connecting stakeholders to increase the volume, scale and impact of business investment in climate solutions and educate companies accordingly.[118]

For projects that don't yet meet qualifications for full engagement, corporations can help them transition to high quality while embedding proper safeguard guidance. The *High-Quality Blue Carbon Practitioners Guide* is a helpful tool for projects to measure their increasing quality as it links funder and market definitions of high-quality project development and financing with sets of activities that can be integrated into project design and management in the field. Although written primarily for carbon crediting projects, the guide can be used with any blue carbon project and provides a library of more than 50 curated resources to encourage high-quality blue carbon ecosystem interventions that suit different project contexts and blue carbon ecosystems.[119]

CASE STUDY 6

Symbiosis Coalition – a corporate platform to advance market commitment

Symbiosis Coalition was created by Google, Meta, Microsoft and Salesforce as an advance market commitment of up to 20 million tonnes of CO_2e to invest in the next generation of nature-based carbon removals projects by 2030, driving positive outcomes for people and planet. Coalition members aim to partner with like-minded investors, NGOs, market standard setters and project developers to clarify the bar for what "good" restoration looks like and enable project establishment.

Symbiosis Quality Pillars guide the development of project-specific criteria and include conservative accounting, durability, social & community benefits, transparency and ecological integrity. The pillars build on existing standards and, at minimum, align with the Core Carbon Principles (CCPs) of the Integrity Council for the Voluntary Carbon Market (ICVCM). Symbiosis Quality Criteria aim to strike the balance between being specific enough to be actionable but flexible enough to allow for innovation and consideration of project-specific contexts.

Partners:

Corporations: Google, Meta, Microsoft, Salesforce

Source: Symbiosis Coalition.[120]

CASE STUDY 7

FMC for Food – incentivizing mangrove-positive food supply chains

Building on the success of the World Economic Forum's First Movers Coalition (FMC) for clean technology – the world's largest demand signal for clean technology – the First Movers Coalition for Food focuses on shaping ideas to accelerate the transition of food systems through a systemic supply chain approach via the power of green procurement. The corporate member-driven process of FMC for Food includes establishing a consensus definition of what high-integrity means for each target commodity and identifies innovations needed for a successful transition, levers of influence, the role of the demand signal and necessary enabling financial mechanisms.

Aquaculture, rice cultivation and oil palm plantations collectively accounted for 43.3% of mangrove loss between 2000 and 2020.[121] Additionally, transitioning supply chains that involve Indigenous Peoples and local communities, such as agriculture and aquaculture in Indonesia, can be relatively complex and require multi-stakeholder collaboration that addresses multiple obstacles to the sustainable transition of the supply chain concurrently.

As such, the FMC for Food approach can be valuable to reward food supply chains for being mangrove-positive – an approach that can halt the destruction of mangroves. Mangroves can also be restored such rewards lead to innovations that support regenerative mangrove-positive agriculture or aquaculture.

Source: World Economic Forum.[122]

3.6 Overview of the process to develop high-quality projects

Developing high-quality mangrove-positive projects requires a methodical approach comprising the following steps (see Table 3):

1. Visioning
2. Mapping and preliminary assessment
3. Full assessment and consultation
4. Partnerships and design
5. Achieving preconditions
6. Implementation

As corporations start to undertake mangrove-positive action, they should consider the full breadth and depth of the high-quality project development overview process to better understand the amount of time and work that must go into a project to ensure it is of high quality. Doing so will ensure companies are more able to support projects to become high-quality and investable. No shortcuts to this process can be taken without degrading the ultimate impact to mangroves and relevant local communities over the long term.

TABLE 3 | **High-quality project development overview**

1 Visioning	2 Mapping & preliminary consultation	3 Full assessment & consultation	4 Partnerships & design	5 Achieving preconditions	6 Implementation
Initiating stakeholders generate and clearly articulate the jointly intended project type, relevant business models, outline of project area, impact targets and level of project complexity to determine necessary community and government engagement. Opportunity to embed convergence of people, nature and climate targets within project vision. Appropriate certification/ verification targets identified.	Initial engagement with project stakeholders and local community to clearly articulate project vision and openly invite feedback. Alongside project stakeholders and local community, ensure co-mapping of: – Directly And indirectly affected stakeholders (by type). – Conservation activities' links to tangible ecosystem services. – Other initiatives that are engaging stakeholders and opportunities to streamline. – Stratification of project area. Conclude budget and team needed for activities of Stage 3: Full assessment & consultation.	Full consultation of project stakeholders (incl. IPs & LCs) around project vision. Co-development of initial plan, ensuring IP & LC capacity to knowledgably participate. Holistic baseline assessment of: – Relevant research gaps. – Integrity of regulatory factors. – Socio-economic/ cultural data, (incl. livelihoods & vulnerability). – Local ecosystem connectivity. – Climate and biodiversity risk. – Local implementation capacity. Determine additionality and theory of change, required legal reforms, relevant authorities, market access and risk mitigation.	Engage key identified stakeholders (incl. relevant authorities and those supporting through commercial arrangements) for project co-design. Focus co-design on robust revenue streams, transformative potential for IPs & LCs, project resilience, efficient administration, holistic benefits, cross-initiative synergies, mitigating negative impacts and supportive infrastructure. Formulate benefit-sharing agreements and alternative livelihoods scheme. Articulate interventions and project bottlenecks in systemic context. Align with national commitments. Launch programme partnerships.	Clearly establish legal rights. Establish grievance systems, adaptive management protocols, formal government endorsement, ESG safeguards and leakage-avoidance mechanisms. Execute contracts for commercial arrangements and shared enabling infrastructure. Construct demonstration plots when possible. Complete project aggregation and packaging. Nest projects within national frameworks, if relevant. Outline portfolio of funding and resourcing options for anticipated funding and execution gaps.	Full kick-off of project implementation activities. Establish monitoring and evaluation programmes focused on tangible outcomes, especially linked to environmental and socio-ecological aspects, SMART goals for biodiversity and relevant certification objectives where possible. Train project proponents, especially IPs & LCs to navigate accreditation process. Form sellers' and producers' clubs, if applicable.

Ongoing IP & LC engagement, co-development, detailed documentation and public sharing of collected data

Determine extent of alternative livelihoods scheme needed for a just transition.	Identify primary drivers of degradation and relevant initiatives in target jurisdiction. Explore alternative livelihood schemes.	Assess readiness and likelihood of jurisdictional approach, based on regulatory, stakeholder and other factors.	Full launch of jurisdictional approach process with neutral project lead.	Formally prepare just transition scheme with local government. Unlock funding to roll out jurisdictional programme.	
1 month	1-2 months	4-10 months	9 months - 2 years	1-2 months	Ongoing
– **Clear outline of project vision including assessment processes.** – **Funding for mapping and preliminary consultation stage.**	– **Pre-feasibility funding.** – **Initial community & stakeholder consent.** – **Contracts executed.**	– **Conclusion of feasibility assessment.** – **Conclusion of Free, Prior and Informed Consent process.** – **Leadership assessment.** – **Project design funding.**	– **Project design document development.** – **Residual funding gap concluded.** – **Fundraising process for project implementation.**	– **Community benefit-sharing agreements executed.** – **Operational contracts in place.**	

Unique to jurisdictional approach | Duration | Key intermediate outputs

Sources: World Economic Forum analysis, PLANETA *Carbon Finance Playbook*, *High-Quality Blue Carbon Practitioners Guide*.

4 Key takeaways for successful corporate investment in mangroves

Corporations must leverage their capacities and leadership on mangrove-positive action in this time of urgency.

Several key takeaways emerge from this report that can optimize the impact of corporate mangrove-positive action, mitigate risks and support the scaling-up of a high-quality market for mangrove-positive projects.

These takeaways – or key elements of corporate engagement – build on the foundation provided by the *High-Quality Blue Carbon Principles and Guidance*, which can be applied more broadly to mangrove-positive action beyond carbon credits. Together with the accompanying *Practitioner's Guide*, these principles and key elements of corporate engagement in blue carbon provide a project-level pathway for due diligence, informed decision-making and successful execution.

4.1 Embedding key elements in mangrove-positive action leads to higher value and lower risk

> Companies should seek advice from credible expert organizations to ensure that the technical details of these principles are appropriate and fully considered.

Corporations should be mindful of the following high-priority elements when engaging in mangrove-positive projects, to ensure maximum intervention value and minimum risk. Companies should seek advice from credible expert organizations, such as members of the Global Mangrove Alliance, to ensure that the technical details of these principles are appropriate and fully considered.

- Maximize the impact of mangrove-positive projects by **considering their application across society, biodiversity and climate**.
- Address concerns about integrity and reputational risk by deeply **engaging with the latest global blue carbon principles and standards**, and seeking capacity and partnerships that can help companies go above and beyond such standards.
- Maximize intervention value and help ensure long-term project delivery by practising **high-quality engagement with Indigenous Peoples and local communities**, especially by prioritizing local values in project objectives.
- Support projects to be as economically viable as possible, by **communicating investment criteria to projects at different stages of maturity**, so that project proponents are properly guided and incentivized to fulfil those criteria.
- Practise **high-quality community benefit-sharing** to reinforce critical social-ecological-economic drivers of project success.
- When relevant, **ensure carbon pricing enables sufficient coverage of all fundamental society, biodiversity and climate-related elements** within a project.
- Recognize and **invest in the value of the jurisdictional approach** to maximize project impacts for people, nature and climate, as well as to improve project risk management and reduce costs.

4.2 Corporate leadership is required to bring the benefits of mangroves to life

A myriad of actors is needed to scale-up mangrove conservation and restoration globally, but a myriad of benefits to people, nature and climate will be realized if that scale-up is achieved. Corporations have particular roles that are needed to enable that scale-up, as defined in this Playbook.

Companies can leverage their relevant capacities to fulfil these roles, even if they are among the first of their peers to do so in this time of urgency. The highest-value solutions driven by corporations will link with their superpowers, operate via multi-stakeholder collaborations, and combine goals to support people, nature and climate. In doing so, the private sector will support global goals with strategic benefit both to the values of corporations and to the global community.

Conclusion

Mangroves are a powerful, nature-based answer to sequester carbon, protect vulnerable coastlines, support biodiversity and sustain livelihoods that has been hiding in plain sight.

The challenges faced by the global community – climate change, biodiversity loss and extreme poverty – are deeply interconnected and intensifying. The need for urgent action has never been greater, yet the complexity of these crises often makes solutions seem elusive. However, a powerful, nature-based answer has been hiding in plain sight: mangrove conservation and restoration. These ecosystems are unparalleled in their ability to sequester carbon, protect vulnerable coastal communities, support biodiversity and sustain livelihoods.

For corporations seeking to align with global sustainability goals while ensuring long-term economic resilience, investing in mangrove conservation presents a unique opportunity. Mangroves offer a myriad of benefits – protecting coastal infrastructure and communities from extreme weather, enhancing fisheries, generating carbon credits, boosting biodiversity and strengthening local economies, to name a few. By integrating mangrove-positive strategies into their operations, businesses can drive tangible impact across climate, nature and society while generating economic gains within their own value chains.

The path forward for corporations on mangrove-positive action is well-defined. Global principles and standards, such as the *High-Quality Blue Carbon Principles and Guidance* and the *High-Quality Blue Carbon Practitioners Guide*, provide a framework to ensure corporate investments in mangroves are effective, ethical and high-integrity. This report builds on these existing guidelines by introducing a new Systems Map, designed specifically to prepare corporations for their mangrove-positive journey and help them navigate and optimize their mangrove-positive actions along the way. This map enables businesses to assess their role within the broader system of mangrove conservation and restoration, facilitating strategic engagement and maximizing value and impact.

Furthermore, organizations dedicated to identifying and creating high-quality investment opportunities are already in place, offering capacity to help corporations take that action successfully. Collaborations such as the Mangrove Breakthrough and the Global Mangrove Alliance provide robust global platforms rooted in local regions to reinforce mangrove-positive corporate action, ensuring that businesses can invest in mangrove restoration with confidence and credibility.

This Playbook encapsulates these insights into a practical guide for corporate action. It outlines Four Avenues for engagement: sustainability credit buying, supply chain offtaking, project development and ancillary engagement. Each pathway offers a structured approach for businesses to integrate mangrove-positive strategies into their operations, balancing people, nature and climate impact with economic returns.

The World Economic Forum's Blue Carbon Action Partnership (BCAP) stands as a key enabler in this space, bridging the gap between national policies and high-quality corporate investment. Through BCAP, corporations can access expert networks, guidance and partnership opportunities that support meaningful mangrove conservation at scale. By leveraging BCAP's resources, companies can take a leadership role in accelerating the transition towards sustainable blue carbon markets.

The corporate sector has a unique and powerful role to play in protecting and restoring mangroves. Businesses that step up to this challenge will not only mitigate risks associated with climate change and ecosystem degradation but also position themselves as leaders in a future where food, water, nature, health, climate and economic growth are inextricably linked. This Playbook provides the tools, strategies and guidance needed to drive this transformation. What remains is for corporations to take bold, decisive action.

By investing in mangroves, businesses can turn sustainability commitments into an economically-beneficial reality, safeguard their long-term interests and contribute to a thriving planet. The opportunity is clear: now is the time to lead.

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