SUBNATIONAL CLIMATE FUND

White Paper: Investing in Climate Action and Nature-Positive Tourism that Benefits People and Planet

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SCF is a global blended finance initiative that aims to invest in and scale mid-sized (5 – 75 M $USD) sub-national infrastructure projects in the fields of sustainable energy, waste and sanitation, regenerative agriculture and nature-based solutions in developing countries. SCF partners primarily with subnational authorities to identify and implement these projects, financed with a blend of concessional and conventional capital, along with Technical Assistance grants that help mitigate risk and ensure financial and environmental goals are achieved.

This report was written by Solimar International consultants **Chloe King, Laura Rankin, and Shivya Nath**, in order to provide technical guidelines for project developers and investors in ecotourism projects, equipping investors and project developers with strategies to align tourism activities with climate and nature positive goals aligned with global frameworks.

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Table of Contents

Glossary of Terms

Additionality - A proposed project is considered additional if the emissions reductions or removals would not have occurred without the expected revenue from selling carbon credits.

AlUla Framework for Inclusive Community Development through Tourism - Developed by UN Tourism and the G20 Tourism Working Group, the AlUla Framework provides guidelines for inclusive community development through tourism, aiming to ensure that tourism benefits are equitably shared with local communities.[i]

Carbon Removal - Refers to the process of extracting CO_2 from the atmosphere and sequestering it into geological, terrestrial, or ocean reservoirs.

Carbon Offsets - Credits issued in return for a reduction of atmospheric carbon emissions through projects such as the provision of renewable energy to replace fossil fuel energy or reforesting cleared land to create a carbon sink.

Climate Adaptation - The process of adjusting to actual or expected climate change and its effects to minimize harm or exploit beneficial opportunities.

Climate Mitigation - Efforts to reduce or prevent greenhouse gas emissions by using renewable energy, enhancing energy efficiency, and protecting carbon sinks like forests and oceans, with the aim of limiting global warming to well below 2°C as outlined in the Paris Agreement.

Climate Action in Tourism - Refers to the coordinated efforts by tourism stakeholders (governments, businesses, destinations, communities) to *measure*, *reduce*, and *adapt to* greenhouse gas emissions and climate impacts across the tourism value chain.

Climate Resilience - The ability of systems, communities, and ecosystems to anticipate, prepare for, and respond to climate-related hazards, minimizing vulnerabilities and maximizing adaptive capacity.

CO_2e (Carbon Dioxide Equivalent) - A standardized measure used to express the global warming potential (GWP) of all greenhouse gases in terms of the amount of carbon dioxide (CO_2) that would have the same warming effect. It allows different gases—such as methane (CH_4) or nitrous oxide (N_2O)—to be compared using a single metric.

Co-Benefits - The positive side effects or supplementary outcomes of a primary policy or intervention—such as biodiversity conservation, improved health, or job creation—achieved while pursuing climate mitigation or adaptation goals.

Cultural Heritage - Includes artifacts, monuments, groups of buildings and sites, and museums that have diverse values including symbolic, historic, artistic, aesthetic, ethnological or anthropological, scientific, and social significance.

Economic Leakage - Occurs when revenue generated by tourism is lost to other countries' economies, meaning that money spent by tourists does not remain in the local economy but instead benefits external entities.

Ecosystem-Based Adaptation (EbA) - The use of biodiversity and ecosystem services as part of an overall strategy to help people adapt to the adverse effects of climate change.

Ecosystem Services - The benefits people obtain from ecosystems, including provisioning services like food and water; regulating services such as flood and disease control; cultural services like recreational and spiritual benefits; and supporting services, such as nutrient cycling, that maintain the conditions for life on Earth.

Green Financing - Financial investments that promote environmentally sustainable outcomes, including projects related to renewable energy, energy efficiency, climate adaptation, biodiversity conservation, and low-carbon infrastructure.

Human Rights-Based Approach (HRBA) - A conceptual framework directed towards promoting and protecting human rights, based on international human rights standards. It places human rights and corresponding state obligations at the heart of policy and aims to empower the most vulnerable people to participate in decision-making processes and hold duty-bearers accountable.

Key Performance Indicators (KPIs) - Quantifiable metrics used to evaluate the success of an organization, project, or policy in meeting defined objectives, such as carbon reduction, community engagement, or biodiversity impact.

Kunming-Montreal Global Biodiversity Framework - A historic agreement committing nations to halt and reverse nature loss by 2030, consisting of global targets to safeguard and sustainably use biodiversity.

Measuring the Sustainability of Tourism (SF-MST) Framework - A framework agreed internationally by the UN Statistics Commission at the initiative of UN Tourism, describing the main concepts, definitions, and data organization structures to support the production and organization of data on the impacts and dependencies of tourism on the economy, society, and the environment.[ii]

National Tourism Administrations (NTAs) - Governmental bodies responsible for the formulation and implementation of national tourism policies, strategies, and programs, as well as the regulation and promotion of tourism activities within their respective countries.

Nationally Determined Contributions (NDCs) - National climate action plans by each country under the Paris Agreement, outlining how they plan to reduce greenhouse gas emissions to help meet the global goal of limiting temperature rise to 1.5°C and adapt to the impacts of climate change.

Nature-Based Solutions (NbS) - Actions that protect, sustainably manage, and restore natural or modified ecosystems to address societal challenges, providing both human well-being and biodiversity benefits.

Nature Positive Tourism - Tourism practices that contribute to the restoration and enhancement of biodiversity, ensuring that tourism activities protect, regenerate, and increase the health and resilience of natural ecosystems while delivering socio-economic benefits.

Paris Agreement - An international treaty adopted in 2015, aiming to strengthen the global response to climate change by keeping the global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit the temperature increase even further to 1.5 degrees Celsius.

Public-Private-Community Partnerships (PPCPs) - Collaborative arrangements where public sector entities, private sector companies, and community groups share resources, risks, and benefits to achieve common objectives, often in the context of sustainable development and service delivery.

Shared Prosperity - Measured as the rate of growth in the mean income or consumption of the poorest 40% of a country's population, reflecting efforts to ensure that economic growth benefits all segments of society.

Sustainable Tourism - Tourism that takes full account of its current and future environmental, social, and economic impacts whilst addressing the needs of visitors, the sector, the environment, and host communities.[iii]

Executive Summary

Tourism sits at a paradoxical nexus of the climate–nature crisis: it is both a material source of greenhouse-gas emissions and uniquely exposed to climate and biodiversity impacts that erode the very assets on which destinations and businesses depend. Current evidence points to a sectoral footprint of roughly 8–9% of global emissions and a trajectory of further growth without decisive intervention—underscoring the need to pair rapid decarbonization with robust adaptation and biodiversity action.

This white paper is developed with and for the Subnational Climate Fund (SCF)—a global blended-finance initiative investing in mid-sized, sub-national projects—to provide practical, investment-grade guidance that aligns tourism development with climate- and nature-positive outcomes.

Purpose and scope. The report equips project developers, operators, investors, and policymakers with concrete strategies, investment criteria, and key performance indicators (KPIs) to plan, finance, and monitor tourism projects that deliver measurable climate mitigation, climate adaptation, biodiversity, and social co-benefits in line with leading global frameworks (e.g., Paris Agreement, Kunming-Montreal Global Biodiversity Framework, UN Tourism SF-MST). It adopts a "nested systems" lens—environment underpinning society underpinning the economy—to reframe tourism success around planetary and community resilience as the precondition for durable economic value.

How the evidence was built. A four-phase methodology integrates: (1) an international survey of 180 tourism organizations; (2) a synthesis of 30 global tourism climate adaptation case studies; (3) deep dives into and interview with SCF-aligned projects and financing structures; and (4) alignment with recognized standards and toolkits (e.g., Glasgow Declaration, IUCN NbS, Gold Standard, SF-MST). Findings are distilled into actionable guidance and KPIs at the end of each core chapter and into a master KPI table for screening and monitoring.

What the report covers.

- **Part 1 – Mitigation:** Sector-specific decarbonization pathways (measurement across scopes 1–3; demand and product redesign; clean energy; electrified mobility; circularity), partnership models, and destination-level policy levers.
- **Part 2 – Adaptation & Biodiversity:** Nature-based Solutions (NbS) and ecosystem-based adaptation as investable infrastructure that reduces risk, restores ecosystem services, and differentiates market offerings; the chapter details benefits, risks, and KPIs.
- **Part 3 – Social Considerations:** Human-rights-based approaches, equity, local prosperity mechanisms, and cultural heritage protection, with social KPIs that operationalize inclusion and Free, Prior and Informed Consent (FPIC).
- **Part 4 – Investment Criteria:** A consolidated, term-sheet-ready framework (Combined KPI Table) plus "hooks" and covenants (e.g., ring-fenced sustainability funds; renewable-energy and carbon-labeling thresholds; NbS hectare targets; local employment and procurement ratios) to structure due diligence, performance management, and milestone disbursements.

- **Annexes – Financing & Valuation:** A practical menu of green-finance instruments (impact and green products, PES, biodiversity credits/offsets, Article 6.4, parametric insurance, destination carbon funds) and an overview of ecosystem-service valuation methods to unlock diversified revenue.

Key findings. The transition is underway but constrained by: (i) a shortage of investment-ready projects with clear sustainability outcomes and credible KPIs; (ii) gaps in managerial capacity to integrate climate- and nature-positive operations; and (iii) fragmented data/MRV for carbon and biodiversity outcomes. At the same time, opportunities are expanding through SCF-type blended finance, public–private–community partnerships, innovative business models (community-led, circular, low-carbon), and rising consumer and regulatory demand for verified impact.

How to use this report.

- **Investors/fund managers** can use the Combined KPI Table and term-sheet hooks to screen proposals, set conditions, align disbursements to verified outcomes, and publish concise public dashboards to counter greenwashing.
- **Developers/operators** can treat the KPIs as a design checklist to prioritize high-leverage interventions (emissions per visitor-day, renewable-energy share, hectares protected/restored, revenue-sharing, local procurement) and to build bankable MRV from day one.
- **Policymakers/DMOs** can embed the framework into national/regional/international climate, biodiversity, and development strategies to access green finance and align destination governance, product portfolios, and enabling infrastructure with measurable outcomes.

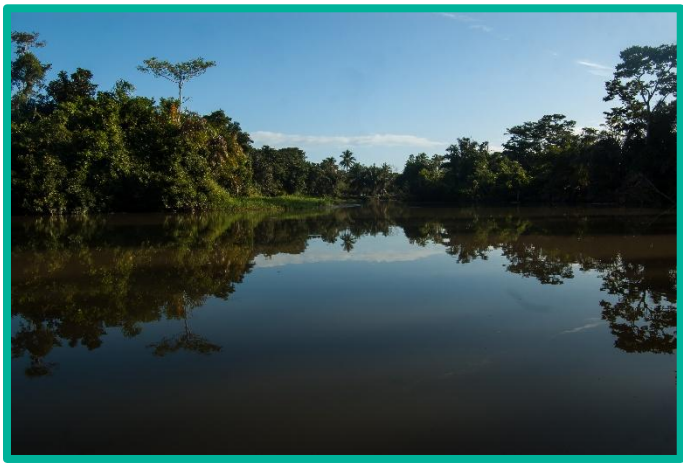
Illustrative practice. Case studies span multiple geographies and models—from nature-positive resort transformations and community prosperity covenants (e.g., Costa Rica) to climate-resilient coastal redevelopment (e.g., The Bahamas)—demonstrating replicable approaches that pair ecological restoration with brand and financial performance.

The bottom line. Tourism's climate- and nature-positive shift is both operationally feasible and strategically advantageous. Scaling it now requires investment discipline, credible measurement, locally grounded partnerships, and diversified finance. The report's framework is a ready-to-use bridge between ambition and execution—designed to move the sector beyond intent into verifiable impact, planetary stewardship, and shared prosperity.

Introduction

The Role of Tourism in Climate Change Adaptation and Mitigation

Tourism holds a unique position within the global climate challenge, being both a contributor to climate change and highly vulnerable to its impacts. Recent scientific research by the University of Queensland highlighted tourism's significant carbon footprint, estimating the sector accounted for approximately 8.8% of global carbon emissions in 2019.[iv] These emissions stem primarily from transportation, accommodations, tourism activities, and their associated supply chains. **Projections by UN Tourism and the International Transport Forum, focusing specifically on transport-related emissions, indicate that—taking 2016 levels as the baseline—CO_2e emissions from tourism transport are expected to surge by at least 25% by 2030 under the current trajectory, emphasizing an urgent need for robust mitigation strategies.[v]**



Simultaneously, the tourism sector relies intrinsically on climate and nature-dependent factors—such as predictable weather patterns, pristine natural landscapes, and healthy ecosystems—that attract visitors and sustain local communities. However, rising global temperatures, sea-level rise, global biodiversity loss, and the increasing frequency and severity of extreme weather events pose substantial threats, especially to coastal and island destinations. These environmental changes not only jeopardize the viability and appeal of tourism destinations but also the economic stability of communities dependent on tourism economies.

Significantly, 53% of Nationally Determined Contributions (NDCs) under the Paris Agreement reference tourism. Of these, 64% explicitly link tourism to adaptation measures—equivalent to about 34% of all NDCs. This demonstrates both recognition of the sector's vulnerability and its strategic importance for broader climate adaptation goals.[vi]

The interconnectedness of mitigation and adaptation in the tourism sector necessitates a dual focus. While urgent actions are required globally to significantly curb tourism-related emissions and decouple economic growth from environmental degradation, destinations, businesses, and communities must also adopt robust climate adaptation strategies. Adaptation measures are critical for enhancing the resilience of tourism destinations, enabling them to manage and respond to current and anticipated climate impacts effectively.

Tourism is exceptionally positioned to foster adaptation and resilience due to its close ties with biodiversity and its capacity for implementing innovative solutions. Effective climate adaptation strategies in tourism—such as ecosystem restoration and nature-based solutions—can yield significant co-benefits for people and nature, simultaneously enhancing the carbon sequestration capabilities of natural habitats and mitigating climate

change. Despite this potential, the financial resources and technical expertise required to implement such strategies effectively remain limited for many tourism businesses and communities.

For example, **Nature-based Solutions (NbS)**[vii] remain critically underfunded, with the United Nations Environment Programme estimating an annual financing gap of over USD 230 billion for NbS to meet global climate and biodiversity goals by 2030.[viii] Traditional public and philanthropic funding streams are insufficient to meet this scale of need, underscoring the vital role of the private sector in bridging this gap. Tourism—given its deep interdependence with healthy ecosystems—represents an untapped yet powerful vehicle for channeling private investment into climate adaptation and biodiversity conservation. Institutions that are focused on climate- and nature-related funding and investment have increasingly recognized this potential, prioritizing investment in projects that align with low-carbon development pathways and nature-positive outcomes. By structuring tourism projects to generate measurable environmental and social benefits, the sector can unlock new streams of blended finance, while simultaneously contributing to national climate commitments and building more resilient and regenerative destination economies.

NATURE-BASED SOLUTIONS (NBS) -

Actions that protect, sustainably manage, and restore natural or modified ecosystems to address societal challenges, providing both human well-being and biodiversity benefits.

Recognizing that climate mitigation and adaptation are inherently linked and integral to driving nature and climate-positive shifts within the sector, this report aims to bridge knowledge gaps by providing practical guidelines for how. Through an analysis of global private sector case studies to identify best practices, challenges, and opportunities to scale and replicate sustainable tourism models that support people and the planet, this report seeks to equip project investors and tourism developers with the tools, strategies, and insights necessary to align tourism initiatives with globally recognized climate and biodiversity frameworks. By fostering investment in climate and nature-positive tourism projects, the report supports efforts to build resilient destinations capable of thriving amid climate uncertainty, ultimately contributing to the global imperative of achieving sustainability and positive environmental and socio-economic outcomes.

The Climate Action and Nature-Positive Tourism Shift

Tourism will always generate both positive and negative impacts. These impacts have been traditionally understood according to the three traditional pillars of sustainability–economic, environmental, and social–and the trade-offs often necessary between them. **Sustainable tourism** aims to take full account of its current and future economic, social and environmental impacts whilst addressing the needs of visitors, the sector, the environment and host communities. In practice, however, these three pillars may not be given equal weight or importance. For example, a resort development near a critical watershed could create economic opportunities for the local community while adhering to socially responsible hiring practices, but its primary source of electricity generation could come from diesel resulting in polluting of the watershed.

There is increasing recognition that this traditional paradigm of sustainability is not sufficient to tackle the intertwined climate and biodiversity crises facing humanity and Planet Earth in the 21st century. Most importantly, the traditional view of sustainable systems does not recognize the interdependency of each component: an economy cannot exist without a functioning society, nor a society without a healthy environment. In our example of the resort near a watershed, this would entail prioritizing the restoration and betterment of the watershed, recognizing that long-term social and economic benefits might flow from this.

This "nested view" of systems (Figure 1) emphasizes the fundamental dependencies of the economy on social and environmental dimensions of the system in question, be it watershed, community, island, or destination. This perspective was adopted for the first time by the United Nations Statistical Commission (UNSC) at its 55th session (27 February – 1 March 2024) in its Statistical Framework for Measuring the Sustainability of Tourism (SF-MST), a critical step towards guiding member states in a more holistic measurement of tourism beyond just economic indicators.

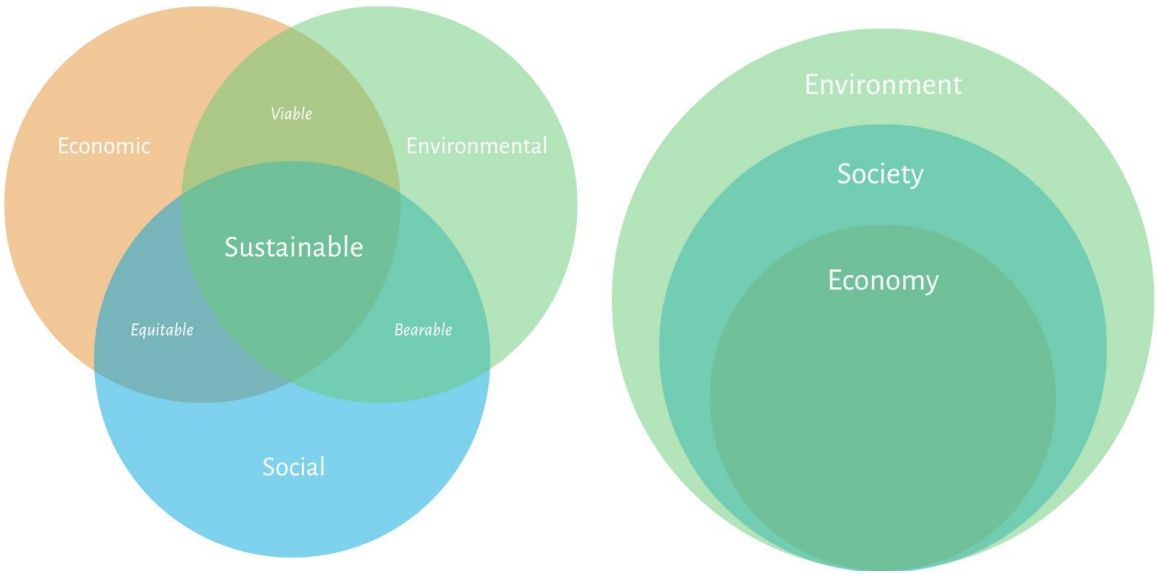


Figure 1: A traditional view of "sustainable" systems versus a "nested" view of systems.
Source: UN Tourism, 2024.[ix]

What does this mean for a climate action and nature-positive shift in tourism? Taking this nested view of systems into account, the concept of a climate and nature-positive shift is not that a tourism development or endeavor will only have net-positive impacts; rather, this shift implies that focusing on generating positive nature and climate impacts will result in greater long-term social and economic benefits for the entire system. **Climate**

action and nature-positive tourism can thus be defined as tourism that goes beyond minimizing environmental harm by actively contributing to climate mitigation, adaptation, and the protection, restoration, and regeneration of biodiversity. It involves reducing greenhouse gas emissions, enhancing ecosystem resilience, and supporting local communities through sustainable practices that ensure long-term socio-economic and ecological well-being.[x]

As this report will detail, these two investments–in nature and climate–are intertwined, and the tourism sector has an opportunity to take advantage of this connection. However, given both the urgent need and growing interest in solutions towards this shift, there has been a plethora of guidelines, frameworks, treaties, and reports outlining different elements of the climate and nature-positive shift. Rather than duplicating these efforts, this report aims to bring all these guidelines together, complimented by practical examples and case studies, to make it easier for tourism project investors and developers to align to global standards in their work towards a more sustainable future for tourism.

Drivers of Climate Action and the Nature-Positive Tourism Shift

The shift towards climate and nature-positive tourism is driven by several interrelated factors, primarily influenced by evolving consumer preferences, economic considerations, business resilience, and regulatory changes, in addition to factors mentioned previously such as extreme weather events and biodiversity loss. First and foremost, there is growing consumer demand for sustainable and responsible travel experiences. Travelers are increasingly aware of the environmental and social impacts associated with their journeys and actively seek tourism options that align with their ethical values and environmental consciousness. This demand places market pressure on tourism businesses and destinations to adopt practices that are visibly and measurably sustainable, creating a competitive advantage for those who can authentically demonstrate their commitment to nature-positive initiatives. At the same time, greater awareness of greenwashing among consumers has placed pressure on businesses to more tangibly measure and show impacts of their interventions.

Additionally, there is heightened recognition of the economic and intrinsic values inherent in biodiversity. Healthy ecosystems provide critical resources and services such as clean water, climate regulation, and biodiversity, which underpin the viability of many tourism destinations. The global value of these "**ecosystem services**" was estimated at US $125 trillion per year in 2011, contributing more than twice as much to human well-being as global GDP; however, the estimated global loss of these ecosystem services due to land use change along was also estimated at US $4.3-20.2 trillion per year.[xi] The degradation of these natural systems poses significant long-term economic risks, including diminished attractiveness to tourists and increased vulnerability to climate-induced disasters. Recognizing this, stakeholders across the tourism sector increasingly see investment in biodiversity conservation and restoration as not merely altruistic, but as essential to their financial sustainability. These include further opportunities to generate local employment and foster community entrepreneurship through nature-positive practices.

ECOSYSTEM SERVICES

The benefits people obtain from ecosystems, including provisioning services like food and water; regulating services such as flood and disease control; cultural services like recreational and spiritual benefits; and supporting services, such as nutrient cycling, that maintain the conditions for life on Earth.

For many tourism businesses and destinations, adopting cleaner energy, low-carbon, and circular economic models significantly enhances the competitiveness and resilience of tourism operations. These models can reduce operational costs through improved resource efficiency and waste reduction, thereby offering tangible economic incentives. They also serve as proactive measures to build resilience by mitigating future risks associated with climate disruptions, enabling tourism businesses to maintain continuity and stability even in the face of environmental challenges.

Finally, regulatory frameworks and international commitments such as the Paris Agreement, the Kunming-Montreal Global Biodiversity Framework, and recent advances like the UN Statistical Framework for Measuring the Sustainability of Tourism (SF-MST), are increasingly shaping the operational context of tourism. These frameworks compel stakeholders in the tourism sector to internalize environmental and climate impacts within their strategic planning and operational decision-making processes. Compliance with international standards not only fulfills regulatory obligations but also enhances brand reputation and market access to financial instruments and investors increasingly interested in investing in climate and nature positive outcomes.

These global drivers of this shift signal an incredible opportunity for the tourism sector to not only address urgent global environmental challenges but also strengthen its own economic viability, resilience, and societal relevance in a rapidly changing world.

The Pathway to Investing in Climate and Nature-Positive Tourism: Challenges and Opportunities

Challenges

Investing in climate and nature-positive tourism holds considerable potential to address global sustainability goals, yet significant challenges must be overcome to fully realize this potential. Among the primary challenges is limited awareness and expertise among developers. Many project developers lack a comprehensive understanding of the full range of benefits associated with climate and nature-positive tourism. This gap in knowledge extends into the practical aspects of designing, implementing, and managing tourism projects that genuinely align with global sustainability standards. Without this foundational expertise, many initiatives struggle to move from conceptual ideals into operational reality.

Further compounding these issues is the scarcity of investment-ready projects. The limited availability of sufficiently developed tourism projects that can effectively attract investment while simultaneously meeting

climate and nature-positive objectives represents a significant barrier. Impact-driven developers who emphasize conservation and community well-being may lack essential tourism and business acumen, and vice-versa, complicating efforts to produce scalable and commercially viable projects. Additionally, accurately measuring impacts on biodiversity and carbon emissions remains a critical challenge, further complicating efforts to attract funding and demonstrate tangible results to investors.

In line with Subnational Climate Fund (SCF) guidelines, investment-ready projects are defined by clear sustainability objectives, viable business models, measurable impacts with clearly defined key performance indicators (KPIs), robust governance and management structures, technical feasibility, active stakeholder engagement, and comprehensive risk mitigation strategies.

The tourism sector also faces a shortage of experienced management companies with specific expertise in integrating climate and nature-positive practices into their operational strategies. Such companies, whether managing their own properties or operating as third-party management firms, play a crucial role in driving sustainability initiatives within tourism businesses. The shortage is particularly acute among small and mid-sized tourism operators who frequently lack the financial resources and professional support necessary to adopt and scale sustainable practices effectively.

Another significant challenge is the lack of robust data and monitoring systems. Without sufficient data and standardized methodologies, project developers and investors find it difficult to evaluate biodiversity impacts and carbon emissions accurately. The absence of universally accepted reporting frameworks further exacerbates the issue, making it challenging to assess project success objectively and undermining investor confidence in the effectiveness of their contributions. These myriad challenges are explored further in the context of global case studies presented in this report.

Opportunities

Despite these challenges, numerous opportunities exist to promote and scale climate and nature-positive tourism investments. Notably, access to green financing mechanisms, such as those provided by the SCF, presents critical financial pathways for viable sustainable projects. Such funding avenues are specifically dedicated to fostering investments in climate and nature-positive tourism, thereby addressing some of the financial barriers faced by developers.

Public-private partnerships also offer significant opportunities to leverage diverse resources and expertise, creating collaborative platforms that enhance project outcomes and scalability. Additionally, the emergence of innovative business models—such as circular economy approaches, community-based tourism, and carbon-neutral operations—presents new ways for tourism businesses to align their operations with sustainability objectives, making them attractive to environmentally and socially conscious consumers and investors alike.

There is also a growing market demand for sustainable tourism products, which includes eco-friendly travel packages, low-carbon accommodations, and experiences that prioritize biodiversity conservation. This increasing consumer preference signals a clear economic incentive for businesses to invest in sustainability measures, demonstrating the profitability and viability of sustainable tourism initiatives. Government policies

and regulatory frameworks increasingly support this trend, providing crucial incentives and regulatory guidance that encourage adoption and compliance with sustainable practices.

Ultimately, the strategies outlined in this report provide practical guidance to help investors and businesses capitalize on these opportunities while overcoming the myriad challenges. Investors are encouraged to prioritize purposeful investments aligned with climate and nature-positive goals, focusing on creating measurable environmental, social, and economic outcomes. The insights, criteria, and KPIs provided herein serve as essential tools to guide informed investment decisions. For businesses, the methodologies detailed in this report offer robust frameworks for measuring and monitoring sustainability and Environmental, Social, and Governance (ESG) criteria, effectively communicating their impacts to investors, and positioning themselves favorably to secure funding aligned with climate and nature-positive missions.

Objectives of the Study

This study aims to explore how investments in climate and nature-positive tourism can yield environmental benefits, enhance destination resilience, and create socio-economic opportunities. Through an analysis of diverse global private-sector case studies, the study identifies best practices, elucidates key challenges, and pinpoints actionable opportunities for scaling and replicating sustainable tourism models that genuinely benefit both people and the planet. Furthermore, this research seeks to equip investors and project developers with clear, practical strategies for aligning tourism activities with climate and nature-positive goals, ensuring alignment with globally recognized sustainability frameworks.

Methodology and Data Sources

The methodology employed in this report integrates qualitative and quantitative approaches across four distinct phases to address the study objectives. These phases encompassed online surveys with tourism businesses, a comprehensive review of 30 **climate action and nature positive tourism** case studies, in-depth analysis of projects and case studies relevant to this report, and alignment and integration of global frameworks. Data collection took place between June 2022 and December 2024, with each phase later synthesized to identify key themes presented in each chapter, in line with best practices for qualitative research.[xii] The methodology for each phase is described in detail below.

NATURE POSITIVE TOURISM

Actions that protect, sustainably manage, and restore natural or modified ecosystems to address societal challenges, providing both human well-being and biodiversity benefits.

Phase 1: Online Surveys with Tourism Businesses

This phase aimed to assess global trends, challenges, and opportunities in climate and nature-positive practices through structured online surveys conducted via the platform Qualtrics and distributed to the signatories of the Glasgow Declaration on Climate Action in Tourism, which is led by UN Tourism within the framework of the One Planet Sustainable Tourism Programme. Ultimately 180 responses were gathered using purposive and snowball sampling methods. The survey had a wide range of geographic (See Figure 2) and business-type representation with the majority comprising accommodation providers but also including Destination Management

Organizations (DMOs), tour operators, community tourism associations, and NGOs operating in the tourism space. It is important to note that the survey was intended to be exploratory rather than strictly statistically representative of the tourism sector.

The survey collected critical data on how businesses engage with ecosystem management, community involvement in project planning, impact assessments related to biodiversity and carbon sequestration, and the socio-economic benefits realized by local communities. It also examined challenges businesses face, including funding, expertise, and policy support. This phase provided essential baseline insights, highlighting varied approaches businesses employ to measure and monitor their sustainability impacts and manage their carbon footprints and ecosystem services.

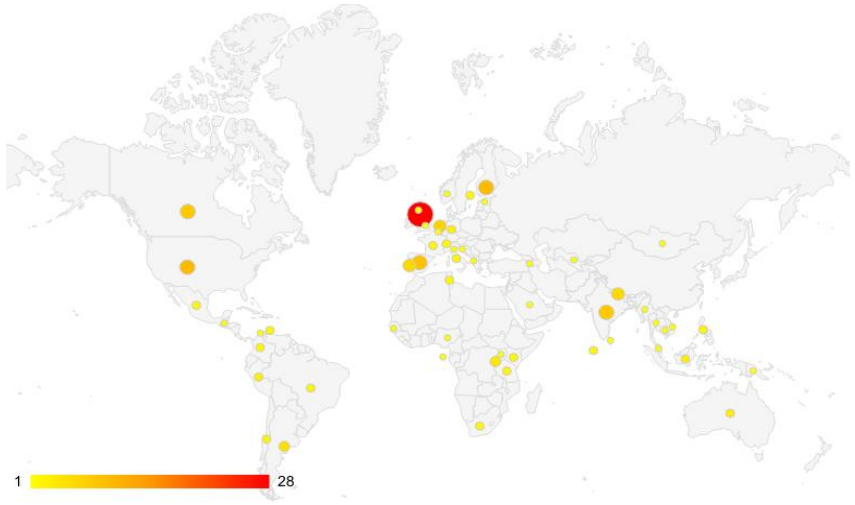


Figure 2: Geographic Distribution and Concentration of Survey Respondents

Phase 2: Review of 30 Climate Action and Nature-Positive Tourism Case Studies

In this phase, the research undertook a comprehensive review and synthesis of 30 international case studies drawn from diverse geographical terrains—mountainous, coastal, and urban environments. In some instances, these case studies overlapped with survey respondents, but the majority were selected via purposive and snowball sampling methodologies to collect novel insights. This systematic review, covering the period from 2010 to 2024, involved analyzing strategic tourism plans, national climate action plans, industry reports, news articles, and other digital sources. Expert interviews supplemented the literature review, involving stakeholders such as tourism business owners, community-based tourism specialists, non-profit professionals, and sustainable tourism consultants. Insights gathered from these case studies highlighted practical nature-based solutions, biodiversity protection efforts, carbon reduction strategies, cost-effective climate adaptation measures, and the significance of community engagement and financial resource accessibility for the successful implementation and scaling of sustainable tourism initiatives.

Phase 3: In-Depth Analysis of Relevant SCF Projects and Case Studies

This phase focused specifically on analyzing tourism projects aligned with or funded via the SCF in order to present detailed case studies of businesses that have been successful in securing green financing. A detailed

examination of several exemplary SCF-aligned projects was conducted through interviews with key stakeholders, revealing insights into project design, scalability, and execution strategies. These projects exemplified innovative financing models, including blended finance and ecosystem service payments, demonstrating their potential replicability and scalability in diverse contexts.

Phase 4: Alignment and Framework Integration

The final phase involved reviewing report recommendations to ensure consistency and alignment with established global sustainability frameworks. This alignment process integrated several key frameworks, including the UN Tourism Toolkit of Indicators for Projects (TIPs), Gold Standard Global Goals Climate Adaptation Framework, IUCN Nature-based Solutions Framework, the Glasgow Declaration on Climate Action in Tourism, Statistical Framework for Measuring the Sustainability of Tourism (SF-MST), Environmental, Social, and Governance (ESG) and Corporate Social Responsibility (CSR) criteria. This phase also referenced significant global agreements, such as the Paris Agreement and the Kunming-Montreal Biodiversity Framework, and consolidated insights into a comprehensive KPI annex to facilitate practical monitoring and evaluation for businesses and investors.

How to Use this Study

This report is structured to support tourism businesses, project developers, and investors in aligning their strategies with climate and nature-positive goals. It is divided into three core sections—**climate change mitigation**, **climate adaptation and biodiversity conservation**, and **social considerations** —each addressing a distinct but interrelated dimension of climate and nature-positive tourism. These sections provide targeted guidance, supported by global literature, real-world case studies, and results from direct engagement with tourism operators.

At the end of each core section, readers will find a dedicated **Key Performance Indicator (KPI) table**, which translates section findings into measurable outcomes for tourism stakeholders. These KPI tables are designed to help stakeholders identify and monitor climate and nature-positive contributions in tourism, benchmark progress, define investment readiness criteria, and communicate alignment with global sustainability frameworks such as the United Nations Sustainable Development Goals (SDGs), the Paris Agreement, the Kunming-Montreal Global Biodiversity Framework, and the Universal Declaration of Human Rights.

In the final part of the report, these indicators are integrated into a **Master KPI Table**, which reorganizes all metrics into seven thematic categories that are particularly relevant to tourism project planning and evaluation, including climate change mitigation, climate change adaptation and biodiversity conservation, sustainable development, enhancing resilience, meeting consumer demand, preserving cultural heritage, and economic benefits. This organizational structure enables users to quickly locate the KPIs most relevant to their project scope, business model, or investment focus. Whether used to design a new ecotourism project, evaluate an existing initiative, or guide impact reporting, this study serves as a practical and flexible reference tool for operationalizing climate and nature-positive tourism at scale.

Part 1: Tourism and Climate Change Mitigation

Overview

The travel and tourism sector is a powerful global economic engine. In 2024, it generated an estimated US$ 10.9 trillion in economic value, representing around 10% of global GDP and providing 1 in 10 jobs globally.[xiii] However, this rapid growth trajectory has come at a cost to the wider environmental system in which all tourism operates, particularly regarding climate change. Research indicates that global tourism emissions, including direct and supply chain emissions, grew 3.5% each year between 2009-2019, double that of the worldwide economy.[xiv] Despite international commitments and increased availability of technology like renewables, CO_2 emissions from tourism transport alone are still expected to rise by at least 25% by 2030.[xv] As awareness of the environmental footprint of tourism rises, there is increasing pressure on the sector to mitigate its climate impact. Urgent mitigation measures are needed to address significant emissions, resource depletion, and environmental degradation, especially in light of rising global temperatures and increasingly severe weather patterns.[xvi]

Global Tourism Industry key figures:

357 million jobs globally, approximately 1 in 10 jobs

Tourism emissions grew at double the rate of the global economy

Applying a climate- and nature-positive approach to tourism supports progress toward regional and global development goals while promoting conservation and climate action, which is understood as the efforts to measure and reduce GHG emissions and strengthen adaptive capacity to climate induced impacts.[xvii] The recent advancement of tourism in global climate spaces, such as the inclusion of “Climate Action in Tourism” in the UN Climate Change COP29 Action Agenda and Thematic Program for the first time in history, represents an important milestone for the acknowledgement of tourism as a critical economic sector with great potential to mitigate climate change.

Tourism Strategies for Climate Change Mitigation

Climate Action Planning and Emissions Reduction

A growing number of tour operators, accommodation providers, and transport companies are taking steps to measure their climate impact. A 2021 study by the Sustainable Hospitality Alliance found that 65% of hotel companies had carbon targets in place.[xviii] To date, over 850 organizations have signed The Glasgow Declaration on Climate Action in Tourism to accelerate climate action, committing to deliver plans to cut and reach Net Zero emissions as soon as possible before 2050.[xix]

The Glasgow Declaration presents five pathways for climate action plans to follow:

1. **Measure**: Measure and disclose all travel and tourism-related emissions

2. **Decarbonize**: Set and deliver science-aligned targets to accelerate tourism's decarbonization
3. **Regenerate**: Support nature's ability to draw down carbon while safeguarding biodiversity and valuable natural resources
4. **Collaborate**: Share risks and solutions with stakeholders and collaborate to optimize efficiency and outcomes
5. **Finance**: Ensure sufficient capital to execute objectives.

The Glasgow Declaration Implementation Report 2023 details useful examples and guidance tourism operators and providers can take to integrate climate action along each pathway.[xx] The first step – emissions measurement – presents challenges for the tourism sector as the value chain is complex, diverse and overlapping. In a 2021 survey which was carried out by UN Tourism for the development of the Baseline Report on Climate Action in Tourism, 1,139 respondents globally and from across the sector, 34% of respondents reported measuring their emissions, but few publicised what methodologies were used, 37% reported having an interim target for Scopes 1 and 2, and 20% reported a Scope 3 target that was distinct from their Scopes 1 and 2.[xxi]

Measurement of progress, while complex, is essential, and it's important that tourism stakeholders are equipped to understand their most material decarbonization challenges and opportunities to inform efficient, effective action toward energy and operational transitions. That said, it is essential to ensure that challenges around measurement – ultimately a tool for effective reduction – are not a barrier to climate action itself. Many surveyed businesses reported measuring Scope 1 and Scope 2 emissions but struggled to account for Scope 3. Others used dedicated tools such as Earthcheck, Path Net Zero, or free spreadsheet tools like the Greenhouse Gas Abatement Cost Model (GACMO).

EMISSIONS ARE ORGANIZED INTO THREE CATEGORIES:

- **Scope 1**: Direct emissions from owned or controlled sources (e.g. fuel combustion from company-owned vehicles on a safari)
- **Scope 2**: Emissions from the generation of purchased energy (e.g. direct heating and cooling purchased by a hotel from a utility)
- **Scope 3:** All other emissions from up- and downstream activities along the value chain (e.g. emissions from producing, processing, and transporting ingredients for use in an on-site restaurant)

Opportunities to accelerate climate action can often be found within existing tourism activities and operations, regardless of business size or segment. Some of the most material climate mitigation actions for the tourism sector center around transportation, infrastructure, and waste management. Examples of actions operators and providers can take include embracing electric or low-carbon transportation options for both tourists and staff, implementing energy-efficient systems and renewable energy solutions in hotels, airports, and other tourism facilities, and reducing waste through enhancing recycling and composting programs and eliminating or minimizing single-use plastics.

In addition to driving down emissions, implementing a climate action plan can help tourism operators and providers reduce costs, enhance reputation, mitigate regulatory risk, engage stakeholders on sustainability and climate, and ultimately contribute to global efforts to achieve international climate objectives such as those in the Paris Agreement and the UN Sustainable Development Goals (particularly Goals 11 and 13).[xxii]

It is important to acknowledge and account for inequality in tourism emissions distribution during each stage of the climate action planning process. Research indicates that the top 20 highest-emitting countries contribute 75% of global tourism emissions as well as the existence of a 100-fold gap between high-income and low-income nations in per capita tourism emissions, with high-income individuals being disproportionately responsible for outbound travel emissions.[xxiii] Incorporating equity into climate action planning can deliver co-benefits by advancing social justice, emissions reduction, and economic benefits simultaneously. Part 3 describes these strategies in more detail.

Collaboration and Partnerships

Collaborative efforts between tourism stakeholders —government bodies, academia, businesses, non-governmental organizations (NGOs), and consumers—are essential for influencing and scaling meaningful change. Examples of such value-adding opportunities include training and capacity building, facilitating access to finance and technology, partnering with local producers and suppliers, and exploring collective procurement opportunities.

A critical function of these partnerships is the sharing of knowledge, resources, and best practices to mitigate emissions and advocate for climate action. This includes an ongoing analysis of risks and opportunities as well as measurable outcomes of tactics to ensure plans are effective. Best practices for establishing and maintaining strategic partnerships include facilitating public-private-community partnerships that include employers' and workers' representatives for more holistic and inclusive destination governance, and using participatory methods like citizens' assemblies to drive engagement around the development of sustainable tourism policies. It is also important to identify stakeholders across the tourism ecosystem to design networks and platforms that facilitate knowledge sharing and regular dialogue with local residents in order to co-create sustainable tourism products and services.

CASE STUDY: WILDERNESS SAFARI

Wilderness Safaris is a leading conservation and hospitality company with operations in several African countries that focuses on creating intimate encounters between guests, nature, and culture. The company has reduced its reliance on diesel generators to power lodges and camps through strategic investments in renewable energy systems such as solar panels and batteries. In Namibia, it's estimated that solar-powered water pumps at the Hoanib Skeleton Coast and Doro Nawas camps will lead to 13,000 litres (approximately 30.2 tonnes of CO_2e) of fuel savings per year.

In addition to fostering shared commitment and accountability to destination management and sustainability, leveraging collaborative approaches to tourism development can enhance access to investment and advanced technologies and support the diversification of tourism products, ultimately contributing to a more resilient visitor economy.

Destination Management and Policy

The tourism policy domain is inherently comprehensive and cross-cutting, and governments play a key role in enabling actions to ensure tourism contributes to global climate goals such as those set in the Paris Agreement, as well as accessing public climate finance for tourism projects. Cross-governmental integration and engagement with **nationally determined contributions (NDCs)** is critical to ensure tourism policies align with national climate policies and sectoral initiatives including those focused on transport, energy, and conservation.

Guidance from UN Tourism outlines six policy levers **national tourism administrations (NTAs)** can focus on to advance climate action in tourism:[xxiv]

1. Strategy including roadmaps and action plans;
2. Regulation such as emission standards and carbon reporting;
3. Economic levers including carbon taxes and green incentives;
4. Information like GHG measurement and technology guides;
5. Education and engagement for the tourism workforce and visitors; and
6. Voluntary actions such as offsetting and restoration projects.

CASE STUDY: VISIT TAMPERE

Visit Tampere, the destination management organization (DMO) for Tampere, Finland, is dedicated to achieving carbon neutrality by 2030. It collaborated and coordinated with tourism stakeholders throughout the region to create its Regional Roadmap for Sustainable Tourism, outlining specific actions the destination as a whole will take to become carbon neutral. By setting one key goal with specific indicators, this DMO has led in steering the cooperation between businesses and the public sector while generating long-term cost savings for all.

At the local level, many Destination Management Organizations (DMOs) surveyed for this report described how they are working with both national policy and local stakeholders to create regional roadmaps for emissions reductions specific to the tourism sector. Mato Grosso do Sul Tourism Foundation in Brazil, for instance, reported working towards the certification of carbon neutral methodologies specifically relevant to the destination, while supporting one town, Bonito, to become the first Ecotourism Destination Carbon Neutral in the region. Uniting the region towards one common goal, such as Visit Tampere's goal of carbon neutrality by 2030, can create a cohesive vision for all stakeholders to work towards.

DMOs have a wide-range of tools to utilize to mitigate emissions in their region, including leading strategic planning, targeting domestic tourists, and diversifying offerings to ensure that tourism remains a stable economic driver year-round. DMOs are well-positioned to facilitate collaboration between stakeholders to co-create place-based, specific solutions to climate challenges such as scaling up electric transportation with available resources. DMOs can also provide guidance, best practices, tools, and networking opportunities to collate emissions measurement and support decarbonization efforts through a locally-informed lens.

Influence Travel Behavior and Market Demand

The effects of climate change can greatly impact tourism demand by influencing visitor comfort levels, health risks, and destination seasonality. To mitigate these impacts, tourism stakeholders can leverage strategies to create resilient tourism models that drive conservation, climate awareness, and community development.

Government organizations can invest in behavior change campaigns by supporting the development of frameworks that involve visitors in climate action activities as well as supplemental destination marketing plans that encourage these options. Actions like utilizing lower-carbon travel options such as public transportation, traveling during the off-season, and choosing plant-based menu items can help influence consumer behavior in a way that supports climate mitigation strategies. Tour operators are also well-placed to empower visitors to make more sustainable decisions, such as in the case study of Adventure Tours UK.

CASE STUDY: ADVENTURE TOURS UK

Adventure Tours UK is a tour operator focused on celebrating local and low-impact travel experiences in the United Kingdom. They have made a public commitment to become carbon neutral by 2030 primarily through a 50% reduction in Scope 3 emissions throughout their tours rather than reliance on offsets, although they continue to plant a tree for each guest that travels with them. Each small group tour is also carbon labelled to enable guests to make informed decisions about their impact. Read more about their efforts in their annual Carbon Impact Report.

According to Trip.com's 2024 Sustainable Travel Consumer Report, "92% of travelers acknowledge the importance of sustainable travel," but "less than 57% said they practiced it." Participants cited "a lack of clear understanding of the concept" when asked about their reasoning for not prioritizing sustainable travel options.[xxv] To alleviate the barriers consumers face in making informed climate choices, marketing plans should prioritize simple messaging that clarifies alternatives. They should also outline the dissemination of transparent sustainability data in multiple formats and through multiple channels to optimize reach and drive widespread awareness around sustainability initiatives.

Innovation, Carbon Removal, and Carbon Offsetting

The sector continues to explore carbon removal[1] in order to limit global warming to 1.5°C. Various methods include afforestation, reforestation, biochar introduction, wetland restoration, ocean fertilization, enhanced weathering, and Direct Air Carbon Capture and Storage (DACCS). While these methods have considerable theoretical potential, particularly in aviation and shipping through synthetic fuel production, they are currently constrained by resource competition, ecological risks, technological limitations, and voluntary adoption, rendering their role in sector-wide decarbonization by 2030 uncertain.

Sustainable Aviation Fuel (SAF)[2] has been identified as a potential tool to support the decarbonization of aviation specifically; however, its impact is dependent on the ability to scale technology, mature the market, and enhance commercial viability and infrastructure needed for broad operational use. According to the International Civil Aviation Organization, 360,000 commercial flights have used SAF at 46 different airports largely concentrated in the United States and Europe.[xxvi] SAF is made from different materials and can be blended at different levels with limits between 10% and 50%, depending on the feedstock and how the fuel is produced. Research indicates that SAF has the potential to reduce lifecycle carbon emissions by over 90% compared to conventional jet fuel.[xxvii] Scaling a commercially viable market for SAF will require diverse funding and deployment strategies to support widespread adoption, including addressing current volume and pricing challenges, exploring available technologies and feedstocks, supporting SAF accounting and certification systems, and leveraging the expertise of public and private sector stakeholders including academic institutions and corporate customers.

Carbon credits and offsetting have also emerged as market-based instruments to mitigate emissions and address climate change. The UN-REDD Programme defines **carbon offsets** as "credits issued in return for a reduction of atmospheric carbon emissions through projects such as the provision of renewable energy to replace fossil fuel energy, or reforesting cleared land to create a carbon sink."[xxviii] 47% of surveyed businesses in this study reported that they currently do not give guests the option to mitigate their carbon impact via offsets when they travel but are interested in doing so in the future. Only seven projects reported implementing carbon offset projects locally, with eight offering offsets from a third party.

Carbon offset programs allow businesses to compensate for unavoidable emissions by funding environmental projects and have gained traction as a supplemental tactic within a robust climate mitigation strategy. Through these schemes, travelers can purchase carbon credits to 'offset' carbon emissions produced from flights, ground transportation, and other activities either voluntarily or under the rules of most emissions trading schemes. One offset credit is typically denominated to represent one metric ton of CO_2e removed, reduced, or avoided.[xxix] High-quality carbon offsets can fund wildlife habitat conservation, distribute cleaner energy technologies, advance Indigenous rights and traditional resource use, and support poverty alleviation. By investing in carbon offsets and incorporating initiatives into itineraries, tour operators can allow travelers to understand their

[1] Carbon removal refers to "technologies, practices, and approaches that remove and sequester carbon dioxide from the atmosphere and durably store the carbon in geological, terrestrial, ocean reservoirs or in products."
[2] The U.S. Department of Energy defines SAF as "an alternative fuel made from non-petroleum feedstocks that reduces emissions from air transportation."

impact and local challenges and strengthen connections with places and communities, ultimately meeting the growing demand for purposeful travel while driving climate action at scale.

For carbon offsets to be a viable tool in climate-positive tourism, they must be part of a broader strategy that includes emissions reduction at the source. Industrial sectors including energy and manufacturing are increasingly using a framework known as the mitigation hierarchy to inform climate mitigation strategies.[xxx] Using the framework, a "net neutral" (e.g. no net loss) or "net positive" (e.g. net gain) goal is typically set relative to a predetermined baseline.[xxxi] The implementation process requires collaboration between national stakeholders spanning government, conservation, and development agencies and comprises four sequential actions steps: 1. Avoid; 2. Minimize; 3. Remediate; and 4. Offset.

CASE STUDY: THE YAEDA-EYASI LANDSCAPE CARBON OFFSET PROJECT

The Yaeda-Eyasi Landscape Carbon Offset Project in northern Tanzania is protecting over 270,000 acres of drylands forest in and around the Yaeda Valley and Eyasi landscape. In addition to safeguarding the land and resource rights of the Hadza and Datooga, who are among the last remaining hunter-gatherer tribes on the planet, the valley serves as a critical wildlife corridor. The project provided over $500,000 in 2022 alone to support development initiatives, creating a new stream of sustainable finance for a community of over 64,000 members.

While carbon offset programs have been recognized as cost-effective mechanisms to drive emissions reductions, they have also been criticized for their environmental integrity as well as distributional and ethical implications. Carbon offset programs face significant risks and challenges that can undermine their effectiveness and credibility and must be addressed. A key issue is **additionality**, ensuring that offset projects result in real emissions reductions beyond what would have occurred otherwise.

Permanence and reversal risks also pose concerns, as factors like wildfires, land-use changes, or project failures can release sequestered carbon back into the atmosphere. Leakage—where emissions reductions in one area led to increased emissions elsewhere—further complicates offset integrity.[xxxii] Moreover, monitoring, reporting, and verification (MRV) challenges raise concerns about the transparency and effectiveness of offset programs. Critically, offset initiatives must address environmental justice and community rights, ensuring that projects do not harm biodiversity or displace local and Indigenous communities.

Challenges and Opportunities

Mitigating tourism's contribution to climate change is complex and multi-faceted and faces significant challenges centering around sector fragmentation as well as regulatory and financial gaps. Despite these challenges, committing to and planning for a climate and nature positive future of tourism offers opportunities to transform the sector in line with the objectives of international frameworks while supporting sector sustainability over the long-term. If coordinated, science-based actions are taken to move away from material and carbon-intensive

methods of delivering tourism products, the sector can take a leading role in the just transition to a resilient, lower-carbon future. The following sections present the core challenges and opportunities for achieving this transition based on survey responses and industry research.

Challenges

High Carbon Footprint of Tourism Operations. Tourism's inherent reliance on energy-intensive industries, especially transportation, creates a significant barrier to achieving substantial carbon reductions and many in the tourism sector still struggle to track and reduce emissions effectively. Respondents cited particular challenges in measuring Scope 3 emissions despite increasingly accurate measurement of Scope 1 and 2. (see pg. 19 for breakdown of scope 1-3 emissions).

Fragmented Industry Structure. As an economic activity that involves residents and foreigners travelling to national and international destinations and consuming goods and services in different locations, it can be challenging to define the components to be incorporated in emission inventories at fractional scales. Limitations in macroeconomic and environmental accounting, particularly in developing regions, can exacerbate existing challenges around collecting and validating emissions data. The diversity of tourism stakeholders further complicates sector-wide coordination on carbon mitigation efforts as the availability of necessary resources, capital, and expertise depends on local contexts and varies greatly across tourism entities.

Regulatory and Policy Gaps. Additional obstacles to decarbonization include corporate resistance, political inaction, and technological limitations. Inconsistent regulations across regions hinder the enforcement of effective carbon reduction strategies. While some sectors and regions are making efforts, such as the European Union's pledge to cut emissions by 55% by 2030,[xxxiii] key tourism-related industries like aviation and shipping currently lack comprehensive policies. Many industries currently rely on future and/or unproven technologies, SAF, and offsetting strategies rather than direct emissions cuts. To date, innovative policy measures such as carbon taxes have been largely rejected by the industry despite their potential effectiveness.[xxxiv] However, efforts have been made by organizations like ICAO.[xxxv]

Financial Barriers. According to survey data, lack of resources presents another challenge for tourism operators and providers to achieve nature and climate goals, along with lack of knowledge and expertise, consistent with findings from other recent research.[xxxvi] Survey respondents in this report cited financial challenges such as high development costs and lack of understanding of finance possibilities as the greatest barrier in the transition to a climate-positive future (n=54). Given resource constraints, the high upfront costs for adopting and scaling initiatives like renewable energy technologies can discourage investment despite long term financial gains, especially in developing regions.[xxxvii]

Opportunities

Leverage collaboration and global frameworks in climate action planning.

Surveyed businesses almost always emphasized the importance of collaboration for successful implementation of climate-positive strategies. Many respondents saw NGOs/non-profits as core partners in their work (n=66), followed by government and public institutions (n=62), and other private businesses (n=60). Standards such as the UN SDGs were also frequently used as guiding metrics to assess their work, as reported by 26% of respondents. Initiatives like the UN Tourism-led Glasgow Declaration Initiative provide a unified direction and knowledge sharing opportunity for the sector to work toward shared climate goals through a coordinated and consistent approach.[xxxviii]

Additionally, while governments may commit to climate goals such as those agreed upon in The Paris Agreement, it is up to the private sector to help achieve them. The Paris Agreement, for example, requests that countries outline and communicate Nationally Determined Contributions (NDCs), which embody efforts to reduce national emissions and adapt to the impacts of climate change, in order to achieve its long-term goals.[xxxix] Defining demand volume thresholds in alignment with the Paris Agreement and leveraging Tourism Satellite Accounts (TSAs) and Environmentally Extended Input-Output (EEIO) models that provide useful emissions tracking data can support these strategies. Climate targets within regional/business plans should complement existing goals outside of tourism as well as those within broader national and international frameworks. At all levels, partnerships between governments, private operators, and NGOs can mobilize resources and expertise. Collaborative efforts across the tourism sector, such as shared infrastructure and supply chain decarbonization initiatives, must be coordinated and supported by an enabling environment.

Decarbonize product offerings and operations through destination management.

DMOs around the world are exemplifying leadership towards a climate-positive future. Key actions among DMOs in this research included reviewing existing product portfolios and itineraries to ensure tourism development is aligned with sustainable infrastructure; strategic planning for changes in transport, energy, and accommodation development; prioritizing transport routes and infrastructure investments that offer the highest emissions reductions; long-term workforce development plans; and integrating carbon management into product development to optimize carbon budgets relative to revenues. Improving data collection at the destination level—using bottom-up, visitor activity-based methodologies—can enhance carbon accounting and support more accurate, impactful climate strategies.

Identify opportunities to scale economic and climate co-benefits.

Climate and nature positive tourism projects are well-positioned to meet blended funding criteria through the creation of co-benefits that meet multiple policy objectives simultaneously. Climate co-benefits can be

understood as the beneficial outcomes from actions that are not directly related to climate mitigation. Examples include public health benefits from improved air quality and active travel, job creation, and biodiversity conservation through the expansion of green space. These types of co-benefits can enable destinations to gain support from key stakeholders, mobilize scarce resources across sectors, and maximize opportunities to address place-based environmental, social, and economic challenges. Specific applications of economic co-benefits for tourism operators and providers include cost savings from energy-efficient systems and renewable energy adoption as well as the potential to create new revenue streams through innovative products and services. By emphasizing these co-benefits in communications with stakeholders, climate-positive strategies can gain further support.

Capitalize on and influence consumer demand for sustainable tourism.

According to American Express' 2023 Global Travel Trends Report, 76% of respondents are interested in minimizing the environmental impact of their trips. However, businesses surveyed in this report cited greater awareness among clients and customers as the most necessary but lacking factor for an effective climate and nature-positive transition (n=46). This could signify that while interest in sustainable tourism is growing, there are still challenges in crafting the right messaging to increase awareness among visitors. Resources such as Nudge My Tour can provide businesses with specific guidelines on how to communicate more effectively to produce sustainable behavior change among visitors. Other engagement and behavior influencing tactics include targeting travelers that can reach a destination through lower carbon routes, developing carbon labeling for products, and incentivizing longer stays to grow value and reduce economic leakage without growing emissions.

Invest in the adoption and integration of innovative technologies.

Emerging technologies, such as electric transportation, energy-efficient systems, and waste-to-energy solutions, offer significant potential for reducing emissions. By leveraging digitization, operators can enhance the traveler experience while improving data collection for managing tourist flows, crowds, and destination marketing. Social media and digital platforms can raise awareness and support for local initiatives while booking platforms can promote more sustainable travel options, such as train and package travel, and help solve last-mile connectivity issues. Additionally, technology can enable better tracking of environmental impact metrics through data on nature, wildlife, and conservation efforts. To fully capitalize on these opportunities, destinations and the private sector must also prioritize building digital skills within local communities.

Explore credible carbon offset programs in a subsidiary role to source reduction.

By partnering with credible carbon offset initiatives to compensate for unavoidable emissions, businesses can capitalize on consumer sentiment toward participation in voluntary offset programs during bookings.[xl] Third-party verification through a public registry such as Gold Standard can ensure a project's integrity and that it's only being counted once. Carbon offset programs are both an opportunity and a challenge offsetting and must be complementary to real reductions in order to drive any meaningful climate action.

Expand access to capital by leveraging strategic investments and public-private partnerships

A globally coordinated effort has the potential to facilitate scaling climate finance solutions that support mitigation in tourism, and require stronger policy frameworks and improved coordination among central banks,

regulators, and international financial institutions. These entities play a key role in shaping an investment environment that attracts and directs capital toward low-carbon transitions. Standardizing financial instruments can enhance liquidity and reduce barriers to climate finance, while mechanisms such as carbon pricing can help internalize the true cost of emissions and guide investment decisions.

Given public funding limitations, with research showing that 80–90% of climate mitigation investments must come from the private sector, blended finance emerges as a powerful tool—leveraging public capital at concessionary terms to catalyze larger private financial flows.[xli] To ensure meaningful impact, climate finance must be accessible, equitable, and supportive of collaborative investment approaches across businesses and sectors. Strategic investments in the electrification of transport and accommodation, expansion of renewable energy, and development of enabling infrastructure—such as high-speed rail—can be effective investment opportunities to mitigate tourism's climate impact. By aligning global financial systems with climate priorities, enhanced access to capital can drive transformative change in the sector.

Benefits and Impact

With its far-reaching global influence touching nearly all sectors of society, tourism has the capacity to catalyze transformative change towards climate action. Tourism stakeholders can use the following as a checklist of expected short and long-term benefits they can expect from implementing the strategies discussed in this section of the report. The next section provides a detailed matrix of actions aligned with relevant global frameworks and guidelines for businesses to achieve these impacts.

Short-term Benefits

- **Reduced carbon emissions and pollution.** Actions like reducing reliance on diesel generators, embracing electric transport, and minimizing single-use plastics result in immediate improvements to air and environmental quality, lowering health risks for both residents and visitors. Cleaner environments and reduced pollution support biodiversity and ecosystem services, helping communities better adapt to climate variability and environmental shocks.
- **Short-term cost savings through energy efficiency measures.** Implementing energy-efficient systems and renewable energy strategies leads to direct operational cost savings, enhancing resilience in the short term and creating a positive feedback loop for businesses. Further, transitioning to lower-carbon operations often involves local workforce development through the creation of green jobs and increasing community participation in tourism-related activities.
- **Improved reputation for tourism companies and destinations adopting sustainable practices.** Demonstrated climate leadership can help businesses attract increasingly environmentally conscious travelers and investors, improving brand loyalty and stakeholder trust.[xlii] Moreover, cleaner environments and more sustainable infrastructure can improve the attractiveness of destinations, encouraging repeat visitation and positive word-of-mouth, which can support and sustain local economies.

Long-term Impact

- **Contribution to global climate change mitigation goals.** Alignment with international frameworks (e.g., Paris Agreement, UN Sustainable Development Goals) strengthens policy compliance and global positioning. Participation in coordinated climate initiatives opens doors to sector-wide collaboration, shared resources, and innovation pipelines.
- **Preservation of natural resources, enhancing tourism appeal and sustainability in the long run.** Research from The Travel Foundation estimates that the investment required for a net zero scenario is several trillion USD, which is no more than 3% of total tourism revenue over the same period. This research indicates an opportunity for investors to reshape tourism now and reap the benefits into the future.[xliii]
- **Resilience for tourism-dependent regions, protecting their natural resources and ecosystem services from degradation.** Emissions reductions help businesses prepare for emerging regulations and improve eligibility for sustainable finance and climate funding, which can ultimately drive destination resilience. Climate-smart innovations (e.g., carbon-labeled products, electric transport) can generate new revenue streams, support product diversification, and future proof against extreme weather events.
- **Positive impact on the wellbeing of local communities.** Climate action helps preserve the natural and cultural assets that tourism depends on, securing the long-term viability of destinations. Engaging local communities in nature-positive tourism supports inclusive development, social license to operate, and destination stewardship.

KPIs for Climate Action in Tourism

The following KPI table outlines measurable indicators specific to climate change mitigation within the tourism sector. These KPIs are designed to help businesses, project developers, and investors evaluate the extent to which tourism activities are reducing greenhouse gas emissions, improving energy efficiency, and transitioning to low-carbon operations. Aligned with international climate goals, these indicators support efforts to decouple tourism growth from emissions and contribute to national and global mitigation commitments.

CLIMATE ACTION IN TOURISM

Coordinated efforts by tourism stakeholders (governments, communities, industry) to *measure*, *reduce*, and *adapt to* greenhouse gas emissions and climate impacts across the tourism value chain.

Table 1: KPIs for Climate Action in Tourism

Indicator Name	Indicator Description	Example	Specific SDG Target	Alignment to Global Framework
GHG Emissions Measurement and Reduction	Scope 1, 2, and 3 tourism-related emissions are quantified and actively reduced using standardized methodologies.	*Achieve a 40% reduction in tourism-related carbon emissions by 2030 (baseline: 2024), measured in kg CO_2 per visitor per day.*	13.2 (Integrate climate measures)	Paris Agreement, Glasgow Declaration on Climate Action in Tourism
Renewable Energy and Efficiency	Energy consumption is actively reduced and renewable energy sources are adopted and promoted where possible.	*Reduce energy consumption per tourist accommodation by 25% by 2028, measured in kWh per guest per night.*	7.2 (Increase renewable energy), 7.3 (Energy efficiency)	Paris Agreement, Glasgow Declaration on Climate Action in Tourism
Integration into Policies and Strategies	Climate action is explicitly integrated into all tourism-related policies and strategic frameworks.	*By 2026, ensure 100% integration of climate action plans aligned with UN SDGs and national commitments into tourism policies.*	13.2 (Integrate climate measures), 12.b (Sustainable tourism policies)	Glasgow Declaration, SF-MST
Collaborative Emission Reduction Efforts	Partnerships at multiple levels (regional, national, international) are established to enhance climate action and scaling of tourism emission reduction.	*Establish collaborative frameworks by 2026 to amplify regional and international emission reduction goals.*	17.17 (Effective partnerships)	Paris Agreement, Glasgow Declaration
Measured Co-benefits for Stakeholders	Positive outcomes beyond carbon reduction, such as improved air quality, are measured and communicated clearly.	*Reduce PM2.5 emissions in key tourist areas by 20% by 2028 through electrification and emission reduction strategies.*	11.6 (Reduce air pollution), 3.9 (Reduce illnesses from pollution)	WHO Air Quality Guidelines, Glasgow Declaration
Beneficial Land Use Conversion	Tourism land is converted into regenerative or conservation landscapes.	*Convert and protect 30% of tourism-associated land into regenerative/conservation landscapes by 2030.*	15.3 (Combat desertification and restore degraded land)	Kunming-Montreal Global Biodiversity Framework, IUCN Nature-based Solutions

Expansion of Protected Areas	Tourism initiatives actively contribute to increasing protected areas, preventing forest conversion and degradation.	*Increase protected land coverage under conservation agreements by 15% by 2027.*	15.1 (Ensure conservation of terrestrial ecosystems), 15.2 (Sustainable forest management)	Kunming-Montreal Global Biodiversity Framework, Convention on Biological Diversity
Replicability and Scalability	Investment in sustainable tourism models designed to be scalable and replicable.	*Develop and implement 5 scalable sustainable tourism models by 2030, replicated in at least 3 regions.*	8.9 (Sustainable tourism contributing to economic growth), 12.b (Sustainable tourism policies)	SF-MST, Glasgow Declaration
Education and Visitor Awareness	Effective programs for visitor education and awareness on climate-positive behaviors resulting in measurable behavior change.	*Educate 100,000 tourists annually on climate-positive tourism practices through digital and on-site initiatives.*	12.8 (Awareness for sustainable development)	Glasgow Declaration, UNESCO Education for Sustainable Development
Capacity Building (Marginalized Communities)	Training tourism workers from marginalized groups in climate mitigation, adaptation, and sustainable tourism.	*Train 10,000 tourism workers from marginalized communities by 2030.*	4.7 (Education for sustainable development), 8.5 (Employment opportunities)	UN SDGs, Glasgow Declaration

Additional and Referenced Climate Action Frameworks and Tools

1. Carbon Disclosure Project (CDP)
2. Climate Action Planning Toolkit
3. Destinations at Risk: The Invisible Burden of Tourism
4. Global Reporting Initiative (GRI)
5. Gold Standard
6. The GHG Protocol
7. The Destination Management Handbook: A Guide to the Planning and Implementation of Destination Management
8. UN Tourism
    a. Climate Action in the Tourism Sector
    b. ESG Framework for Tourism Businesses
    c. Policy Guidance to Support Climate Action by National Tourism Administrations
    d. The Statistical Framework for Measuring the Sustainability of Tourism (MST)
9. United Nations: The Reducing Emissions from Deforestation and Forest Degradation (REDD+) initiative

SUBNATIONAL CLIMATE FUND

Case Studies

Six Senses Cerro Verde, Galápagos Islands, Ecuador

The Six Senses Cerro Verde project ("Cerro Verde") in the Galapagos offers a powerful example of commitment to climate and nature-positive development—while demonstrating how SCF-aligned investment can catalyze transformational tourism models in highly sensitive ecosystems.

In collaboration with a local development partner, Cerro Verde was conceived as a regenerative luxury resort designed to set a new benchmark for ecological integrity, community benefit, and commercial viability in the Galapagos, where 97% of the landmass is protected and only 3% inhabited. Historically, much of Galapagos tourism has operated through cruise-based models with limited integration of local communities or land-based conservation financing. In addition, cruise tourism in the Galápagos can harm the fragile ecosystem by increasing air and water pollution, introducing invasive species, high carbon emissions due to burning large amounts of fuel to power engines, and disrupting wildlife.

Cerro Verde, supported by SCF investment, reverses this pattern by demonstrating how exceptional ecotourism can contribute to the protection of the Galapagos while bringing the community into its conservation endeavors. The project seeks to offer an alternative to carbon intensive tourism development and unsustainable consumption patterns, increase ecosystem resilience in high-value biodiverse areas, and engage local communities and island inhabitants on climate mitigation and adaptation, all while offering a best-in-class traveler experience. By placing the reduction of invasive species and protection of endangered species at the core of value creation, the holistic ecotourism model serves as a new region-wide approach.

The project is deeply integrated with Galapagos National Park (GNP) and Biosecurity Agency (ABG) conservation priorities (such as invasive species eradication and marine species monitoring) and is designed to operate with zero footprint construction (elevated structures avoid soil compaction and habitat disturbance). The LEED-certified accommodations and related hospitality facilities are based on a thorough energy, waste, and water management system that ensures environmentally friendly and efficient use of resources that is expected to halve emissions compared to an equivalent hotel. Invasive species management, plastic-free operations, and support for species monitoring (e.g., sea lion populations, new insect monitoring programs) are embedded into the resort's management. The project aims to source local produce, thereby reducing food imports from the mainland and the associated risk of introducing invasive species on the island.

To strengthen the resilience to climate change of the project, it also applied Gold Standard's Adaptation Framework to define risk reduction measures that aim to reduce the vulnerability of the resort to risks of food and water shortages and enhance the ability of infrastructure capacity to withstand changing weather patterns.

Importantly, Cerro Verde has also prioritized inclusive community development from the outset. The project aims to build a sustainable water reservoir to deliver a long-term water supply to the community and surrounding farms. The project also funds local education, vocational training, and youth engagement, with active scholarship programs (e.g., funding a Galapagos youth's environmental engineering degree with a return-service commitment). An on-site early childhood center aims to support working families, particularly relevant to integrate women into the workforce, while community workshops and marine conservation education aim to build broad-based stewardship. Collaborative projects with GNP and ABG include citizen science, cleanup campaigns, and biodiversity awareness efforts for local youth.

Cerro Verde will be operated and branded by Six Senses. Six Senses is a global leader in climate-positive and regenerative luxury tourism, having built its brand around rigorous sustainability, wellness, and community integration standards. Across its properties worldwide, Six Senses applies science-based climate mitigation, ecosystem restoration, circular economy principles, and inclusive community partnerships to drive long-term, systemic value for both nature and local populations.

The company's Sustainability Fund model channels a percentage of revenue from each property directly into local conservation and community projects, ensuring tangible place-based impact. Initiatives range from reforestation and biodiversity monitoring to education, waste reduction, and regenerative agriculture. Six Senses properties also operate with transparent carbon measurement and reduction plans aligned with the Glasgow Declaration on Climate Action in Tourism, and aim to surpass net-zero to become climate positive through verified carbon removal and regenerative practices.

Ultimately, Cerro Verde offers an example of SCF-aligned, nature-positive tourism, demonstrating that luxury and regeneration are not mutually exclusive—and that tourism can, with the right vision and partners, generate significant co-benefits for nature, climate, and local communities in even the most ecologically sensitive destinations.

Case Study: VegVoyages: Turning Plant-Based Tourism into Scalable Climate Solutions in South Asia

VegVoyages, under the leadership of founder Zac Lovas, has emerged as a pioneering force in sustainable tourism through its "Vegan Travel Asia" platform. Rooted in grassroots community engagement, the organization is proving how responsible tourism can actively contribute to conservation, economic development, and cultural preservation across South Asia.

The organization operates a series of vegan adventure experiences that channel approximately 50% of revenue directly into community-based projects. A cornerstone of the company's ethos is the reduction of food-related emissions, a major but often overlooked source of carbon in tourism. Backed by a two-year study, VegVoyages confirmed that food is the third-largest contributor to emissions in travel (See Figure 3).[xliv] As such, the organization leads 100% vegan tours that not only align with travelers' preferences—most participants are vegan or vegetarian—but also dramatically reduce food-based carbon outputs.

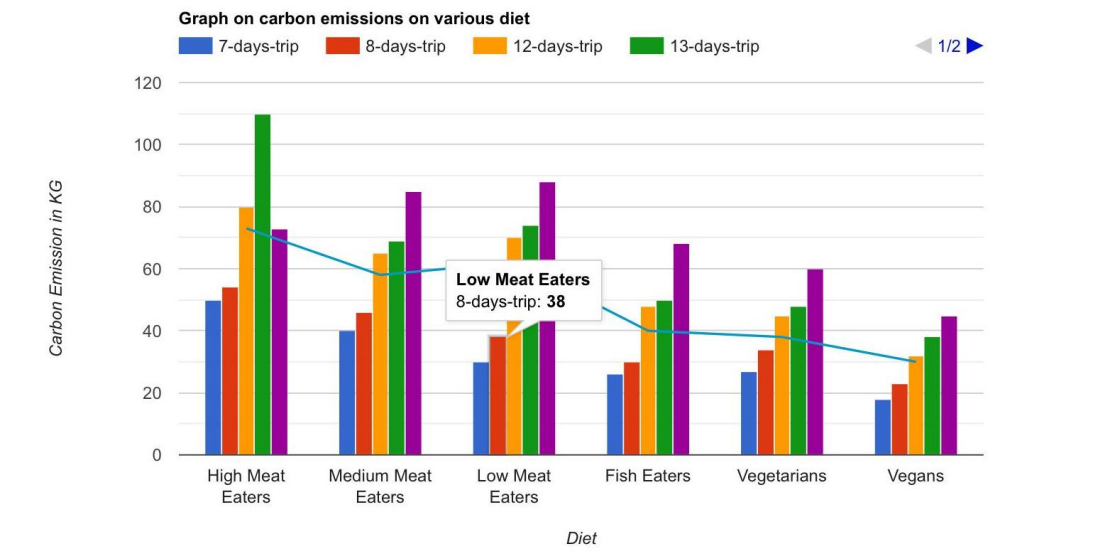


Figure 3: Graph representing the estimated food-based carbon emissions (in kilograms) based on different types of diets and trip lengths. Source: VegVoyages

In 2022, VegVoyages signed the Glasgow Declaration on Climate Action in Tourism. The organization went on to pledge to reach net zero across all trips by the end of 2025, five years earlier than the declaration. The organization leverages multi-faceted, data-driven climate strategies including the use of land transportation over flights, carbon offsetting through reforestation in conjunction with regional environmentalists and animal protectionists, and partnerships with low-impact accommodations such as homestays. By avoiding animal-based tourism activities and prioritizing local plant-based cuisine, the company has been able to significantly reduce the ecological cost of travel.

To further scale impact, the organization conducts free “Plant-Based Hospitality” workshops across South Asia. These sessions empower hotels, restaurants, and tourism operators to adopt vegan options, supported by a comprehensive guidebook and certification program. This initiative, backed by partners like The Plant Based Treaty and Animal, Climate, and Health Save India, not only supports sector-wide emissions reduction but also enhances employability for hospitality students.

Among VegVoyages' most notable projects is its electric cookstove distribution program in rural Nepal, where traditional biomass cooking is a major contributor to carbon emissions and respiratory health issues.[xlv] By replacing wood stoves with clean electric models, the organization improves health outcomes while offsetting its own tour emissions. Data collection from three villages across varying elevations has shown stove adoption rates ranging from 65% to 100%. One electric stove offsets emissions equivalent to planting 100 trees, making it a highly efficient and scalable carbon compensation model (See Figure 4).

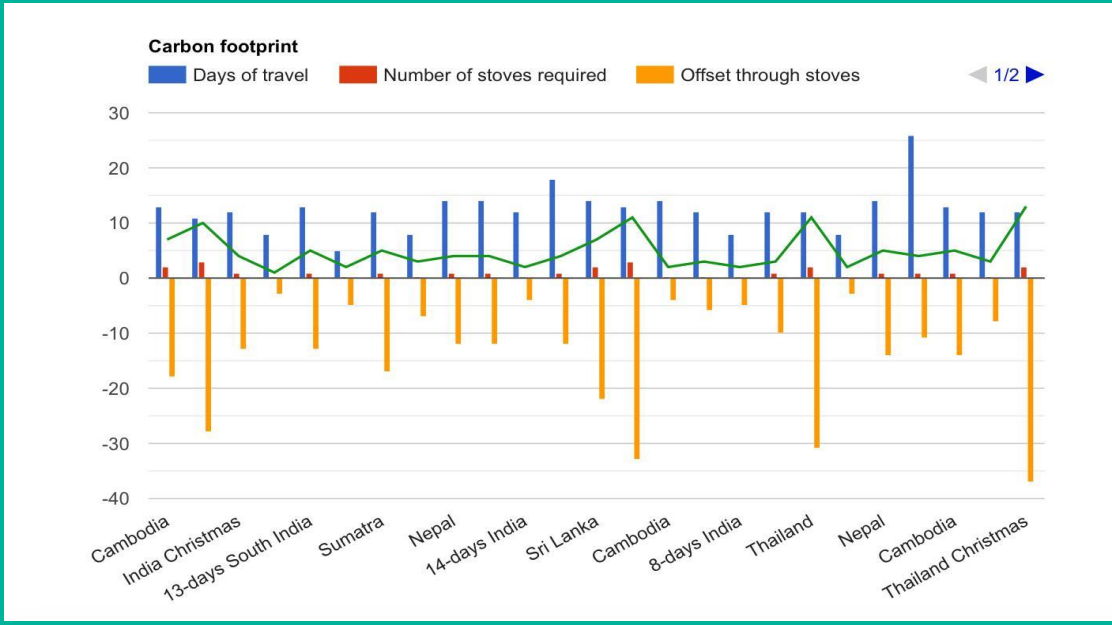


Figure 4: Offsets produced through electric cookstove implementation vs carbon footprint of travel. Source: VegVoyages

In Sri Lanka, VegVoyages is tackling the escalating human-elephant conflict through an innovative citrus tree biofencing program. Partnering with local experts and women-led farming cooperatives including the Elephant Human Coexistence Foundation, Rally for Animal Rights and Environment (RARE), Global March for Elephants and Rhinos, and the SITHAMU Female Farmers Society, over 9,000 lime trees will be planted to serve as natural deterrents for elephants while simultaneously providing farmers with income from citrus sales. This program not only aims to promote safety and elephant conservation, but also enhance local livelihoods and carbon sequestration.

With strategic investments, scalable models, rigorous data collection, and measurable environmental and social outcomes, VegVoyages offers a roadmap for how tourism can tap into niche markets and partner with communities to drive purpose-driven profitability and climate impact.

Case Study: Song Saa Reserve: A Model for Community-Led, Climate Resilient Tourism in Cambodia

Located 45 minutes from Angkor Wat, Song Saa Reserve is an ambitious sustainable development project redefining responsible high-end tourism in Siem Reap. A sister initiative to the award-winning Song Saa Private Island, the Reserve is designed to be a global benchmark for regenerative travel—merging commercial development with social equity, conservation, and climate action.

The project is driven by the Song Saa Foundation (SSF), the independently registered nonprofit arm of the Song Saa Collective. With over 25 years of on-the-ground experience in Cambodia, SSF leads the Reserve's regeneration and resilience programs rooted in deep community engagement and long-term ecological planning. These include the One Million Tree Reforestation Program—which seeks to reverse the trend of forest loss by returning 40% of the reserve to natural forest cover—large-scale wetland and lake restoration, and biodiversity rewilding.

Song Saa's story began in 2004, when co-founder Melita Koulmandas first encountered the region's environmental challenges. Years of unsustainable fishing, deforestation, and war had left many ecosystems degraded. What followed was a determined effort to integrate luxury tourism with climate resilience and community wellbeing.

The Siem Reap site—a 250-hectare parcel once covered in primary forest—was acquired from 35 separate landowners. Before any development, SSF conducted a full community audit to understand local needs and define shared goals. The team has since propagated over 250,000 native seedlings, restoring the landscape with a 95% success rate while establishing Cambodia's leading rainforest nursery, now recognized by the Ministry of Environment and the World Bank as a national demonstration site.

The Foundation also plays a key role in regional marine conservation. Song Saa was instrumental in creating Cambodia's first Marine Protected Area, which later catalyzed the development of a National Marine Park.[xlvi] Today, SSF supports local fishers through education, alternative livelihood programs, and habitat mapping—including critical seagrass beds, which are central to both biodiversity and carbon capture.

Song Saa's climate mitigation strategies span land and sea. Using the requirements under the Living Community Challenge to reduce the carbon footprint of on-site buildings and infrastructure, there are plans in place to transition from generator-based power to grid electricity and prioritizes local sourcing and emissions transparency. Seagrass and wetland ecosystems form part of a broader nature-based solution strategy, while ongoing coral reef restoration and data collection efforts support regional marine resilience.

Another focus area for Song Saa is waste management. A dedicated waste team collects and processes waste while community beach and underwater clean-ups further amplify this impact, collecting approximately 17,000 kilograms of waste across 2023 and 2024. In 2024 alone, a new infrastructure partnership enabled the team to divert nearly 1,400 kilograms of plastic to recyclers in neighboring Sihanoukville.

In order to turn the vision of regenerative and resilient design into operational reality and positive climate and community outcomes, the Foundation has facilitated strategic partnerships with organizations including the International Living Future Institute (ILFI), Bisagni Environmental Enterprise (BEE), and CBRE Cambodia. As Song Saa works to formalize KPIs, build a skills exchange center, and develop a ridge-to-lake conservation corridor, it continues to drive a movement for nature-positive travel in Cambodia that delivers returns while centering climate action, biodiversity restoration, and inclusive development.

Mitigating tourism's climate impact is not just a short-term goal but a critical long-term strategy for ensuring sector sustainability and appeal at large. Continuing current practices without intervention will likely lead to irreversible environmental damage, economic losses for destinations, increased vulnerability to natural disasters, and the degradation of the very resources that make tourism possible.[xlvii] On the other hand, embracing sustainable practices offers immense potential to reduce emissions, preserve natural resources, and create new opportunities for tourism products and services that can generate returns on an ongoing basis.

Importantly, well-designed mitigation interventions often yield substantial **adaptation co-benefits**, particularly when they are grounded in nature-based solutions. For example, restoring coastal ecosystems to sequester carbon can simultaneously buffer storm surges, reduce erosion, and protect biodiversity. Similarly, investing in low-carbon infrastructure can enhance resilience to extreme weather events while reducing long-term operational costs. These synergies highlight the importance of integrated strategies that simultaneously address mitigation and adaptation goals—strengthening the resilience of destinations, communities, and ecosystems while advancing toward climate action and nature-positive outcomes.

The tourism sector has a crucial role to play in climate change mitigation, and there is an urgent need for investment in tourism projects that are leveraging science-based policies and sector-wide cooperation to reduce emissions and take immediate climate action.

Part 2: Tourism, Climate Adaptation, and Biodiversity Conservation

Overview

The United Nations Framework Convention on Climate Change (UNFCCC) defines climate adaptation as the process of modifying socio-economic and ecological systems to address both current and anticipated impacts of climate change. This encompasses adjustments to infrastructure, practices, and processes at various scales – including regional, national, organizational, and community levels – to enhance resilience to climate-related vulnerabilities.[xlviii] However, **The Adaptation Gap Report 2023 by the United Nations Environment Program (UNEP) highlights a significant shortfall in financing for climate adaptation. According to the report, the annual funding gap for adaptation initiatives is projected to reach USD 194 - 366 billion by 2030, with required investments exceeding current global public investment by a factor of 10 to 18.**[xlix] This underscores the urgent need for increased public sector investment, as well as greater private sector engagement, in addressing climate adaptation challenges.

Adaptation costs are expected to rise exponentially by 2050 due to escalating climate impacts.[l] Current pathways outlined in the Nationally Determined Contributions (NDCs) are projected for global temperature increases of 2.4 - 2.6°C by 2100.[li] However, even with intensified mitigation efforts, residual climate risks - those that remain after comprehensive mitigation and adaptation measures - are expected to persist, posing substantial economic and non-economic challenges. These risks include infrastructure damage, loss of biodiversity, erosion of cultural heritage, and diminished Indigenous knowledge, and their severity is expected to amplify with incremental increases in global temperatures.[lii] The Adaptation Gap Report 2023 also emphasizes that vulnerable groups - such as women, low-income populations, and minorities - disproportionately bear the brunt of climate impacts. Currently, only 20% of climate adaptation plans incorporate the needs of these groups, with gender-responsive initiatives accounting for a mere 2% of adaptation spending.[liii]

In order to effectively address climate adaptation challenges therefore, it is imperative to accelerate awareness, planning, and implementation across all sectors in a manner that promotes equity and justice. While private sector contributions alone cannot bridge the adaptation finance gap, their role is critical. UNEP has identified private sector engagement, including efforts within the tourism sector, as one of seven essential pathways to meet the adaptation needs of this decade.[liv]

Tourism businesses are particularly well-positioned to spearhead adaptation efforts, both to protect their own operations, as well as to capitalize on emerging opportunities in a climate-resilient economy. Climate adaptation strategies within the tourism sector typically involve enhancing tourist infrastructure to withstand extreme weather events, reducing recovery times following climate disruptions, investing in nature-based and ecosystem-based solutions, developing innovative and resilient tourism products, and implementing marketing strategies tailored to altered seasonality and shorter-haul markets.

Interdependence Between Climate Adaptation and Biodiversity Conservation

UNEP identifies ecosystem-based adaptation – approaches that utilize ecosystem services and **Nature-based Solutions (NbS)** for climate adaptation – as essential to not only enhance resilience in a changing environment but also as a means for carbon reduction, while offering social and environmental co-benefits.[lv] Ecosystem services include benefits that humans derive from ecosystems, such as essential resources (e.g. water and medicinal products), protection from natural hazards (e.g. floods and erosion), and cultural services linked to heritage and traditions.[lvi] According to The Global Assessment Report on Biodiversity and Ecosystem Services by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), NbS could account for 37% of the global mitigation required to limit temperature increases to 2°C by 2030, in addition to supporting climate adaptation goals.[lvii]

Against this context, nature-positive tourism – through its deployment of ecosystem-based adaptation and NbS – is perfectly poised to contribute simultaneously to climate adaptation, biodiversity protection, and carbon reduction, while also addressing climate risk in tourism. When implemented effectively, such solutions align with and advance multiple SDGs , including SDG 13 (climate action), SDG 12 (responsible consumption and production), SDG 11 (sustainable cities and communities), SDG 8 (decent work and economic growth), and SDG 3 (good health and well-being).

Tourism Strategies for Climate Adaptation and Biodiversity Conservation

Adoption of Nature-based Solutions and ecosystem-based adaptation strategies

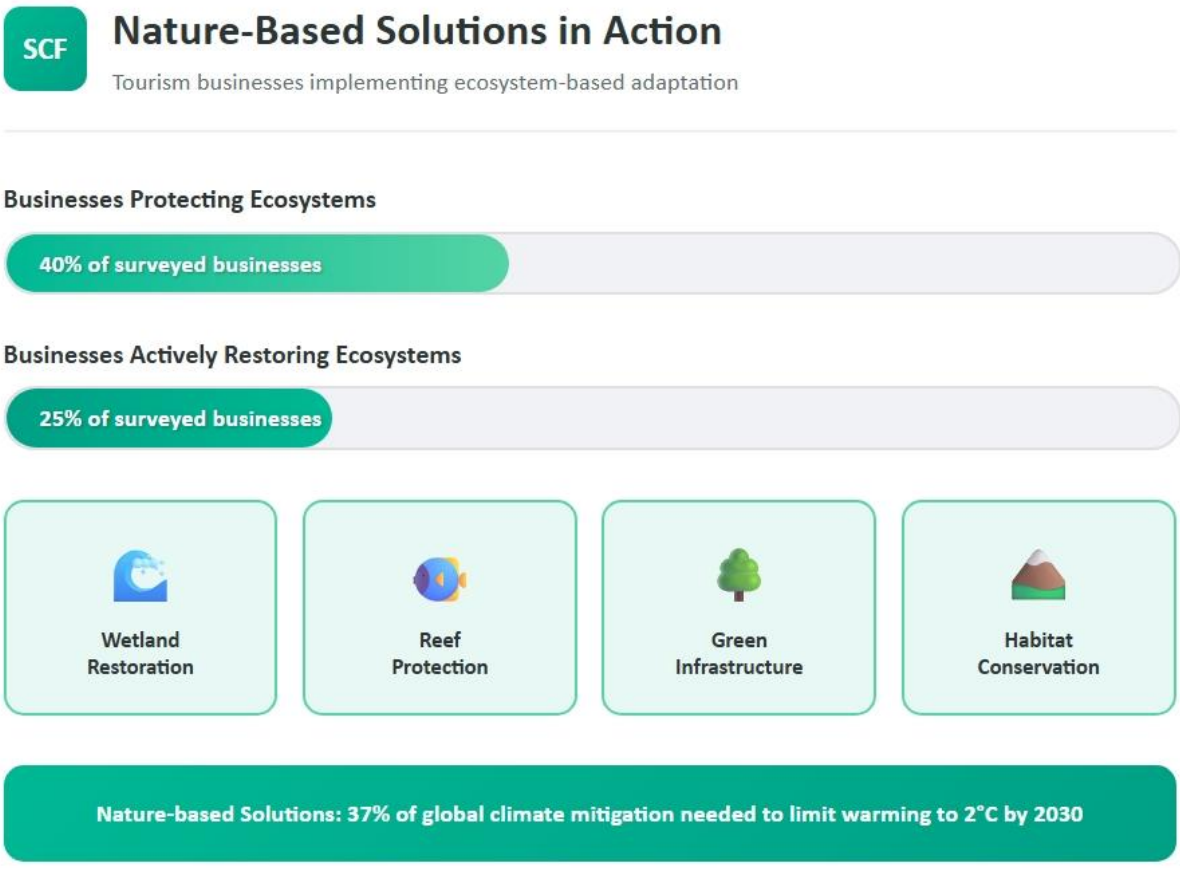
Research at the nexus of tourism and climate change has consistently highlighted the detrimental impacts of climate change on the tourism sector. Coastal destinations in particular are likely to lose appeal due to factors such as species extinction, landscape degradation, increased discomfort from hotter or wetter conditions, and infrastructure damage.[lviii] In an analysis of the vulnerability of beach tourism across 51 countries, researchers found that large industrializing nations like India and Indonesia face the highest risks due to their significant exposure to climate impacts and limited adaptive capacity.[lix] Small island states, including the Maldives and Antigua & Barbuda, were also identified as highly vulnerable.

Additional research for the International Monetary Fund (IMF) examined the effects of climate change on tourism revenue in 15 Caribbean nations, finding that increased climate vulnerability already exerts a statistically significant negative impact, with every 10% rise in vulnerability leading to a 10% reduction in tourism's GDP contribution.[lx] This effect is compounded by the growing frequency of extreme weather events.

Figure Source: Cevik and Ghazanchyan (2021)

Collectively, this body of literature underscores the urgent need for the tourism sector to implement adaptive strategies to mitigate current and anticipated climate impacts, ensuring the long-term viability of tourism and the livelihoods it supports.

Nature-based Solutions and ecosystem-based adaptation strategies, such as wetland restoration, reef protection, and green infrastructure, offer a unique opportunity to tourism businesses to adapt to the projected impacts of climate change, while also contributing to destination resilience, and unlocking new opportunities for tourism itself. Over 40% of surveyed businesses in this research reported implementing actions that protected ecosystems and 25% actively restoring ecosystems. In order to adopt such strategies, however, tourism businesses must first conduct a climate risk vulnerability assessment with an expert agency, and develop a risk mitigation plan. A roadmap of SMART (specific, measurable, achievable, relevant, and time-bound) goals, and allocation of funds and human resources, can be helpful in identifying and implementing solutions to help restore local and natural ecosystems. It is essential to build in interval-based monitoring and assessment into the roadmap, in order to ensure the longevity of the implemented solutions.



Over the long run, local ecosystem restoration strategies also offer co-benefits for the local ecology and community, through the restoration of vital marine and land habitats, local weather control, and improved micro-climate.

Through the creation of more desirable natural areas, they open up new opportunities for tourism activities, and are more likely to draw an increasing niche of conscious travelers while delivering social benefits. Surveyed businesses reported a multitude of co-benefits as a result of nature-positive initiatives including poverty alleviation and employment (n=75), preservation of cultural and natural heritage (n=71), enhanced education opportunities (n=59), and improved human health and well-being (n=45) (See Figure 5).

Figure 5: Reported co-benefits from nature-positive interventions according to survey respondents.

Engaging in and monitoring initiatives to protect local and regional biodiversity

Nature-based tourism is closely linked to biodiversity protection, especially in biodiversity-rich landscapes and marine ecosystems, which tend to be the main draw for travellers visiting these regions. Biodiversity protection initiatives by tourism businesses typically include habitat conservation, reforestation, and sustainable land management. Opportunities are also available to businesses operating in urban areas, with resources like the EU Urban Greening Platform available to provide ideas and strategies. Measurement and monitoring of the outcomes of these initiatives are key. Only 24 surveyed businesses reported engaging guests directly in the monitoring of biodiversity, but countless tools are also available to assist businesses and visitors in monitoring long-term project outcomes such as eBioAtlas or RESTOR. Engaging in these initiatives, large or small, is essential to ensure the wider environmental system in which tourism operates can continue to thrive and provide the basis for a healthy society and economy.

Measuring direct and indirect impacts on nature

Biodiversity protection does not just happen by protecting local forests or restoring coral reefs, however. The World Travel and Tourism Council's (WTTC) Nature Positive Initiative recommends all businesses start by cataloguing their direct and indirect operations and the ways in which they may rely on or impact nature.[lxi] Following this scoping, businesses can begin to assess their operational dependencies and impacts on nature, including potential business risks. WTTC recommends considering the five main drivers of biodiversity loss as a starting point– including changing use of sea and land, direct exploitation of organisms, climate change, pollution, and invasive species–and mapping these against itemized direct and indirect operations. Understanding these impacts all the way up the supply chain can help businesses create a powerful nature-positive action plan.

Designing nature-positive interventions with societal solutions in mind

The implementation of Nature-based Solutions should be designed with communities in mind. The first criteria of the IUCN Global Standard for NbS is that solutions be designed to effectively address societal challenges, from freshwater availability to climate risk to human health. Thus, prior to any nature-positive intervention, community consultation and, ideally, community-led project design is essential. **Survey respondents strongly agreed that community participation made nature-positive projects more successful, with 32% reporting that local stakeholders collaborated in the conception, co-design, and execution of activities, while 15% reported stakeholders were only consulted for feedback on pre-conceived ideas.** Designing processes for continuous community feedback and engagement is key, as well as continuously measuring and communicating the social co-benefits derived from the project.

CASE STUDY: THOMPSON OKANAGAN TOURISM ASSOCIATION (TOTA)

(TOTA) is partnering with community organisations that are already working in the area or involved in restoration of Antelope Brush habitat. The goal is to increase the involvement of community organisations in nature-based solutions to climate change, mitigate habitat loss due to human impact and restore impacted habitat while providing regenerative tourism opportunities. The intention is to provide backbone support and planning development for a "shovel ready" project that could apply for funding to support. Through the partnerships created for this project the intention is to create opportunities to engage tourism in habitat restoration activities, provide an economic rationale for habitat restoration work and to involve visitors and residents in the restoration of rare and endangered habitat in Canada. By putting partnerships in place, creating hands on restoration activities for visitors and residents and developing a plan that is ready for funding applications, we can impact successful long-term regeneration of Antelope Brush Habitat in the South Okanagan Valley.

Carbon mitigation efforts that simultaneously protect against climate impacts

As tourism businesses take on voluntary, demand-driven or policy-driven carbon footprint measurement and reduction efforts, offset plans based on nature protection or restoration can not only meet carbon mitigation goals, but also provide benefits for climate resilience, and protection of resources for local communities. Efforts like seagrass restoration improve marine habitats, create opportunities for improved water-based tourism, build local defense against floods and other climate impacts, and also mitigate carbon by enhancing ocean carbon storage. As noted in Part 1, however, these initiatives have to be carefully considered and implemented to understand potential impacts and trade-offs, and are not a replacement for a reduction in emissions or avoided impacts on biodiversity.

Challenges and Opportunities

Through the analysis of survey results, global tourism case studies, and stakeholder interviews, major challenges and opportunities were noted in the identification and implementation of biodiversity protection, climate adaptation, and nature-positive tourism strategies. The challenges primarily revolved around financing, technological, and regulatory support for tourism businesses, as well as knowledge gaps within the tourism sector. However, with high potential to be scaled and replicated, nature-positive tourism also presents a wide range of opportunities for the tourism sector, including sector engagement, public-private collaboration, co-benefits for biodiversity protection and community livelihoods, and emerging financial instruments.

Challenges

Financial constraints

Limited access to financing for tourism-related adaptation projects, especially in developing regions. Businesses surveyed indicated that securing financing for nature-positive initiatives is a prevalent challenge. Many relied on their own business revenue to fund initiatives (n=58), followed by individual buyers (i.e. guest fees/taxes, voluntary donations, product purchases, etc.) (n=44). Fewer are accessing NGO grants (n=26), public-private financing (n=21), or impact investing (n=15).

With funding support for tourism businesses still largely reliant on growth and volume metrics, tourism-related adaptation and biodiversity projects lack a strong business case. Current nature-based or green infrastructure investments to prevent future economic losses due to climate impacts are only likely to show financial returns in the long run. Green taxonomies – tools that help classify investments as sustainable or aligned with environmental needs – for tourism-based biodiversity conservation or climate adaptation projects remain missing from national tourism strategies and climate adaptation plans. Green financing frameworks, like blended finance or concessional plans are needed to allow tourism projects to embrace long-term climate adaptation measures.

Difficulty in quantifying and monetizing the value of ecosystem services, which creates barriers to securing investments.

Limited knowledge sharing systems within the tourism sector, and limited cross-sector interaction to share tools to determine the economic value of ecosystem services, make it difficult for tourism businesses to leverage the financial value of Nature-based Solutions and ecosystem adaptation initiatives. Investments in biodiversity protection and conservation must be made in the short term, in order to reap nature-positive impacts. However, banks and lenders often tend to evaluate projects based on short term return over long term risks.

Additionally, intangible values of these ecosystems–such as cultural, recreational, educational, or research values may be difficult to quantify and communicate to investors. On the other hand, communities may not understand why there is such a high financial value attributed to the “carbon sequestration” potential of a culturally important forest. Understanding the audience in communicating the ecosystem service value is key. A list and application of potential ecosystem service valuation methods is included in the Annex of this report.

Technical and Technological Gaps

Lack of technical expertise to design and implement nature-based solutions effectively.

Training in the tourism sector, from tourism management schools to mid and senior management, remains focused on conventional metrics like revenue growth, team management and financial risk. The lack of qualified personnel and human resources to understand the interlinkages between tourism and Nature-based Solutions, and Nature-based Solutions and climate risk, has restricted the larger sector from taking large scale measures to implement ecosystem-based adaptation actions with co-benefits for carbon mitigation and local communities. Training, reskilling, capacity building and specialized courses can address the lack of technical expertise needed to identify localized opportunities to implement nature-positive tourism strategies.

Limited availability of innovative technologies tailored to ecosystem-based adaptation in tourism.

The marked lack of tourism’s inclusion in climate change conversation and conferences over the years has created a

wide gap in technological innovation geared towards protection and restoration of vital land and marine habitats through tourism. Especially since Nature-based Solutions can be prone to maladaptation – actions intended to reduce vulnerability to climate change, but which instead cause unintended negative consequences for local communities and/or ecological systems[lxii]– monitoring and assessment technology to oversee implementation are vital. Increased public or private investment in R&D for ecosystem-based adaptation strategies in tourism can ensure that climate risk in tourism is minimized in the long run, while contributing to climate adaptation, mitigation and resilience.

Policy and Regulatory Issues

Insufficient integration of tourism into national climate adaptation plans and policies.

Among the diverse destination geographies analyzed in Phase 2, tourism was found to make substantial contributions to GDP and employment. However, the sector was largely overlooked in national climate adaptation plans or strategies, receiving little or no mention. For instance, some national adaptation plans makes broad references to the tourism sector without detailing specific adaptation measures, or its potential in providing adaptation funding. A global platform to share open-source solutions and facilitate knowledge exchange, could support tourism businesses in adapting effectively while addressing the adaptation finance gap, and creating new opportunities within the sector.

Regulatory hurdles and lack of incentives for tourism businesses to adopt adaptation strategies.

Private investment in tourism is largely geared towards short-term economic return. Public incentives for green infrastructure and ecosystem protection could accelerate the adoption of adaptation strategies in tourism. Regulatory oversight and knowledge sharing to build tourism-linked carbon markets could further incentivize tourism businesses to scale up investments in habitat restoration, biodiversity conservation and other adaptation initiatives.

Knowledge and Awareness Gaps

Lack of awareness among tourism businesses about the benefits of adaptation and biodiversity conservation.

Tourism businesses often tend to be strapped for resources, finances and knowledge beyond economic sustenance, leading to a lack of awareness as to how nature-positive tourism strategies can reduce long term climate risk, support carbon reduction, and provide local ecological and social benefits. In the absence of a climate risk assessment, opportunities for Nature-based Solutions and ecosystem-based adaptation are hard to identify and leverage. Training through sector alliances, starter resources, and expert workshops and seminars can help address this knowledge gap.

Challenges in disseminating best practices and successful case studies to guide sector efforts. Tourism businesses globally often tend to operate in a silos, competing with similar businesses instead of collaborating for common gains. Climate action-based collaborations and networking sessions within local industry bodies can allow the dissemination of best practices. On a regional, national and international scale, the creation of sector alliances to share successful climate adaptation case studies, based on geographical context, can inspire concrete action to protect biodiversity and vulnerable habitats through tourism.

Opportunities

CASE STUDY: THOMPSON OKANAGAN TOURISM ASSOCIATION (TOTA)

In Djerba, Tunisia, a new sustainable tourism product is emerging around the ancestral fixed fishing technique known as the zarba (زرايب), rooted in the Borj Jilij region. This traditional method forms a cornerstone of marine ecosystem conservation on the island. Through the Sea Djerba Up project, local stakeholders—including AC2D, the Groupement des Zrayeb de Djerba, and the Jlij Association—are collaborating to preserve this cultural heritage while promoting biodiversity.

A landmark partnership was established to monitor marine biodiversity and officially register the Hut of the Garlands as a certified label with INNORPI, enhancing market value for sustainably harvested marine products. Efforts also include infrastructure support and material provision, such as fifty thousand palm newspapers from Gabes oases to maintain zarba sheds. This initiative highlights how traditional knowledge, community stewardship, and sustainable tourism can converge to protect fragile marine environments and enrich local livelihoods.

Engage the tourism sector to drive conservation efforts driven by demand or risk.

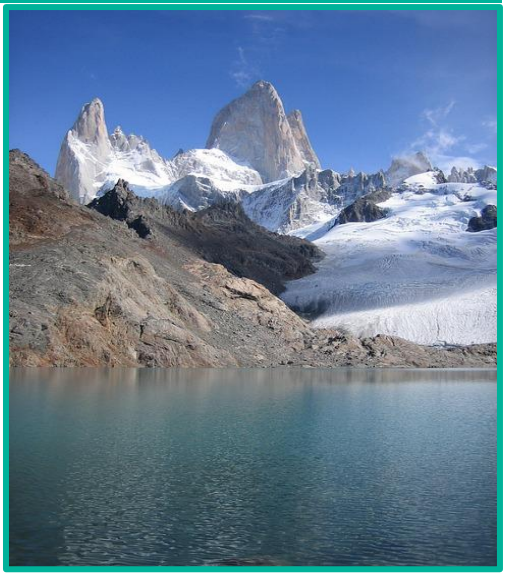
Many tourism businesses around the world are already involved in protecting, managing, and restoring ecosystems, offering a foundation for scaling efforts based on similar geographic terrains and local contexts. These voluntary efforts are largely risk-driven or demand-driven, and can potentially be scaled through regional and national sector alliances, as well as global knowledge sharing. Destination Management Organizations (DMOs) can be mandated to take the lead in engaging the tourism sector in climate action and habitat protection.

Create co-benefits for biodiversity protection and local livelihoods.

Climate adaptation initiatives in tourism can simultaneously support biodiversity conservation and local livelihoods, creating multi-dimensional value. Climate risk in tourism is deemed to have the greatest impact on tourism supply chains, as well as economic losses due to extreme weather events. Co-benefits of climate adaptation strategies include ecosystem services to protect against climate-accelerated natural disasters, and protection of jobs within the community through the localization of supply chains.

CASE STUDY: EXPLORA

Explora is an expedition company operating in the Patagonia region of Chile since 1993. Explora is redefining high-end adventure tourism through its stewardship of the Torres del Paine Conservation Reserve—a 6,000-hectare private protected area adjacent to the national park. Once degraded land, the reserve is being ecologically restored in partnership with Rewilding Chile to recover native flora and fauna, including the endangered huemul deer.



Guests at Explora actively participate in low-impact explorations that follow strict conservation guidelines, while supporting scientific research and habitat monitoring. The reserve also integrates local gaucho culture into its tourism offerings, helping preserve traditional knowledge and livelihoods. The project was developed and is continuously monitored using the Open Standards for Conservation Methodology, ensuring long-term monitoring of project outcomes. livelihoods.

Forge collaborations among public, private and non-profit stakeholders.

Partnerships among governments, private sector stakeholders and NGOs can mobilize resources and expertise for adaptation projects. Since climate adaptation strategies tend to be replicable across similar geographical terrains, facilitation of knowledge sharing through public-private partnerships can accelerate their adoption and adaptation to local contexts. Collaborations can also be forged to enable sharing of technological innovation between the Global North and Global South, for instance advanced weather monitoring in mountain areas can reduce climate risk in tourism in the Alps as much as in the Himalayas.

Respond to growing demand among travelers for sustainable tourism.

The growing demand among travelers for sustainable and eco-conscious travel experiences provides a market incentive for adaptation-focused tourism initiatives. According to research conducted by online travel aggregator Booking.com, among 31,000 travelers from 34 countries, 83% of respondents highlighted that sustainable travel is important to them.[lxiii] The growing market of conscious consumers, especially among Gen Z, has the potential to accelerate demand-based action within the tourism sector. Many surveyed businesses reported that guests are informed or educated about their work with nature (n=83), but fewer reported that guests have a way of becoming directly involved in the project (i.e. via tree planting) (n=51) or donate directly to the implementation of the project (n=49), with fewer still noting guests provide data to help manage the project (ie citizen science, logging of key species, etc) (n=24). This is a potential area of opportunity for tourism businesses.

Explore new avenues for funding in tourism to support climate adaptation and conservation.

The current lack of awareness, access, and tourism-adapted funding mechanisms presents an opportunity for

emerging financing instruments, including biodiversity offsetting, payments for ecosystem service, and green bonds. These new avenues for funding can be adapted early on to the tourism context, especially through blended finance and concessional funding, given the nature of long-term returns on climate adaptation initiatives in tourism. Potential funding opportunities are explored in the Annex of this report.

Benefits and Impacts

Tourism businesses and destinations are increasingly investing in nature-positive tourism strategies, with more resources than ever available to help implement them. However, significant headway is still to be made as large-scale biodiversity loss continues around the globe. Tourism has a core role to play in both action and education for a nature-positive future. Businesses can use the following checklist of benefits they can hope to see in the short and long-term by implementing these strategies outlined in the report.

Short-term Benefits

- **Improved resilience of tourism infrastructure to extreme weather events.** Through the implementation of green infrastructure, including retrofitting hotel roofs with green roofs and creating biodiversity habitats within existing infrastructure, tourism businesses can benefit from improvements in the local micro-climate, as well as increased pollination. Adoption of Nature-based Solutions, like restoring local wetlands or protecting seagrass, can reduce their vulnerability to extreme weather events like cyclones and flooding.
- **Creation of enhanced nature-based tourism offerings to draw conscious travelers.** Investments in biodiversity conservation and restoration create richer marine and terrestrial habitats, and in turn more appealing tourism offerings for travelers. For instance, reforestation initiatives can lead to the creation of forest-bathing and birdwatching trails, while coral restoration can provide better opportunities for snorkeling and diving. Engaging nature-based visitor experiences helps draw more conscious travelers, the benefits of which spread across the destination.
- **Reduced costs for tourism operators due to energy-efficient infrastructure and lower operational overheads.** Nature-based adaptations, like energy-efficient infrastructure to reduce electricity and energy use, and water management systems to reduce water use and wastage, result in lower operational costs in the short term, gradually paying for the investment through daily cost savings. Reduced climate risk, and lower vulnerability to disruptive weather events offer cost savings in the form of reduced economic losses.
- **Increased community engagement through food security and alternate livelihoods.** The impact of tourism beyond its boundaries, for instance through climate adaptation programs that benefit the broader community and local ecology, fosters stronger community ties through the protection of their natural and cultural heritage. Using tourism as a tool to support disaster recovery and green jobs enhances local livelihoods, while agriculture-based tourism projects enable food security and alternate livelihoods for vulnerable communities.

Long-term Impact

- **Long term benefits for biodiversity and cultural preservation through enhanced ecosystem services.** Protection and restoration of land and water ecosystems, such as water shed management and reef protection, provide long-term benefits like carbon sequestration, water security, storm protection and

improved biodiversity habitats. For local and Indigenous communities whose traditions are often linked to natural resources, these ecosystem benefits extend to cultural services that protect living cultures.

- **Economic sustenance for local communities through sustainable nature-based livelihoods.** Local communities, especially in the Developing countries, are some of the most vulnerable to climate change, despite having some of the lowest per capita emissions. Investments in adaptation and biodiversity conservation ensure sustainable livelihoods by supporting resilient agriculture, fisheries, and nature-based tourism. This checks migration to cities in search of income opportunities, and prevents local communities from becoming climate refugees.
- **Strengthened destination resilience through resilient infrastructure and diversified tourism offerings.** When tourism destinations - especially those that rely heavily on tourism revenues to support their economy - integrate climate adaptation strategies into their tourism plans, they become better positioned to thrive amidst climate change. Destination resilience takes the form of resilient infrastructure to withstand extreme weather events, diversified tourism offerings to cope with the loss of natural resources like glaciers due to warming, and Nature-based Solutions to protect and restore vital terrestrial and marine habitats to reduce vulnerability to natural disasters. Strengthened resilience helps secure the economic and environmental futures of tourism-centric destinations.

KPIs for Nature-Positive Tourism

This section provides key performance indicators to assess how tourism contributes to climate adaptation and the conservation or restoration of biodiversity. These KPIs are grounded in Nature-based Solutions and ecosystem-based adaptation principles and are designed to capture both environmental and socio-economic outcomes. They support tourism stakeholders in enhancing ecosystem resilience, protecting natural assets, and integrating adaptive practices into project design and destination management.

Table 2: KPIs for Nature-Positive Tourism

Indicator Name	Indicator Description	Example	SDG Target	IUCN NbS Criteria	GBF Target
Protect, manage, restore, and monitor local and regional biodiversity	Engage in local initiatives that support and monitor biodiversity restoration and conservation projects connected to tourism activities.	*Increase protected sea turtle nesting sites in coastal tourism zones by 40% by 2030, through seasonal monitoring and habitat protection.*	14.2, 15.5	Criterion 2: Design at scale; Criterion 4: Net gain to biodiversity	Target 3 (30x30), Target 1 (spatial planning)
Measure direct and indirect impacts on nature and create an action plan	Conduct biodiversity footprint assessments across operations and supply chains and develop site-specific mitigation plans.	*Complete biodiversity risk assessments for 100% of tourism properties by 2026, and implement mitigation plans for high-impact sites.*	12.6, 15.1	Criterion 1: Address societal challenges; Criterion 3: Biodiversity net gain	Target 15 (corporate reporting), Target 14 (mainstreaming)
Design nature-positive interventions with societal solutions in mind	Co-develop restoration or conservation interventions with local communities with the aim of addressing pressing societal challenges, establishing processes for continuous community engagement and monitoring social co-benefits.	*Implement mangrove restoration co-managed with coastal communities to regenerate 50 hectares by 2028, supporting both biodiversity and livelihoods.*	1.4, 15.9	Criterion 5: Inclusive governance; Criterion 6: Equitable participation	Target 9 (benefits for people), Target 22 (gender equity, IPLC participation)
Diversify revenue streams to enhance business resilience through green financing schemes	Use conservation-linked financing models to buffer tourism businesses against environmental and market volatility and increase the long-term viability of nature-positive projects.	*Establish a biodiversity conservation levy in protected area tourism sites to raise USD $1 million annually by 2030 for habitat restoration.*	8.3, 17.3	Criterion 8: Sustainable finance; Criterion 7: Adaptive management	Target 19 (finance for biodiversity), Target 18 (incentives and subsidies)

Define and communicate the value of the ecosystem services being protected or restored	Use ecosystem service valuation methodologies to guide investments and raise awareness among stakeholders and tourists.	*By 2027, quantify and communicate the carbon sequestration and water filtration value of forest ecosystems across 10 tourism destinations using TEEB-aligned methodology.*	12.8, 15.1	Criterion 1: Societal challenge; Criterion 4: Net biodiversity gain	Target 14 (mainstream biodiversity), Target 15 (disclosure and valuation)
Integrate efforts into national and international tourism climate action/adaptation plans and policies	Align nature-positive tourism projects with national climate adaptation priorities and global biodiversity and climate frameworks.	*Ensure that by 2026, 100% of destination tourism strategies in coastal regions align with National Adaptation Plans (NAPs) and include ecosystem-based adaptation actions.*	13.2, 12.b	Criterion 9: Mainstreaming into policy	Target 1 (planning), Target 11 (ecosystem restoration), Target 13 (climate resilience)
Build partnerships and collaborations to inform management, monitoring, and reporting	Engage with academic, policy, and civil society partners to design indicators and monitor biodiversity and climate adaptation results.	*Partner with three national universities by 2025 to co-develop monitoring systems for coral reef recovery in marine tourism zones.*	17.17, 15.a	Criterion 5: Inclusive governance; Criterion 10: Evidence-based design	Target 21 (knowledge and data), Target 20 (capacity building)

Additional Nature Positive Action Frameworks and Tools

1. Biosphere Tourism (by the Responsible Tourism Institute)
2. CIWA Biodiversity and Conservation Framework (supported by World Bank)
3. Climate Action Through Regeneration: The Power of Communities and Nature in Tourism White Paper (contextualizing the Nature-based Solutions guidelines for tourism operators)
4. Gold Standard Adaptation Framework
5. Green Globe International Standard for Sustainable Tourism
6. GSTC Industry Criteria for Hotels - Section D3: Conserving biodiversity, ecosystems and landscapes
7. IUCN Nature-based Solutions Self-Assessment Tool
8. Kunming-Montreal Global Biodiversity Framework
9. Nature Positive Travel and Tourism Toolbox by WTTC
10. Nature Positive Travel & Tourism (WTTC) Pathway to Net Positive Hospitality
11. The Global Ecosphere Retreat® standard
12. The Long Run: 4Cs framework

Case Studies

Case Study: Agrotourism to promote food security: The Blue Yonder, India

The *Assessment of climate change-related vulnerability in the agricultural sector* report by the FAO notes that agricultural vulnerability to climate change refers to "exposure to elevated temperatures, the sensitivity of crop yields to the elevated temperature and the ability of the farmers to adapt to the effects of this exposure and sensitivity by, for example, planting crop varieties that are more heat-resistant or switching to another type of crop.[lxiv] Based on a comparative study by food systems researchers Raj et al. (2022), climate adaptation solutions that focus on agricultural production are more likely to benefit local populations in the Global South, in contrast to the Global North, where a focus on food access can be more beneficial.[lxv] Agricultural researcher Varghese (2000) noted that Kerala's staple crops, including rice, pepper, and cardamom, have seen a 70% decline in yield because of climate-related stresses – particularly rising temperatures, increasing salinity, and erratic rainfall.[lxvi] He recommended a move towards native crop varieties that are more heat tolerant and drought resistant. The Kerala State Action Plan on Climate Change highlighted climate resilient agriculture and climate-proof production as key steps in readying the sector for a rapidly changing climate.[lxvii]

The Blue Yonder is a small-scale travel enterprise that has specialized in community-based and responsible travel experiences across the southern Indian state of Kerala since 2004, including both small group tours and independent itineraries. In the lush village of Ezhikkara in Kerala, The Blue Yonder curated the "Pokkali tour," where tourists can meet local farmers, and learn about the cultivation of Pokkali (G. Parayil, Personal Communication, 2024), a centuries-old endemic rice variety that is considered climate-resistant because it is salt tolerant, resists floods, does not require groundwater to irrigate, thrives without pesticides or fertilizers, and can be grown symbiotically alongside prawn aquaculture.

The Blue Yonder simultaneously created market linkages which allow farmers to sell Pokkali rice at fair prices to restaurants in the popular tourist city of Kochi, as well as upscale hotels under the Relais & Chateaux umbrella (G. Parayil, Personal Communication, 1st August 2024). Pokkali farming in Kerala is traditionally altered with prawn cultivation, but unlike conventional shrimp farming, it uses natural tidal rhythms and monsoon rains, and requires no external chemical fertilizers (G. Parayil, Personal Communication, 20th March 2025).

Given the intersectoral dependence between tourism and agriculture, agrotourism initiatives can be developed and scaled to create market linkages for native, climate-resilient crops that often lose out to non-native crops because of both, changing local dietary norms and tourism norms to offer standardized food, especially at upscale accommodations. By challenging the status quo through both local tours and supply chain interventions, The Blue Yonder case study illustrates the ability of tourism to create food security in the face of climate impacts, while also offering novel tourism products to educate and inspire travelers.

Case Study: Funding marine protected areas through tourism: Nikoi Island, Indonesia

According to the International Union for Conservation of Nature (IUCN), only 6.35% of marine habitats on Earth are currently protected, and less than 2% are 'no take' zones where drilling, mining, fishing and other kinds of environmental extraction are prohibited. Marine Protected Areas (MPAs) are oceanic zones designated for long term conservation goals. Through the conservation of marine habitats, they strengthen climate adaptation and mitigation efforts, while also offering other ecosystem services like cleaner oceans and healthier marine populations.

Nikoi Island is an eco-lodge set on a private island spanning 15 hectares, located 8 kilometers off the coast of Bintan in Indonesia, in the South China Sea. Mindful of the need to protect the uninhabited island it was set on, the lodge was built with natural materials, and embarked on its sustainability journey using the 4Cs (conservation, community, culture, and commerce) framework developed by The Long Run, a global network of sustainable tourism businesses (Andrew Dixon, Personal Communication, 2nd March 2025).

In 2007, the Indonesian government created an MPA spanning 1100 square kilometers off the coast of Nikoi Island. However, the absence of management measures allowed local conservation challenges to accelerate, including overfishing, coral bleaching, erosion and oil spills. In 2017, Nikoi Island partnered with Conservation International to run a high-quality marine survey in the MPA, to determine the state of the marine habitat. Funded by money raised by Nikoi Island's environmental trust, the 10-day survey revealed eight new species of fish known to mankind, and healthier corals than the Great Barrier Reef. However, the survey also highlighted the concern of overfishing in the area, as indicated by unhealthy fish populations (Andrew Dixon, Personal Communication, 2nd March 2025).

Recognizing the importance of the marine reserve, Nikoi Island and Island Conservation set up a formal non-profit entity in 2024 to manage the MPA, consisting of the local government body, local fishermen, a local marine university, and Nikoi Island staff. The entity is currently developing management plans and mechanisms to oversee conservation efforts in the MPA. Nikoi Island has brought on board resident marine biologists to support the conservation work, while also creating opportunities for interaction with lodge guests to share knowledge about the local marine habitat. Local bureaucracy and lack of financing have been highlighted as challenges, both of which are being addressed through collaborative public-private efforts.

Working at the intersection of tourism and conservation, Nikoi Island's work demonstrates that tourism businesses can be instrumental in the creation of privately protected marine areas with commercial viability. This can include an entrance fee for tourism-related marine activities, or sustainable fishing certification to receive a higher fee on fishing quotas. It can simultaneously create opportunities for tourism through improved recreational marine experiences like snorkeling and diving, while strengthening climate resilience against storm surges and extreme weather events.

Case Study: Six Senses Grand Bahama: Advancing Climate Resilient Design for Coastal Locations

Six Senses, a global leader in sustainable luxury hospitality, has built its reputation around rigorous sustainability standards, regenerative design, and meaningful community engagement. Every property in its portfolio is certified by the Global Sustainable Tourism Council, reflecting commitments that go beyond traditional eco-certification: eliminating single-use plastics, investing in local conservation, and advancing regenerative agriculture. The

upcoming Six Senses Grand Bahama resort, developed in partnership with Weller Development Partners and Pegasus/The Global Fund for Coral Reefs, offers a blueprint for climate- and nature-positive tourism that balances climate resilience, community benefit, and financial performance.

Grand Bahama, like many island destinations, faces rising sea levels, coastal erosion, and intensified storm activity. For developers, these risks translate into higher construction and insurance costs, demanding a forward-looking approach. At Grand Bahama, resilience starts with site-specific design: elevated structures built to exceed Miami-Dade hurricane standards, restoration of natural buffers like dunes and mangroves, and infrastructure capable of withstanding extreme events. Weller Development engages insurance advisors early in the design process to ensure that resilience measures—hurricane-rated materials, fire-resistant designs, and defensible spaces—optimize insurability and reduce long-term risk. This proactive collaboration is essential in a market where underwriters are tightening exposure in climate-sensitive regions.

A core pillar of the project is ecosystem restoration. The site was previously dominated by invasive Casuarina pine, which displaces native flora and destabilizes soil. Guided by a third-party Environmental Impact Assessment and Environmental and Social Management Plan, the development team prioritized invasive species removal and plans to reintroduce native and endemic species to the site, such as sea grape, sable palm, and buttonwood. This reforestation effort aims to stabilize coastal ecosystems, restore wildlife habitat, and enhance long-term site resilience.

Once delivered, the project will be integrated into Six Senses' proprietary sustainability tracking platform, monitoring energy use, water consumption, waste generation, and carbon emissions. This data not only supports brand-wide climate action goals but also meets investor reporting requirements.

Community engagement has been integral to the design process from the outset. Over the past two years, Weller Development has hosted multiple community forums—attended by local residents, environmental groups, and business leaders—to share project updates and gather feedback. Upcoming construction is expected to employ a workforce that is over 80% Bahamian, complemented by partnerships with local contractors, suppliers, and tour operators. Upon completion, the resort is projected to create over 200 permanent jobs on the island, helping to drive tangible economic benefits while respecting cultural and environmental contexts.

Six Senses Grand Bahama demonstrates that climate-resilient, nature-positive tourism can create value for stakeholders across the board. Key takeaways include:

- Early integration of climate resilience in design and insurance planning.
- Ecosystem restoration as a driver of both environmental and business resilience.
- Community-centered engagement to build trust, maximize local benefit, and ensure long-term success.
- Transparent measurement and reporting of sustainability metrics to satisfy investor, brand, and regulatory expectations.
- Intentional guest experience design to connect visitors to places beyond the resort footprint through locally-guided excursions, culinary offerings, and partnerships with small-scale vendors.

Projects like Six Senses Grand Bahama illustrate that aligning climate, nature, and socio-economic priorities is not only possible but increasingly essential for the future of tourism.

Conclusion

Adapting tourism to the accelerating impacts of climate change is not only essential for the long-term resilience of destinations, but also an opportunity to redefine the sector's value through biodiversity protection and ecosystem restoration. From coastal flooding to biodiversity loss, climate risks are already affecting key tourism assets. Integrating nature-positive strategies—such as Nature-based Solutions and ecosystem-based adaptation—into tourism business models can both mitigate these impacts and enhance tourism offerings. Investments in coral reefs, mangrove forests, and agro-ecological landscapes do more than protect nature; they create climate-resilient infrastructure, diversify tourism experiences, and support community livelihoods.

Tourism can and must contribute to closing the climate adaptation funding gap by leveraging its cross-sectoral influence and access to visitors, partners, and local networks. By aligning with national adaptation plans and biodiversity frameworks, tourism businesses can access green finance and contribute measurable environmental, economic, and social benefits—from carbon sequestration and species recovery to job creation and food security. The sector is uniquely positioned to champion community-based resilience, ensuring that the people and places at the frontlines of climate change are central to the tourism of the future. Now is the time for tourism investors and developers to act decisively—by supporting climate adaptation projects that protect ecosystems, strengthen communities, and future-proof destinations.

Part 3: Social Considerations of Climate and Nature Positive Tourism

Overview

Returning to the analogy of the "nested systems" of environment, society, and economy presented at the beginning of this report (see Figure 1), this research has so far emphasized how securing a thriving environmental foundation is essential for a healthy society and economy. Moving through the layers of the system, a thriving society is also essential for a functioning economy. Tourism has important economic impacts : in 2024, 1.4 billion international tourist arrivals were recorded globally and exports from tourism reached a record USD 1.9 trillion and direct tourism GDP 3.1% of the world's total GDP.[lxviii]

However, these numbers tell little about their social impacts: economic disparities are prevalent in many tourism-dependent regions, particularly in rural areas where approximately 80% of people living in poverty are situated.[lxix] As emphasized in UN Tourism's report on Shared Prosperity (2023), sector-level growth does not automatically translate into poverty reduction; instead, targeted policies are needed to ensure that the benefits of tourism reach the most disadvantaged groups. Additionally, it is extremely challenging to assess the social impact of tourism due to limitation in data collection. This is one of the key objectives of the SF-MST Framework.

As tourism continues to expand, its potentially negative effects on local cultures, identities, and ecosystems have also become more pronounced. This section discusses how to balance economic, environmental and social considerations, with guidelines for all businesses and tourism destinations seeking to implement a climate and nature-positive shift.

Tourism Strategies that Support Inclusive Economic Growth

Tourism can serve as a vehicle for social progress when it actively engages and empowers local communities. Incorporating inclusive decision-making and fair economic practices can support the alignment of tourism development with community priorities to strengthen the social fabric of a destination and promote long-term environmental and shared prosperity.

S**hared prosperity** is defined by as "the average annual growth rate in income or consumption of the bottom 40% of the population in a country."[lxx] It aims to ensure that economic benefits contribute to the wellbeing of and are distributed to all residents. **Tourism can support all 17 SDGs by creating jobs, boosting economies, supporting conservation efforts, and promoting cultural understanding**. It is particularly aligned with SDG 1 (No Poverty), SDG 8 (Decent Work & Economic Growth), SDG 10 (Reduced Inequalities), SDG 12 (Sustainable Consumption & Production), and SDG 17 (Partnerships for Goals).

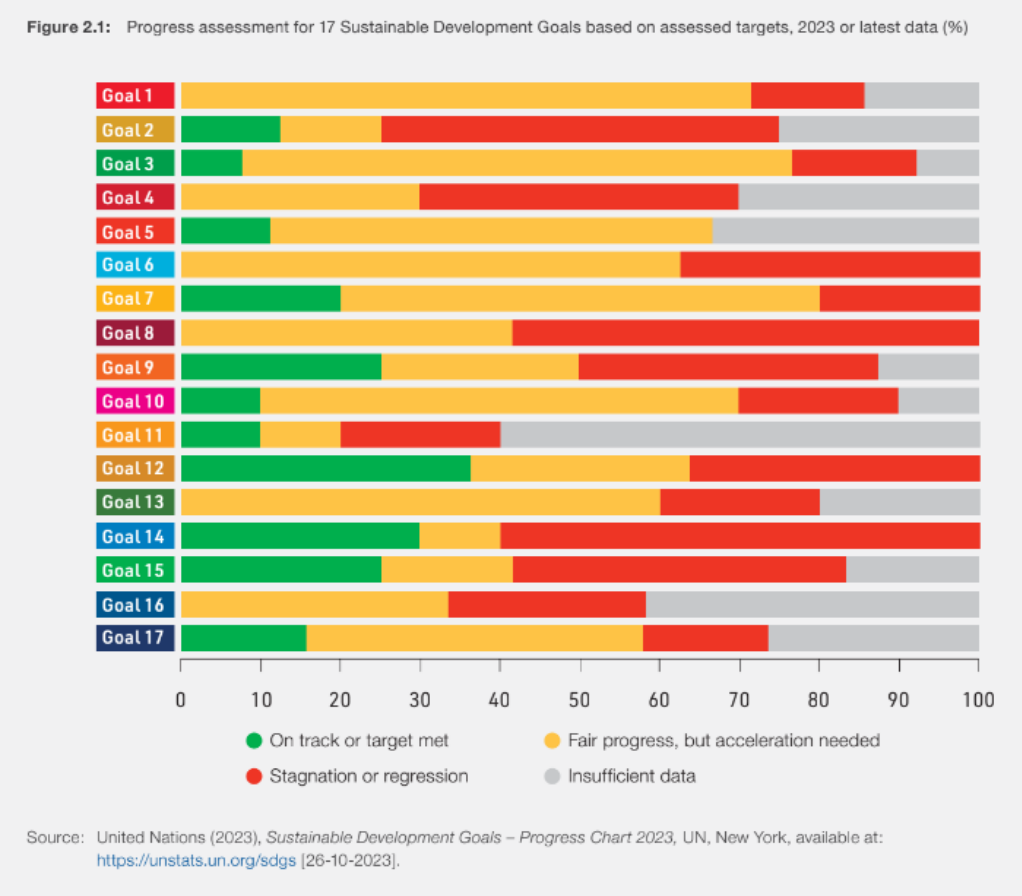


Figure 6: Progress towards the SDGs. Source: United Nations (2023)

Building on this definition, UN Tourism (2023) highlights that shared prosperity requires deliberate policy design, including redistributive mechanisms, gender-sensitive policies, and investment in human capital. The report recommends prioritizing pro-poor tourism interventions, targeted support for women and youth, and monitoring frameworks that track distributional impacts, not just aggregate growth.[lxxi]

Apply a human-rights based approach to conservation

In 2022, nearly 200 countries made a renewed commitment to follow **human rights-based approach** to conservation when they adopted the **Kunming-Montreal Global Biodiversity Framework** at CBD COP15. This commitment recognized that while many climate and nature-positive initiatives are well-intentioned, they can have unintended consequences on local communities and Indigenous peoples in their implementation. For instance, an ecotourism development or new protected area could take away traditional tenure access for locals or restrict livelihoods. A human rights-based approach to conservation aims to reduce power imbalances inherent in conservation endeavors by supporting locals in exercising their rights while strengthening actions by governments to respect and fulfill these rights.[lxxii] This approach can lead to improved project outcomes as well: interviews and surveys conducted among tourism businesses emphasized how community involvement in projects was essential to their long-term success, especially when communities were brought into the project planning process from the outset.

Example: In reaction to devastating economic impacts of the Covid-19 pandemic, Mexico participated in the pilot phase of the UN Tourism Centre Stage program, with an aim to coordinate and strengthen work towards gender equality in tourism ecosystems. Program activities included targeted training, measures to boost career progression for females, and improvements to the legal framework and collection of sex-disaggregated tourism employment data. In 2022, participating businesses worked with UN Tourism to train over 200 people on gender equity, and 185 women received a promotion.[lxxiii]

Facilitate community-led and inclusive tourism models

Community-based initiatives are key to fostering equitable development. Examples of tourism models that prioritize community leadership and inclusive development include Community-Based Tourism (CBT), in which local residents manage tourism enterprises to ensure profits remain within the community. Cooperatives can also empower community members by providing shared ownership and decision-making power, while local entrepreneurship networks can support small-scale businesses and entrepreneurs to enhance economic diversity and resilience. In addition to ensuring community members have a stake in tourism operations, these models can help to prevent the exploitation of local resources and labor.

The AlUla Framework for Inclusive Community Development through Tourism reinforces this approach, emphasizing that communities should be actively engaged in decision-making, benefit-sharing, and leadership roles across tourism planning and operations.[lxxiv] Embedding its principles—particularly the 'Empower' pillar—can help ensure that community-led models are not isolated initiatives but part of a broader strategy for inclusive and sustainable tourism development. Planettera, for example, shares resources on environmental stewardship initiatives among its global network of community tourism operators, illustrating how knowledge exchange can further strengthen community leadership.

Case study: A study conducted in coastal Nhon Ly, Vietnam shows how tourism stimulates development and contributes to socio-culture within the locality by improving income, changing livelihoods from fishing to tourism, and improving environmental awareness. The study details how community-oriented projects that centered local concerns and perspectives were more sustainable in the long-term while projects that ignored the local community faced strong opposition.

Promote fair wages, worker rights, and opportunities for skills development

Tourism businesses must prioritize fair wages, decent working conditions, and opportunities for skills development to ensure that workers are treated with dignity and respect. In order for tourism's economic benefits reach all levels of society, mechanisms for redistributing tourism revenue to local communities must be established and opportunities for skills training and professional growth must be provided so that local residents can participate in and lead local tourism initiatives. Policies that guarantee fair pay, job security, and safe working conditions for employees must be implemented and monitored. UN Tourism (2023) underscores that decent work is central to shared prosperity, recommending wage protection, social security coverage for informal workers, and expanded opportunities for skills development across the tourism value chain.

Tourism has the potential to spread economic benefits to all community members, including women, youth, and marginalized groups, particularly as women make up 54% of the tourism workforce, highlighting the sector's potential

for progress toward gender equality.[lxxv] At the same time, research shows that climate change impacts are most severely felt by under-represented and vulnerable groups such as women, Indigenous communities, and small island states.[lxxvi] Equitable climate action in tourism necessitates a focus on gender equality and the empowerment of disadvantaged groups by ensuring women, Indigenous populations, and marginalized communities have access to leadership roles, training opportunities, and economic benefits. Inclusive hiring practices and targeted support programs can be implemented to ensure these groups are not left behind.

Invest in local education and capacity building programs

Building community capacity through investment in education and training ensures long-term sustainability and leadership within the tourism sector. Tourism businesses and investors can partner with educational institutions to develop hospitality and conservation training programs, provide scholarships and funding for local students pursuing careers in tourism, and offer mentorship and apprenticeship programs to bridge skills gaps.

Leverage strategic partnerships

Collaboration between local governments, private enterprises, and communities is necessary in order to achieve tourism development that benefits local populations and contributes to a more resilient, fair, and sustainable global economy. Key partnership strategies include joint planning initiatives that engage all stakeholders in tourism planning and policy development, investment in sustainable Infrastructure projects that benefit both tourists and local populations, and market access support that facilitates local producers' and artisans' entry into tourism supply chains.

Tourism Strategies for Enhancing Destination Resilience

Tourism destinations worldwide face increasing risks from climate change, including extreme weather events, biodiversity loss, and environmental degradation. These challenges threaten the long-term viability of tourism-dependent economies and necessitate proactive strategies to build resilience. Climate and nature-positive tourism initiatives present an opportunity to drive sustainable economic development while safeguarding natural and cultural assets.

Diversify tourism products, source markets, segments, and seasons

An effective strategy to enhance destination resilience is diversifying tourism offerings. Over-reliance on specific attractions, particularly those vulnerable to climate change (e.g., coastal ecosystems, glaciers, and fragile heritage sites), can expose destinations to economic instability. Key approaches to diversification include reducing seasonality and expanding tourism beyond peak seasons to ensure a steady year-round flow of visitors and enhancing economic stability and expanding market reach by reducing dependence on specific source markets by attracting a broader range of travelers. Additional strategies include attracting and engaging domestic tourists and developing more climate resilient attractions through strategic investments in sustainable tourism products such as cultural heritage experiences, which provide additional value and are less susceptible to climate-related disruptions.

Create socio-economic co-benefits through climate and community resilience planning

Research indicates the future of tourism will likely differ from current trends due to climate shifts, changing consumer preferences, and evolving market dynamics.[lxxvii] Strategic planning can account for evolving visitor demographics by adapting to shifts in source markets, visitor types, and length of stay to maintain socio-economic viability. Such shifts may include managing potential pressure on vulnerable spaces ensuring sustainable visitor flow management as well as leveraging smart tourism solutions, data analytics, and digital platforms to enhance visitor experiences streamline destination management and support visitor management.

Proactive climate resilience planning is essential to protect the physical and economic integrity of tourism destinations. Comprehensive strategies should encompass investment in climate-resilient infrastructure, such as flood-resistant hotels and energy-efficient transportation. Other important elements of resilience planning include establishing risk mitigation frameworks, emergency response protocols, and early warning systems to protect both visitors and local communities as well as implementing locally-informed conservation efforts, reforestation programs, and nature-based solutions that combat environmental degradation.

Ensuring that local communities are equipped with the tools and resources to build resilience is critical for long-term sustainability. Providing education and training on climate adaptation, sustainable business practices, and disaster preparedness as well as prioritizing local employment, fair wages, and inclusive tourism development can help to maximize the socioeconomic benefits of tourism investments. Investing in climate and nature-positive tourism is not just an ethical imperative—it is an economic necessity. By adopting sustainable practices, tourism destinations can better adapt to and mitigate the impacts of climate change. This resilience can help to sustain tourism as a viable economic activity even in the face of environmental challenges.

Tourism Strategies for Protecting Cultural Heritage

Cultural heritage is a valuable tourism asset that not only generates economic opportunities but also fosters local traditions and community resilience. By safeguarding cultural identity, tourism can contribute to the longevity of traditions, instill a sense of pride among residents, and enhance the diversity of visitor experiences. However, mass tourism poses significant risks to cultural heritage. Implementing climate and nature-positive tourism strategies can help steward destination heritage through the revitalization of cultural traditions such as arts, music, and cuisine.

Safeguard traditions and practices

To ensure that tourism benefits cultural preservation rather than exploitation, targeted initiatives must be developed to protect Indigenous cultures and local heritage. These can include supporting traditional crafts, language preservation, and Indigenous knowledge sharing, educating visitors on responsible engagement with Indigenous communities, emphasizing respectful interaction with both people and biodiversity, and encouraging cultural sensitivity training for tourism operators and businesses.

Leverage collaborative planning for cultural and environmental sustainability

Active community participation is essential for safeguarding cultural heritage. Tourism planning should prioritize local involvement to ensure that development aligns with cultural values and benefits future generations**. The AlUla Framework for Inclusive Community Development through Tourism** presents a comprehensive roadmap for

leveraging tourism as a tool for inclusive and sustainable development, emphasizing collaboration, innovation, and equitable growth while aligning with the UN SDGs.[lxxviii]

Key dimensions of inclusive community development through tourism as informed by the framework include identifying communities that can benefit from tourism, defining stakeholders (e.g. governments, private sector, and local communities), implementing policies, programs, and interventions, and monitoring impact using sustainability indicators. The framework also establishes four strategic pillars aimed at fostering sustainable and inclusive tourism growth with key tenets summarized below:

- Empower (People): engage local communities in decision-making processes; invest in education and vocational training for tourism-related jobs; promote women's leadership and employment in tourism.
- Safeguard (Planet): Integrate climate policies into tourism operations; implement efficient water and waste management practices; ensure the preservation of natural and cultural assets through responsible tourism.
- Prosper (Economic Growth): Encourage the digitalization of tourism services and fostering tourism startups; invest in sustainable transport and tourism facilities; ensure that economic benefits are distributed equitably within local communities.
- Collaborate (Partnerships): Encourage multi-stakeholder collaboration; align tourism policies with broader economic and social strategies; use the **Measuring the Sustainability of Tourism (MST) Framework** to assess tourism's contributions to sustainable development.

By implementing strategic frameworks such as the AlUla Framework, tourism operators and investors can play a pivotal role in fostering sustainable, inclusive, and profitable tourism models. A commitment to climate- and nature-positive tourism practices can support long-term economic viability while safeguarding cultural and natural heritage for future generations.

Challenges and Opportunities

Balancing social and environmental goals with the promotion of economic development presents numerous challenges. By prioritizing community inclusion, cultural preservation, social equity, and capacity building, the tourism sector can positively impact livelihoods and environments while unlocking new markets and creating lasting value in the tourism sector.

Challenges

Community inclusion and representation

The successful integration of local and Indigenous communities into tourism planning and decision-making processes remains one of the most difficult challenges in the sector. Many initiatives, even those that claim to promote sustainability, fail to fully involve the people most affected by tourism — local residents and Indigenous groups. Power imbalances often persist, where external stakeholders such as investors and large tourism companies dominate decision-making, leaving communities with little say in the design and execution of projects. When these communities are not meaningfully engaged, the resulting tourism projects can neglect local needs, priorities, and cultural sensitivities. Tourism initiatives may inadvertently disrupt local ecosystems, disregard social norms, or fail to

create genuine benefits for those most in need. For example, a community-led sustainable tourism project that doesn't incorporate Indigenous knowledge and governance systems may struggle to authentically promote nature-positive tourism while ensuring socio-economic outcomes for local residents. Sufficient consultation processes and representation of local communities in DMOs are crucial.

Balancing economic and cultural preservation

While tourism can bring vital economic benefits to local communities, there is a significant risk that it may lead to the commodification of culture or the erosion of traditional practices. The pressure to attract tourists often drives communities to market their culture in ways that may strip it of its meaning or authenticity. For example, traditional ceremonies or rituals might be modified to cater to tourists, or local food and art may become commercialized, leading to the loss of their cultural significance. This cultural erosion is not only a loss to local communities but also diminishes the authenticity and uniqueness that tourists seek. Moreover, there is the potential for deep social divides, with younger generations becoming increasingly alienated from their heritage as they move towards more modern lifestyles.

Social inequities

The benefits of tourism can be unequally distributed, with marginalized groups being excluded from the economic gains.[lxxix] In many cases, tourism operators focus on luxury or mass-market tourism that benefits only a small percentage of the population, leaving local communities, particularly those from low-income or marginalized backgrounds, with little to no participation in the sector's profits. This can exacerbate social inequities, leading to resentment and division within the community. Additionally, tourism growth can bring risks such as displacement of local populations or loss of access to land and natural resources that are vital for the community's survival. For example, large-scale resorts may push out local farmers or fishermen, leaving them with fewer opportunities for sustainable livelihoods.

Capacity and resources

Local communities, particularly in developing regions, can face significant limitations when it comes to engaging with or benefiting from tourism. These challenges can include a lack of skills, education, or financial resources to effectively participate in or run tourism-related businesses, cited as common barriers for surveyed businesses to engage with wider stakeholders. The capacity to engage in climate-positive practices or develop sustainable tourism ventures is often hampered by these limitations. Without the necessary training and financial support, communities may struggle to scale their tourism ventures or to meet the expectations of modern tourists who demand high standards of service, sustainability, and environmental stewardship. Moreover, the absence of infrastructure or investment can prevent communities from capturing a larger share of the economic benefits generated by tourism.

Monitoring and evaluation

Measuring the social impacts of tourism, particularly in relation to cultural preservation and community wellbeing, is a complex and often subjective task. Intangible benefits such as cultural exchange, social capital, and the preservation of heritage are difficult to quantify. This lack of clear and reliable metrics can make it difficult for investors and operators to gauge the success of their initiatives or to make data-driven decisions. It can also hinder

the ability to demonstrate the tangible benefits of sustainable tourism to stakeholders and investors who may prioritize short-term financial gains over long-term returns and socio-economic outcomes. The social component of the SF-MST provides a valuable framework for monitoring social outcomes of tourism projects.

Opportunities

Community-led tourism models

According to American Express' 2025 Global Travel Trends Report, 69% of respondents would spend more during a vacation if they knew it supported the local community.[lxxx] Empowering local communities to manage and design tourism initiatives ensures equitable benefits and greater alignment with cultural values. Sustainable tourism models that engage local communities in decision-making processes are key to ensuring equitable benefits and long-term success. Prioritizing community and ecosystem well-being allows for the development of tourism ventures that respect cultural values and preserve the environment. Further, empowering local communities to design, manage, and benefit from tourism initiatives fosters social cohesion and reduces inequalities. Models like cooperative tourism ventures or Indigenous-owned lodges demonstrate the power of community-led initiatives in promoting both economic and environmental sustainability. Additionally, fostering deeper connections between people and nature can inspire conservation efforts while raising awareness among both travelers and tourism professionals. Regular community forums, local engagement campaigns, and shared tourism visions can further enhance the alignment of tourism models with community goals, fostering collaboration and mutual respect.

Human rights-based approaches

Climate-positive tourism can serve as a powerful tool for addressing systemic barriers, providing economic opportunities, and creating jobs. To ensure tourism aligns with human rights considerations, policies must recognize and uphold the land, tenure, and resource rights of marginalized groups including women, Indigenous communities, and youth, prioritizing their leadership in conservation and tourism governance. Legal frameworks should guarantee Free, Prior, and Informed Consent (FPIC) in all tourism and conservation initiatives, while financial mechanisms must redirect funding to community-led conservation efforts.[lxxxi]

Businesses and large conservation organizations must be held accountable for preventing human rights abuses, conducting environmental due diligence, and ensuring equitable benefit-sharing. Conservation-driven displacement and human rights violations require swift corrective action, including land restitution and fair compensation. Youth and environmental defenders must be actively supported, with inclusive decision-making processes that integrate traditional knowledge and community-led stewardship. Emphasizing Indigenous rights in tourism projects not only safeguards ecosystems but also creates opportunities for communities to benefit directly from the land they have historically stewarded, further driving socio-economic development. Sustainable tourism models must balance ecological goals with social equity, ensuring local communities are not only protected but empowered as key stakeholders in conservation and climate resilience.

Education and capacity building

Education and training programs are critical for enhancing the ability of local communities to engage with and benefit from tourism. By offering skill-building programs in hospitality, cultural interpretation, and entrepreneurship,

tourism operators and investors can help create more resilient local economies. Microloans, grants, and technical assistance can further support community-driven tourism initiatives. These investments can not only prepare locals to meet the growing demand for sustainable tourism but also foster a culture of environmental stewardship by educating both visitors and residents on the importance of conservation. Such initiatives ensure that tourism becomes a tool for long-term socio-economic development rather than a source of temporary benefits.

Cultural heritage preservation

Responsible tourism practices can generate economic benefits while safeguarding cultural heritage sites, traditions, and local arts. Investments in cultural heritage preservation can support the livelihoods of local artisans and cultural practitioners while promoting intercultural exchange so that traditional practices are respected and shared in ways that remain meaningful to both locals and tourists. When executed thoughtfully, tourism not only contributes to the conservation of cultural heritage but also fosters a deeper appreciation of cultural diversity among visitors. In this way, tourism can be a tool for both cultural and economic empowerment as communities, businesses, and travelers can benefit from an inspired, experiential product portfolio.

Inclusive, sustainable economic development

Tourism can play a transformative role in diversifying local economies and reducing reliance on extractive or unsustainable practices. By investing in sustainable infrastructure and creating job opportunities across the tourism value chain, tourism can help generate income and reduce poverty in local communities. Collaborating with local businesses, encouraging sustainable practices, and developing nature-based tourism models that prioritize local workforce participation are essential steps for creating inclusive and resilient tourism economies. Conducting assessments to better understand the full economic impact of tourism, including social and environmental costs, can help to keep benefits within the local community. Investments to promote micro-entrepreneurship and market diversification can further ensure that economic benefits are widely distributed. Strategic investments can advance the contribution of innovation and digitization in tourism strategies, spreading the benefits of innovation while safeguarding the planet. Technology can be utilized in infrastructure, alleviating tax challenges, developing smart cities, and enhancing cybersecurity resilience.[lxxxii]

Collaborative governance models:

Effective governance of tourism initiatives requires the collaboration of governments, NGOs, and local communities to ensure equitable distribution of benefits and long-term sustainability. **Public-private-community partnerships (PPCPs)** are a powerful tool in fostering sustainable and inclusive tourism. These partnerships allow for resource sharing, risk management, and enhanced resilience, providing both financial and technical support for tourism projects.[lxxxiii] By combining expertise from the public sector, business acumen from the private sector, and local cultural insights, PPCPs can create robust tourism systems that reflect community values. Inclusive policies that support community participation, sustainable practices, and capacity building are essential in driving positive change. Collaborative governance models also offer opportunities to innovate through technology and digital transformation, enabling smarter, more sustainable tourism experiences while promoting local economic development.

Benefits and Impact

All climate and nature-positive businesses should be maintaining social considerations at the center of their work, especially when working with vulnerable or marginalized communities. Below are some of the outcomes businesses can hope to achieve when implementing these recommendations.

Short-term Benefits

- **Improved local employment opportunities and economic diversification.** The transition to climate and nature-positive tourism can generate immediate economic benefits by creating new jobs in sectors such as clean energy, conservation, and hospitality. It encourages entrepreneurship and the development of local businesses, reducing reliance on traditional and potentially volatile economic models.
- **Increased awareness of climate change and sustainability issues in tourism.** Integrating sustainable practices into tourism operations can deepen collective awareness of climate change and conservation. This heightened understanding can drive more responsible consumer behavior and sector-wide adoption of policies and initiatives that have positive benefits for ecosystems and communities.
- **Preservation of local traditions and cultures, enhancing tourism attractiveness.** Fostering cultural preservation by valuing and incorporating local traditions, crafts, and ways of life into tourism experiences not only enhances a destination's uniqueness and attractiveness to visitors, but also helps to protect local heritage and ensure it remains a vibrant part of the community.

Long-term Impact.

- **Resilient destinations are less vulnerable to climate change and other global challenges.** Destinations can adapt more effectively to climate-related challenges and shifting global travel patterns by prioritizing long-term ecological health and social well-being. Implementing climate action strategies—such as nature-based solutions, sustainable infrastructure, and disaster preparedness—can help to mitigate climate risks, reducing economic disruptions caused by extreme weather events. This fosters long-term stability for both local communities and investors.
- **Communities experience improved public health and quality of life.** Reducing pollution and environmental damage associated with tourism can lead to better public health outcomes.[lxxxiv] Cleaner air, water, and soil contribute to fewer health issues among residents, reducing healthcare costs and improving overall wellbeing. Reducing pollution and environmental degradation can improve air and water quality, lead to better health outcomes for local communities, and reduce healthcare costs to improve overall quality of life. Reducing tourism's carbon footprint and environmental degradation helps preserve natural resources and ecosystems. This leads to healthier environments, which can improve the quality of life for local communities and attract more tourists seeking sustainable destinations.
- **Shift toward a more inclusive and sustainable global tourism sector.** The widespread adoption of climate and nature-positive strategies can contribute to a broader transformation of the tourism sector. Destinations worldwide can benefit from a more balanced model that prioritizes sustainability, cultural respect, and equitable economic gains, creating positive outcomes for both host communities and travelers. By embedding the principles of shared prosperity into tourism policy—ensuring that growth directly benefits

the bottom 40% of the population—tourism can serve as a driver of both resilience and equity in the transition to climate- and nature-positive models.

Social KPIs for Climate and Nature Positive Tourism

The following table presents KPIs that measure the social dimensions of climate and nature-positive tourism. These indicators emphasize human rights, equity, local empowerment, cultural preservation, and inclusive economic development. Designed for use by tourism operators and investors alike, the KPIs offer a framework for ensuring that sustainability efforts also deliver tangible benefits for local communities and uphold global commitments to social justice and inclusive growth.

Table 3: Social KPIs for Climate Action and Nature Positive Tourism

Indicator Name	Indicator Description	Example	SDG Target	Relevant Frameworks
Apply a human-rights based approach to conservation	Ensure that all tourism and conservation projects respect, protect, and fulfill internationally recognized human rights, including the rights of workers, women, youth, Indigenous Peoples, local communities, and other vulnerable or marginalized groups, in line with international human rights frameworks.	*Establish Free, Prior and Informed Consent (FPIC) protocols for all conservation-tourism initiatives on Indigenous lands by 2026, and implement gender-sensitive and accessibility-inclusive safeguards across all new tourism projects.*	5.1 (End discrimination against women and girls), 8.5 (Decent work for all, including persons with disabilities), 10.2 (Promote inclusion), 16.10 (Access to information and protection of rights)	UDHR Art. 1, 2, 23, 27; UNDRIP; ILO Convention 169; CEDAW; CRPD; ILO Decent Work Agenda; AlUla Principle 1 (Respect for human dignity and rights)
Facilitate community-led and inclusive tourism models	Empower communities to design, own, and manage tourism enterprises that reflect their priorities and values.	*Support the creation of 50 new community-owned tourism cooperatives in biodiversity-rich areas by 2030.*	8.9 (Sustainable tourism for employment), 11.3 (Inclusive urbanization)	AlUla Principle 2 (Community Empowerment); SDG 8 & 11; UN TOURISM Best Practices
Promote fair wages, worker rights, and opportunities for skills development	Guarantee decent working conditions, fair compensation, and pathways for upskilling across the tourism value chain.	*Ensure 100% compliance with national minimum wage laws and offer certified training to 10,000 tourism workers by 2028.*	8.5 (Decent work and equal pay), 4.4 (Skills for employment)	UDHR Art. 23 (Right to work); ILO Decent Work Agenda; AlUla Principle 5 (Equity and Inclusion)
Invest in local education and capacity building programs	Create sustained investment in local knowledge systems, formal education, and vocational training related to sustainable tourism and conservation.	*Establish 20 destination-based "green tourism academies" in partnership with local governments and schools by 2030.*	4.7 (Education for sustainable development), 13.3 (Climate education)	AlUla Principle 4 (Capacity and capability development); SDG 4 & 13; UN Decade of Education for Sustainable Development

Leverage strategic partnerships and collaborative planning	Build multi- stakeholder platforms that engage local authorities, civil society, private sector, and academic partners in inclusive tourism planning.	*Launch 10 regional tourism roundtables that include community leaders, conservationists, and investors by 2025.*	17.17 (Partnerships for sustainable development), 11.a (Strengthen links between regions and communities)	AlUla Principle 3 (Collaborative planning); UN SDG 17; UN Habitat Guidelines
Diversify tourism products, source markets, segments, and seasons	Support the development of varied, locally driven tourism experiences that reflect community identity and reduce pressure on over-visited sites.	*Develop 100 new nature-cultural tourism routes that center marginalized groups (e.g., women-led cooperatives, Indigenous guides) by 2027.*	12.b (Sustainable tourism tools), 5.b (Empower women through tech access)	AlUla Principle 6 (Inclusive product development); SDG 5 & 12; UN TOURISM Inclusive Tourism Strategies
Safeguard traditions and practices	Protect, revive, and showcase local cultural heritage—including language, rituals, and artisanal knowledge—as core tourism assets.	*Implement living heritage documentation and promotional initiatives in 25 rural destinations by 2030.*	11.4 (Protect cultural heritage), 16.7 (Inclusive decision-making)	UDHR Art. 27 (Right to culture); AlUla Principle 7 (Safeguarding heritage); UNESCO Intangible Cultural Heritage Convention

Frameworks and Toolkits

1) Corporate Social Responsibility (CSR) Implementation Guide and EU Guidelines
2) Tourism Cares: Meaningful Travel Map
3) Recent recommendation of IEI and UNCTAD detailing Guiding Principles for Investments
4) United Nations
   a) Human Rights Special Procedures Document: Human Rights-Based Approaches to Conserving Biodiversity
   b) Rights-based Conservation Approaches
5) UN Tourism
   a) Global Code of Ethics for Tourism
   b) Tourism: A Driver for Shared Prosperity – Key Insights
   c) Goa Roadmap for Tourism as a Vehicle for Achieving the Sustainable Development Goals
   d) The Statistical Framework for Measuring the Sustainability of Tourism (MST)
   e) Gender Equality in Tourism Training
   f) G20 Bali Guidelines for Strengthening Communities and MSME as Tourism Transformation Agents: A People-centred Recovery
   g) AlUla Framework for Inclusive Community Development through Tourism

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Case Studies

Case Study: Playa Viva: Tourism as a Catalyst for Watershed Restoration and Community Prosperity in Mexico

Situated at the base of the Sierra Mountains on the Pacific Coast of Mexico, Playa Viva is a leading example of regenerative tourism—where environmental restoration, local empowerment, and economic viability converge. Built in 2005, Playa Viva was designed to prove that hospitality can drive positive systems-level change when rooted in place, guided by community input, and sustained by aligned investment.

As a Certified B-Corp and founding hotel launching the Regenerative Travel Member Hotels collection, Playa Viva operates entirely off-grid using solar energy, solar thermal water systems, and full on-site water treatment. But the true strength of its model lies beyond its operations: it integrates tourism into the long-term health of the Juluchuca watershed, a region marked by ecological fragility, out-migration, and limited economic opportunity.

Early in its development, Playa Viva undertook a "history of place" assessment to understand the ecological, geological, and cultural context of the region. This formed the foundation for a regenerative development strategy implemented through ReSiMar, a locally driven nonprofit founded by Playa Viva. ReSiMar coordinates efforts around five key areas—permaculture, water quality, reforestation, marine conservation, and education—ensuring a systems-based approach to regional transformation.

Through strategic partnerships with organizations like The Regenesis Group, Regenerative Travel, and LegacyWorks Group, Playa Viva has created an innovative funding and engagement model that channels intellectual, financial, social, and market capital into the local economy. This includes immersive guest experiences and cross-sector collaborations that directly fund and co-create regenerative initiatives.

Key programs include:

- La Tortuga Viva: A community-run sea turtle sanctuary that has released over 500,000 hatchlings and serves as an environmental education hub for guests and residents.
- Permaculture Farm: Producing 1,500+ kilos of food annually, the farm also trains local youth in organic, biodynamic, and syntropic farming, while exploring scalable models for regenerative agriculture.
- Casa Cooperativa: A women's cooperative that supports female entrepreneurship through the development of wellness products rooted in ancestral knowledge, such as medicinal powders and herbal tea workshops.
- EcoAgents of the Watershed: An educational initiative empowering youth to become leaders in regenerative land stewardship, reinforcing local identity and ecological literacy.

Playa Viva also collaborates with local producers to revive traditional farming practices like agroforestry and organic soil enhancement, improving food quality and incomes. These holistic efforts contribute to a thriving community while regenerating a once-degraded ecosystem.

Playa Viva raised an initial $2.5 million through friends, family, and impact-focused investors. In 2013, it introduced the Regenerative Trust, a 2% fee added to each guest bill that directly funds environmental and community programs. This trust underwrites essential operational costs and enables long-term, measurable impact.

With growing interest in nature-based, socially responsible travel, Playa Viva's model represents a replicable and investable blueprint for regenerative hospitality. The newly launched Regenerative Watershed Network expands this vision—connecting like-minded operators and local leaders across watersheds to share best practices and scale systems-change strategies.

For tourism operators, Playa Viva offers a roadmap to leverage tourism as a driver to enrich the local community through education, conservation, and economic development. For investors, it presents a compelling opportunity to align capital with purpose—delivering returns across people, planet, and profit.

Case Study: Nayara Resorts: Aligning Climate Action with Community Empowerment in Costa Rica

Nayara Resorts is a collection of six luxury properties spread across Costa Rica, Chile, and Panama dedicated to offering extraordinary experiences to guests while enriching the natural environment and building self-sustaining communities through cultural preservation and career development. Nayara has designed innovative programs to ensure the benefits of tourism extend beyond hotel guests and into the broader community.

Once a cattle farm, the land now home to Nayara Tented Camp, Springs, and Gardens in Costa Rica has undergone a remarkable transformation. Through extensive reforestation efforts, over 40,000 native trees and plants now thrive on the property, creating a natural corridor for wildlife that includes howler and spider monkeys, two- and three-toed sloths, and many more. This ecological revival not only restores the natural environment but enhances the guest experience through immersive nature-based tourism offerings. Guests are invited to participate in guided tours of the resort's botanical gardens, plant trees, and engage with local producers. These interactive experiences deepen visitor engagement while directly supporting Nayara's commitment to conservation.

Investments in energy efficiency, water reuse, and waste minimization further underscore Nayara's commitment to climate-positive operations, and all properties in Costa Rica are certified carbon neutral. At checkout, visitors have the opportunity to assess and offset their carbon footprint by contributing to local rainforest preservation projects.

Tourism has contributed to the increasingly high cost of living in La Fortuna and limited access to home ownership for many local people. As part of the solution, Nayara is constructing 40 houses for tenured staff members and their families and providing them with transportation between the community and the resort. The program also includes professional advisory to ensure employees are prepared for the financial commitment and understand the long-term implications of homeownership. Further, Nayara is working with Banco Hipotecario de la Vivienda to initiate negotiations for a government subsidy to reduce the total loan amounts required by participating employees. The goal of this initiative is to provide affordable, well-constructed homes that meet employees' needs while fostering community development.

Currently, 85% of the Nayara workforce is local, 10% is from the surrounding states, and 5% is of foreign origin.[lxxxv] Recognizing the socioeconomic challenges faced by single-parent families in the region, Nayara has developed targeted support programs including scholarships for children of single parents and housing assistance for dedicated employees in order to foster economic stability. To ensure future readiness, Nayara has implemented a two-year leadership development program in partnership with Cornell University and local training institutes. The curriculum covers hospitality operations, food and beverage management, and administrative skills in order to build internal capacity and reduce reliance on external talent.

Nayara holds the Green Globe certification, a rigorous third-party standard that evaluates environmental, social, and operational performance. The certification process includes stakeholder interviews, performance audits, and improvement benchmarks. A dedicated Green Committee and mandatory staff training reinforce operational accountability and promote continuous improvement on-site.

Nayara's approach offers a blueprint for investors and tourism operators seeking long-term, values-aligned returns. By intertwining ecological restoration, community investment, and guest-centric experiences, Nayara has created a sustainable tourism model grounded in climate resilience, community integration, and brand differentiation that delivers on impact and profitability.

Conclusion

When managed responsibly, tourism can be a transformative force for environmental sustainability, economic inclusion, and social equity. By mitigating tourism's climate impact, destinations can achieve better socio-economic results through improved environmental health, enhanced community well-being, increased economic opportunities, cost savings, and a stronger global reputation. Implementing strategies that simultaneously ensure the equitable distribution of tourism benefits and safeguard local cultures can contribute to long-term prosperity for local communities and enhance destination resilience. Overall, mitigating tourism's climate impact can leverage system dynamics so that environmental sustainability leads to economic growth, improved community well-being, and enhanced resilience, and ultimately better socio-economic outcomes for all stakeholders.

Part 4: Investment Criteria for Climate and Nature-Positive Tourism Projects

The final section of the report consolidates the key investment and development criteria derived from the previous chapters into a comprehensive framework for evaluating and planning potential tourism projects. The criteria are structured to provide actionable guidance for project evaluators and developers, ensuring alignment with climate and nature-positive goals and global sustainability standards, including the SDGs. This section presents a matrix of suggested KPIs, categorizing recommendations under the themes of mitigating climate change, conserving biodiversity, promoting sustainable development, enhancing resilience, meeting consumer demand, preserving cultural heritage, and generating economic benefits.

From the perspective of a fund manager or impact investor, this table serves as both a due diligence tool and a post-investment monitoring framework. It can inform standardized application forms or digital scoring tools that collect relevant information against each indicator, allowing evaluators to assign point values or weights based on the strategic priorities of the fund. This approach supports transparent and comparative assessments across projects and enables more objective decision-making.

For project developers and tourism businesses, the table offers a clear roadmap for designing investment-ready, climate- and nature-positive projects. It can guide the identification of key sustainability objectives, inform internal monitoring frameworks, and help communicate alignment with global standards to attract financing. By using the indicators early in project development, businesses can prioritize high-impact interventions, anticipate investor expectations, and embed sustainability into operations, governance, and partnerships. These indicators can also be embedded into contracting and grant agreements as performance benchmarks—establishing a shared understanding of deliverables and expectations between funders and project developers.

This helps bridge the common gap between project ambition and real-world implementation, ensuring that climate and nature-positive commitments are not only promised, but demonstrably delivered. Regular reporting against these indicators can also support adaptive management, trigger milestone-based disbursements, or inform course corrections if implementation deviates from stated objectives.

In addition to providing a set of measurable sustainability criteria, the remainder of this section frames these indicators through a **business model lens**. This approach recognises that the ability of a tourism project to deliver on climate- and nature-positive outcomes depends not only on the presence of the right sustainability measures, but also on whether its revenue structures, cost allocations, and governance arrangements are designed to support them over time. By examining how different models—such as high-value, low-volume operations, hybrid approaches, community-led enterprises, and mass-market formats—generate and distribute value, we can better understand the conditions under which each can finance adaptation and mitigation strategies, share benefits equitably, and manage environmental pressures. This perspective also allows us to compare the relative benefits and constraints of each model, aligning investment decisions with both financial viability and long-term sustainability goals.

Business Models for Climate- and Nature-Positive Tourism

Earlier sections established that investment-ready projects pair viable business models with measurable climate, nature, and social outcomes, robust governance, and risk mitigation. In practice, this means matching revenue logic (how value is created and captured) to the *cost structure* of mitigation/adaptation actions and to *who benefits* (visitors, communities, ecosystems). The annex lists complementary financing instruments—green loans/bonds, PES, biodiversity credits, parametric insurance, and Article 6/VCM pathways—that can be braided into operating models to de-risk the transition and diversify income.

Core business model patterns that consistently support sustainability delivery:

- **High-Value, Low-Volume (HVLV) with a ring-fenced Sustainability Fund.** Premium pricing with strict caps on bed-nights/visits; a fixed % of topline revenue earmarked into a restricted fund for conservation, NbS, community programs, and workforce upskilling.
- **Hybrid "Portfolio" Models.** Combine an HVLV anchor (e.g., a flagship lodge) with *mid-market day-use or experiences* that are lower-priced but low-impact and carbon-labeled; shared back-of-house for energy/waste/water efficiency. This spreads fixed sustainability costs, maintains inclusivity, and protects carrying capacity.
- **Community-Led Enterprises & PPCPs.** Co-ownership or revenue-share with cooperatives/Indigenous enterprises; conservation fees and PES contracts flow to local stewards; FPIC-aligned governance and monitored social KPIs.
- **Conservation-Linked Monetization.** Dedicated surcharges/levies (bed-night, activity, entry) hypothecated to verified NbS (mangroves/seagrass, watershed restoration) and adaptation infrastructure, with parametric insurance to protect cash flows from climate shocks.
- **Circular Operations as a Profit Center.** Waste-to-value, local procurement clusters, distributed renewables, and demand management tools reduce opex and create saleable stories that drive demand and pricing power; measured through energy intensity per guest-night and Scope 1–3 footprint per visitor-day KPIs.

These models are strengthened by blended finance stacks described in the annex (impact capital, green products, PES, biodiversity/habitat banking, insurance), which can be programmed into term sheets as milestone-based tranches against KPI delivery.

Tourism Models: Volume, Management, and Sustainability Outcomes

Tourism operates across a spectrum of volume and market positioning, from low-volume, high-value niches (e.g., wellness, birdwatching, nature-based tourism) to large-scale, high-volume destinations. The critical variable is not whether a product is "luxury" or "mass," but how well it is managed in social, environmental, and economic terms. Both low- and high-volume models can generate either positive or negative outcomes depending on governance, community participation, and alignment with climate and biodiversity objectives. Understanding the nuanced trade-offs between these models is essential for aligning investment with both sustainability performance and long-term market viability.

Low-volume models

Potential benefits:

- Higher margins and smaller guest numbers can enable ring-fenced financing for adaptation and mitigation (e.g., wetland restoration, renewable energy systems, skills academies).
- Operational feasibility of circular systems and zero-diesel operations is greater at smaller scales.
- Premium brands can adopt carbon labeling, transparency, and sustainability funds without eroding willingness-to-pay

Constraints and risks:

- Without inclusive design, low-volume, high-value models can lead to exclusivity, cultural commodification, or inequitable benefit-sharing.
- Long-haul fly-in guests can dominate Scope 3 unless itineraries emphasize low-carbon legs/longer stays and credible, subsidiary offsets aligned to a mitigation hierarchy.

High-volume models

Potential benefits:

- Broader accessibility and job creation, with opportunities for community-owned microenterprises to integrate into supply chains.
- Scale can justify investments in decarbonized transport corridors, renewable energy, and waste management infrastructure at the destination level.

Constraints and risks:

- If unmanaged, high visitor volumes can increase ecosystem degradation, intensify per-site footprints, and lead to revenue leakage.
- Thin margins often limit reinvestment in climate and nature-positive measures, unless supported by levies, PES, or government subsidies or investments.

When each works (decision cues for investors/DMOs):

- **Ecologically sensitive or high-biodiversity areas** → Prioritize low-volume or capped hybrid models paired with stewardship funds, PES, or conservation investments.
- **Established high-volume destinations** → Focus on DMO-led decarbonization, infrastructure investment, demand management, and levy-financed nature-based solutions.
- **Community-priority zones** → Support community-led/PPCP tourism with revenue-sharing, capacity building, and strong social KPIs (e.g., local jobs, equity in revenue distribution).

Investment Implications & Term-Sheet Hooks

To operationalize the above, investors should build business-model-specific conditions into screening, structuring, and monitoring. The following clauses align with the combined KPI table in this chapter and the financing menu in the annex.

Screening & Structuring (pre-investment):

- **Model fit test.** Require an explicit articulation of the revenue model (HVLV, hybrid, PPCP/community-led, mass with levies) and its sustainability cost stack (capex/opex) mapped to KPIs (% renewables, kg CO_2e per visitor-day, NbS hectares, % revenue reinvested).
- **Governance & equity.** Evidence of FPIC-aligned processes, revenue-share/co-ownership terms, and grievance mechanisms where Indigenous/local communities are affected. (Addresses social risks flagged in Part 3.)
- **Finance braiding plan.** A concrete annex listing which instruments will be used (e.g., biodiversity credits, PES, parametric insurance, green loans), timelines, and verification partners.

Performance & Disbursement (post-investment):

- **Ring-fenced Sustainability Fund.** Minimum **x% of gross revenue** paid monthly to a restricted account funding adaptation/NbS/community projects; audited annually; linked to KPI thresholds.
- **Carbon & energy covenants.** Annual reductions in emissions per visitor-day; minimum renewable energy share by year; carbon labeling for core products within 12 months.
- **Nature-positive covenants.** Verified hectares protected/restored; ecosystem services valuation published; NbS co-designed with communities and tracked for social co-benefits.
- **Local prosperity covenants.** Local employment ratios, household income change, and % procurement spend within 50–100 km, plus *% revenue reinvested* in conservation/community.

Reporting & Verification:

Use the combined KPI table as the reporting backbone; tie milestone disbursements to third-party verification (where relevant: Gold Standard/Verra for carbon/NbS; recognized ecolabels for operations) and publish short, public-facing dashboards to meet growing consumer scrutiny of greenwashing.

Combined KPIs and Investment Criteria

The following table consolidates the investment criteria discussed throughout this report—spanning climate mitigation, biodiversity conservation, social equity, resilience, market positioning, and economic viability—into a single reference framework. It integrates the KPI categories introduced earlier with the business model considerations outlined in Section 4, enabling both investors and project developers to link operational decisions directly to measurable sustainability outcomes. By aligning these indicators with financing structures, governance commitments, and reporting requirements, the table serves as a practical tool for screening proposals, structuring term sheets, and tracking performance over time.

Table 4: Combined KPIs and Investment Criteria for Climate Action and Nature-Positive Tourism

Category	Specific KPI	Relevant Business Toolkits + Frameworks	SDG Target	Global Framework Linkages
Climate Change Mitigation	% reduction in GHG emissions per visitor per day (kg CO_2e)	Glasgow Declaration, Science-Based Targets Initiative (SBTi) for Tourism	13.2, 12.3	Paris Agreement, Glasgow Declaration, Gold Standard, SF-MST
	% of energy use from renewable sources in accommodations	UN TOURISM Tourism for SDGs Platform, ISO 14001	7.2, 7.3	Paris Agreement, SF-MST
	Carbon footprint labeling for tourism products	World Sustainable Hospitality Alliance Carbon Measurement Toolkit	12.8, 13.3	Global Carbon Atlas, SEEA-EA
	Share of low-emission transport use in tourism itineraries	Global Sustainable Tourism Council (GSTC) Criteria	11.2, 13.2	Paris Agreement, UNFCCC Transport Initiative
	Quantitative or qualitative increase in co-benefits through climate mitigation	Gold Standard, UNDP NDC Support Programme	13.2, 13.3	Paris Agreement, SDG 13, UNFCCC NDCs
	% of land conversion avoided, land protected by tourism; volume of carbon sequestered via protected or restored land/sea	Gold Standard, Verra (VCS)	13.1, 15.3	GBF Target 8, Paris Article 6, REDD+
	# of communication touchpoints for educating visitors about reducing carbon impact	UNESCO ESD, One Planet Network	4.7, 12.8	Glasgow Declaration, SDG 12, UN TOURISM Education Guidelines
Climate Change Adaptation and Biodiversity Conservation	% of tourism sites applying Nature-based Solutions (NbS); # of hectares protected, managed, or restored by tourism efforts	IUCN Global Standard for NbS, UNEP NbS Guidelines; Tourism for Nature Toolkit, Natural Capital Protocol	15.1, 13.1	GBF Target 11, IUCN NbS, Kunming-Montreal GBF Target 2, SF-MST
	# of societal challenges addressed or co-benefits produced via NbS interventions; # of documented community meetings to involve locals in planning for NbS	IUCN Global Standard for NbS, UNEP NbS Guidelines; AlUla Framework, Free Prior Informed Consent (FPIC) Toolkit	13.1, 15.9, 11.3, 16.7	IUCN NbS, GBF Target 8, UNFCCC, UNDRIP, AlUla Principle 2, CBD Target 21

	# of completed biodiversity footprint assessments across operations and supply chains; % progress towards implementation of site-specific mitigation plans	Biodiversity Footprint Financial Tool, Business for Nature, GRI 304; Science-Based Targets Initiative (SBTi) for Tourism, UNFCCC Reporting Tools	12.6, 15.1	GBF Target 15, TNFD, GRI Standards, Paris Agreement, Glasgow Declaration
	$ of additional green financing models or instruments utilized or secured	Green Climate Fund, Natural Capital Investment Alliance	17.3, 13.a	UNFCCC, GBF Target 19, CBD Finance Plan
	$ value of ecosystem services restored or protected; # of qualitative, intangible values documented relevant to community stakeholders	TEEB, Natural Capital Protocol; Living Heritage Toolkit, UNESCO Intangible Heritage Guidelines	15.9, 12.b	GBF Targets 2 & 14, SEEA-EA, UNESCO 2003 Convention, AlUla Principle 7
	# of initiatives aligned to national climate adaptation priorities and global biodiversity and climate frameworks; % of policies including ecosystem-based adaptation measures	National Adaptation Plans Toolkit, TIPs, UNFCCC National Adaptation Plans Toolkit, GBF Alignment Tools	13.2, 12.b	UNFCCC NAPs, GBF Targets 1, 22
Sustainable Development	% of community-owned or co-managed tourism enterprises	AlUla Framework, UN TOURISM Inclusive Tourism Guidelines	8.9, 10.2, 11.3	UDHR Art. 1, AlUla Principles 1 & 2
	% of procurement from local, sustainable suppliers	B Corp Impact Assessment, GRI Standards	12.6, 8.5	SDG Compass, ISO 20400, SF-MST
	% of certified sustainable tourism operators	GSTC, Travelife	12.b, 8.4	UN TOURISM ST-EP, CBD Target 15
Enhancing Resilience	# of workers trained in climate adaptation and sustainable tourism	UN SDG Academy, UNEP One Planet Programme	4.4, 8.5	ILO Decent Work Agenda, AlUla Principle 4
	# of destinations with active DRR and climate response plans	Sendai Framework, NAPs	13.1, 11.b	UNDRR, Paris Agreement
	% of investments allocated to green infrastructure or NbS	Green Climate Fund, Green Bonds Standards	13.1, 9.1	IUCN NbS, GBF Targets 8 & 19
Meeting Consumer Demand	% of tourists offered low-impact, climate-positive options	GSTC, Travalyst	12.8, 13.3	Glasgow Declaration
	% of tourism products with transparent sustainability certification or ecolabels	Blue Flag, EarthCheck, EU Ecolabel	12.6, 8.4	ISO 14024, UN TOURISM

	% of visitors educated through sustainability content or programs	UNESCO ESD, Tourism Declares	4.7, 12.8	Glasgow Declaration, SDG 4 Framework
Preserving Cultural Heritage	# of cultural heritage sites supported by tourism revenue	UNESCO WHC, Intangible Heritage Toolkit	11.4, 16.7	UDHR Art. 27, UNESCO 2003 Convention
	# of community traditions documented and featured in tourism offerings	AlUla Framework, Living Heritage Toolkit	11.4, 5.c	AlUla Principles 6 & 7
	% of tourism experiences led by Indigenous or local cultural practitioners	ILO Convention 169, UNDRIP	5.b, 10.2	CBD Target 22, UDHR Art. 27
Economic Benefits	Increase in local employment from sustainable tourism	ILO Decent Work Indicators, UNDP Reports	8.5, 1.2	ILO Decent Work Agenda, SF-MST
	Change in household income in tourism-dependent communities	Inclusive Wealth Index, World Bank	1.4, 8.3	UNDP, SDG Impact Standards
	% of tourism revenue reinvested in conservation and community projects	GSTC, WTTC Impact Model	8.9, 15.a	GBF Target 19, UNFCCC
Social Inclusion & Human Rights	% of tourism projects applying a human-rights based approach (with monitoring for gender, Indigenous, and disability rights)	UN Guiding Principles on Business and Human Rights, FPIC Toolkit, CEDAW, CRPD	5.1, 8.5, 10.2, 16.10	UDHR, UNDRIP, ILO 169, AlUla Principle 1, Human Rights-Based Approach (HRBA)
	% of community-owned or co-managed tourism enterprises that include women, youth, and marginalized groups in leadership roles	AlUla Framework, UN Tourism Inclusive Tourism Guidelines, Planetera resources	5.5, 8.9, 10.2	CEDAW, SDG 5, UDHR Art. 21, AlUla Principle 2
	% of workers in tourism supply chains receiving fair wages, safe working conditions, and skills development opportunities	ILO Decent Work Indicators, B Corp Impact Assessment, GRI Standards	4.4, 8.5	ILO Decent Work Agenda, UDHR Art. 23, AlUla Principle 5

Conclusion

The findings of this report affirm a clear and urgent truth: the tourism sector must undergo a profound transformation to meet the realities and impacts of the climate and biodiversity crises. As both a contributor to and a casualty of human-caused environmental degradation, tourism holds a unique and paradoxical role. However, it also holds powerful potential to be part of the solution. Climate and nature-positive tourism is no longer a niche ambition—it is an operational necessity and a strategic opportunity for future-proofing destinations, supporting communities, and conserving the very ecosystems upon which the sector depends.

This report has presented a roadmap for how to catalyze this shift—through investment in mitigation, adaptation, biodiversity conservation, and inclusive development—supported by clear Key Performance Indicators (KPIs) and international frameworks. It has translated global targets into practical guidance, backed by case studies and business insights, and organized these indicators into a comprehensive framework tailored for real-world application. Tourism developers and operators can use these KPIs to guide design decisions, strengthen investor confidence, and monitor their sustainability performance over time. Investors can use them to set rigorous evaluation criteria, monitor compliance post-investment, and tie capital to measurable outcomes. Policymakers, meanwhile, can leverage this framework to embed tourism into broader climate and development strategies.

Ultimately, this report shows that the climate and nature-positive transformation of tourism is not only possible—it is already underway. But scale, coordination, and accountability are urgently needed. By embedding climate, biodiversity, and equity considerations at the heart of tourism investments, the sector can move beyond promises and deliver concrete, verifiable impact. This report is a call to action: to think systemically, act collaboratively, and invest boldly in the regenerative future of tourism. The time for incremental change has passed; what lies ahead is an opportunity to redefine tourism as a force for planetary stewardship and shared prosperity.

Annexes

Annex 1: Financing Opportunities for Tourism – Diversifying Beyond Tourism with Nature to Enhance Destination Resilience

As tourism businesses increasingly seek to align with climate and nature-positive objectives, many face a common challenge: how to finance the transition beyond conventional revenue streams. While impact investors and climate funds play a critical role, these alone are often not sufficient to meet the financial demands of long-term sustainability. Diversifying access to green financing can enable tourism operators to implement ecosystem restoration, reduce emissions, and build resilience—while creating measurable environmental and social value.

This section of the annex outlines a range of **additional green financing instruments** that tourism businesses can explore to support and scale their sustainability efforts. These include mechanisms such as conservation finance, blended finance models, biodiversity credits, and payments for ecosystem services. Each instrument is accompanied by a brief description, illustrative examples, and links to relevant tools or frameworks to support implementation.

1. Impact Investing

- Investments focused on achieving measurable environmental and social impacts alongside financial returns.
- **Example/case study linkage**: SCF case study/SCF as a case study?
- **Resources**:
  - GIIN (Global Impact Investing Network)
  - ImpactBase.

2. Green Financial Products

- Loans or bonds tied to sustainability indicators like renewable energy use or waste reduction.
- **Example/case study linkage**: An eco-resort in Thailand using a green bond to install solar panels and improve energy efficiency.
- **Resources**:
  - Green Bond Principles by ICMA
  - UNEP Finance Initiative.

3. Sustainable Supply Chain Financing

- Financing tied to responsible sourcing from environmentally and socially sustainable suppliers.
- **Example/case study linkage**: A luxury hotel sourcing sustainable timber for its construction, backed by preferential financing.
- **Resources**:
  - Sustainable Supply Chain Initiative (SSCI)
  - UN Global Compact on Sustainable Supply Chains.

4. Insurance Risk Reduction Products

- Insurance products mitigating risks from climate change impacts and natural disasters.
- **Example/case study linkage**: A Caribbean resort securing parametric insurance to cover losses from hurricanes.
- **Resources**:
  - InsuResilience Global Partnership
  - World Bank Climate Insurance Resources.

5. Article 6.4 Markets (Paris Agreement)

- Cooperative mechanisms under the Paris Agreement allowing for carbon credit trading to finance sustainability projects.
- **Example/case study linkage**: A tour operator partnering with a national government to trade carbon credits generated by reforestation initiatives.
- **Resources**:
  - UNFCCC Article 6 Guidance
  - Paris Agreement Handbook.

6. Biodiversity Offsetting

- A mechanism requiring businesses to compensate for biodiversity impacts by funding restoration or conservation projects elsewhere.
- **Example/case study linkage**: A tourism operator in Australia offsetting ecosystem disruption by financing wetland restoration in partnership with a local conservation NGO.
- **Resources**:
  - Business and Biodiversity Offsets Programme (BBOP)
  - IUCN's Guidelines for Biodiversity Offsets.

7. Voluntary Carbon Markets

- Platforms where businesses can purchase carbon credits to offset emissions from activities like transportation and accommodation.
- **Example/case study linkage**: A resort in Costa Rica offsetting emissions through a verified project planting trees in degraded areas to sequester carbon.
- **Resources**:
  - Gold Standard Carbon Credits
  - Verified Carbon Standard (Verra).

8. Payments for Ecosystem Services (PES)

- Financial incentives for communities or organizations to maintain or enhance ecosystem services critical for tourism.

- **Example/case study linkage**: A tourism company funding coral reef restoration in Indonesia to protect biodiversity and enhance diving experiences.
- **Resources**:
  - UNDP Payments for Ecosystem Services Toolkit
  - OECD PES Guidance.

9. Habitat Banking

- A system where businesses invest in habitat restoration or protection projects in exchange for biodiversity credits.
- **Example**: A cruise operator investing in mangrove restoration as part of a biodiversity banking scheme in Southeast Asia.
- **Resources**:
  - Habitat Banking Resource Hub from Future Parks Accelerator
  - Setting Up an Urban Habitat Bank

10. Destination Carbon Funds

- Pooled funds created by businesses within a destination to collectively offset carbon emissions and invest in local renewable energy or conservation projects.
- **Example**: Tourism operators in Costa Rica jointly funding a wind energy project to reduce the destination's carbon footprint.
- **Resources**:
  - Guide to Carbon Credit Buffer Pools
  - Collaborative Carbon Removal

Annex 2 - List and application of potential ecosystem service valuation methods

Throughout this study, many surveyed tourism businesses identified the challenge of ecosystem service valuation as a significant barrier to implementing climate and nature-positive strategies. While many are actively engaged in conservation, restoration, or climate adaptation initiatives, they often lack the tools or expertise to quantify the value of these efforts—undermining their ability to communicate impact, attract investment, or justify additional funding. This limitation is particularly acute when exploring diversified revenue streams or aligning with innovative finance mechanisms beyond traditional tourism income.

Effectively valuing ecosystem services is a critical step for making the benefits of nature visible—whether to investors, policymakers, or the communities who depend on them. From a financing perspective, assigning a monetary value to ecosystem functions such as carbon sequestration, water purification, or shoreline protection can strengthen a project's business case and demonstrate returns on investment. For policymakers, such valuations provide a compelling basis for integrating tourism projects into broader climate and conservation strategies. At the same time, ecosystem services often hold deep cultural, spiritual, and social significance that cannot—and should not—always be reduced to monetary terms. Valuing intrinsic and intangible ecosystem benefits can help tourism operators build community support, strengthen local ownership, and uphold cultural heritage, particularly when engaging Indigenous Peoples or rural communities.

This annex provides an overview of common **ecosystem service valuation methods**, ranging from market-based approaches to participatory, non-monetary frameworks. It aims to equip tourism stakeholders with entry points for identifying, measuring, and communicating the full value of the ecosystems they depend on and protect—ensuring that conservation efforts are recognized not only ecologically, but economically and socially as well.

Name of Method and Acronym	Description
Abatement Cost (AC)	See "marginal abatement cost"
Artificial Intelligence for Ecosystem Services (ARIES)	An artificial intelligence and semantic modelling platform; Bayesian Network based model; Open source; documented some components of the model
Avertive or Mitigative Expenditures	Expenditures taken to mitigate or avert the negative effects of the loss of ecosystems or ecosystem services and to avoid consequent economic costs. These expenditures can be used as indicators of the value of conserving habitats in terms of expenditures avoided.
Benefitiary Approach	The classification of ES according to beneficiary (sub-) categories
Benefit Transfer (BT)	The goal is to estimate benefits for one study by adapting an estimate of benefits from some other study. It is often used when it is too expensive and/or there is little time available to conduct an original valuation study.
Biophysical Valuation	A method that derives values from measurements of the physical costs (e.g., in terms of labour, surface requirements, energy and material inputs) of producing a given good or service.
Choice Experiment (CE) or Discrete Choice Experiment (DCE)	Choice experiments are based on Lancastrian consumer theory which proposes that consumers make choices not on the simple marginal rate of substitution between goods, but based on preferences for attributes of these goods. CE predicts consumers' choice by determining the relative importance of various attributes in consumers' choice process (Hanemann and Kanninen 1998).

Common International Classification of Ecosystem Services (CICES)	The Common International Classification of Ecosystem Services (CICES) developed from the work on environmental accounting undertaken by the European Environment Agency (EEA). It supports their contribution to the revision of the System of Environmental-Economic Accounting (SEEA) which is currently being led by the United Nations Statistical Division (UNSD).
Contingent Valuation (CV)	People are directly asked their willingness to pay or accept compensation for some change in ecological service.
Cost-Benefit Analysis (CBA)	A technique designed to determine the economic feasibility of a project or plan by quantifying its economic costs and benefits
Cost-effectiveness analysis/approach	Analysis to identify the least cost option that meets a particular goal
Co$ting Nature Model	Simple modelling tool for a much wider range of ecosystem services; open source; documented
Damage Cost Avoided (DCA or DC)	The damage cost avoided estimate the costs of ecosystem services based on avoiding damages due to lost services.
Debt for Nature Swap	Debt for nature swap is an agreement between a developing country with a high financial debt and one or more of its creditors. In this situation, the creditors agree to forgive the debt and in return the nation in debt promises environmental protection of some of its natural resources; historically the environmental promises have focused on the protection of large areas such as tropical rainforests (Wynn, 2011).
Delphi Panel	Structured communication technique created as an interactive forecasting method that relies on a panel of experts. This method is based on the idea that group judgments are more legitimate than individual judgments.
Demand Function	Demand function is a behavioral relationship between the quantity of a product (or service) consumed and a person's maximum willingness to pay for incremental increases in the quantity of such product (or service). Factors that frequently influence willingness-to-pay include income, price or availability of substitutes, and individual tastes or preferences. This behavioral relationship is usually an inverse relationship where higher prices lead to less quantity consumed and vice versa.
Discrete Factor Method (DFM)	This method permits us to account for unobserved heterogeneity across agents, while at the same time allowing for correlation across RP and SP demand equations.
Emergy	Emergy is a thermodynamic methodology introduced by Howard Odum during the 1980s. This quantitative analysis technique standardizes the values of non-monetized and monetized resources, services and commodities in a sole unit, making it a very versatile technique that can be applied to whatever natural or human system or to a mix of two and that allows measuring the work of the environment and economy on a common basis (Odum and Odum, 2000; Vassallo et al., 2013).
Energy Analysis (EA)	This valuation technique looks at the total biological productivity of ecosystems as a measure of their total contributory value. Primary plant production is the basis for the food chain which supports the production of economically valuable products such as fish and wildlife. It is converted to an equivalent economic value based on the cost to society to replace this energy source with fossil fuel as measured by the overall energy efficiency of economic production.
Expected Damage Function Approach (EDF)	A PV study examines the contribution of environmental amenities to the market price of property. It can be desgined to measure the implicit values of policy-relevant scenic amenities to nearby residents.
Expenses on Wildlife Habitat	It represents the costs incurred by recreational users of the habitat (Hovde & Leitch, 1994).
Expert Interview Method (EI)	This method can be used to solicit information from knowledgeable experts to determine values of ES. See also Delphi Method.

Hedonic Price Method (HP)	This method is used to value ecosystems or ecosystem services that directly affect market prices. It is commonly used in analyzing variations in house prices that reflect the home owner's willingness to pay for environmental attributes; it can be used to estimate the benefits associated with environmental amenities, such as aesthetics and proximity to recreational locations (King &Mazzotta, 2000).
IMPLAN	The IMPLAN (IMpact analysis for PLANning) input-output modeling software is used to assess the "ripple effects" or multi- plier effects of an increase or decrease in spending. By modeling the interactions between every industry in an economy and tracking the flow of goods and services, one is able to estimate the total economic impact (jobs, income, sales) for the region in question.
InVEST: Integrated Valuation of Environmental Services and Tradeoffs	InVEST is a set of tools to map and value ecosystem services which are essential for sustaining and fulfilling human life. Detailed and process-based model; raster based modelling system; open source; documented.
Latent Class Model (LCM)	This method is used to evaluate choice behavior as a function of visible features of the choices and hidden heterogeneity in respondent characteristics.
Marginal Abatement Cost	The cost of reducing an incremental unit of an undesirable substance, such as a pollutant or carbon.
Market Price (MP)	It estimates the economic value of ecosystem products or services that are bought and sold in commercial markets. It uses standard economic techniques for measuring the economic benefits from marketed goods, based on the quantity people purchase at different prices, and the quantity supplied at different prices.
Market Price of CO2 (MPCO2)	Economic value of carbon stocks can be calculated using the average market price of CO2, such as through European negotiation System for CO2 (Ranson and Stavins, 2016).
Meta-Analysis (MA)	The process or technique of synthesizing research results by using various statistical methods to retrieve, select, and combine results from previous studies.
Meta-Regression (MR)	A statistical model to perform meta-analysis that looks at the relation between values of x (dependent variable) given the observed values of y (independent variable(s)).
MIMES (Multi-scale Integrated Model of Ecosystem Services)	The Multiscale Integrated Models of Ecosystem Services (MIMES) model is an approach and analytical framework designed to integrate different types and scales of knowledge in order to understand and visualize ecosystem service values by revealing transformations in natural, human, built, and social capital through an interaction matrix.
Mitigation Cost Method (MC)	Mitigation cost-based valuation methods are a group of 'exchange-based' techniques that use the cost of actual measures to maintain ecosystem service provision as a proxy for the value of avoiding, mitigating or restoring the loss of services ecosystems provide.
Multi-Model Criteria Analysis (MCA)	A tool in decision theory that models a decision-maker preferences to choose among options involving a number of, often, conflicting goals. This approach examines how all the significant aspects of choices are assessed and traded-off by decision makers.
Multi-Criteria Decision Analysis (MCDA)	Multi-Criteria Decision Analysis (MCDA) is a non-monetary valuation method for simultaneously embracing, combining, and structuring often incommensurable diversity: diversity of information (e.g. qualitative and quantitative data, as well as uncertainty), diversity of opinion (also among experts), diversity in actor perspectives (stakes), and diversity in assessment/decision-making criteria.
Multinomial Logit Model (MNL)	This method is used to represent choice between two exclusive options; for example, a person may choose to drive to work and take a bus. The weakness of this model is that is implies that the choice between any two alternatives depends only on the characteristics of the alternatives being compared, rather than the characteristics of any other group of alternatives.
Natural Capital Accounting	A way of organising information about natural capital so that the state and trends in natural assets can be documented and assessed in a systematic way by decision makers.

Opportunity Cost	The loss of potential gain from other alternatives when one alternative is chosen. In short, the benefits an individual would receive by choosing another action/buying another product.
Production Function Approach (PFA)	The production function approach (PFA) can be used in situations where a marketed good or service is produced with both man-made and ecosystem inputs. For example, many agricultural crops are dependent on insect pollination and the value of increased pollination can be estimated from the increased revenues from higher yields or improved crop quality associated with higher level of pollination by insects. The PFA is therefore a method designed to value indirect use values.
Productivity Method (PM)	Estimates economic values for ecosystem products or services that are bought and sold in commercial markets.
Property Value (PV)	Ecosystems may be valued using the average property value in an area.
Random Utility Model (RUM)	This method is used in travel cost recreation demand analysis to value features of the recreational sites. For example, this method can be used to value the benefits of improved access to beach or improved water quality for recreational purposes. The travel cost RUM analyzes a person's discrete choice of one recreation site over other sites. The site choice is assumed to depend on the features of the site and to reveal the person's preferences for those features.
Regression Analysis (RA)	The description of the nature of the relationship between two or more variables; it is concerned with the problem of describing or estimating the value of the dependent variable on the basis of one or more independent variables.
Relative Ratings	In this method individuals rate natural resources as a means of estimating its value. If a wetland provides fish for example and fish is highly valued, then they would rate the wetland with a 5, which would represent the highest level of relative importance.
Relative Valuation of Ecosystem Services Index (RESVI)	Application of this approach entails asking the question: "If you were given one dollar, how would you spend this dollar to ensure the continued provision or enhancement of offshore ecosystem services?" Each participant could either assign his or her dollar to one ecosystem service alone, or divide it among as many ecosystem services as he or she desired. Under this approach, the relative value of each ecosystem service could be determined by each participant and on average (i.e., for all participants combined).
Replacement Cost (RC)	The loss of a natural system service is evaluated in terms of what it would cost to replace that service.
Revealed Preference	This theory is based on the idea that the preferences of consumers can be revealed by their purchasing habits. Two methods that follow in this category are Travel Cost Method (TC) and Hedonic Price (HP).
Rich Picture Modelling	A qualitative method designed to explore, acknowledge and define a situation and express it through diagrams to create a preliminary mental model. A rich picture helps to open discussion and come to a broad, shared understanding of a situation.
Shadow Price (SP)	Shadow price is a proxy value of a good, usually defined as what an individual must give up to gain an extra unit of that good. When the price of a good or service does not reflect the actual value of that good or service, or when there is no market for that good or service, shadow price can be used. Economists also use the term shadow price to refer to opportunity cost.
Social Cost of Carbon (SCC)	The social cost of carbon (SCC) is an estimate, in dollars, of the economic damages that would result from emitting one additional ton of carbon dioxide into the atmosphere.
Socio-cultural Valuation (SCV)	Sociocultural valuation (SCV) is the process of identifying these values to particular benefits that humans obtain and enjoy from nature (Scholte et al. 2015). It is particularly suitable for capturing values and perceptions that people assign to ES

Spatial Value Transer (SVT)	Consists of six core steps: (1) selecting the ecosystem services to be valuated, (2) defining the study area, (3) establishing a typology to classify land use/land covers that can then be used to predict significant differences in the value and flow of the ecosystem services selected, (4) meta analysis of previous valuation literature to identify available land use/land cover types, (5) estimating the value of ecosystem services per area unit, and (6) calculating the ESV annual flow, based on land use/land cover and mapping.
Stated Preference	This technique is a market research tool that allows researchers to understand how consumers value different ecosystem products and/or services. It involves asking consumers to rate, rank, or how much they would be willing to pay or accept for a certain ecosystem good or service. The choices made by consumers help determine how they value a certain product or service. Examples of this technique include contingent valuation, conjoint analysis, and choice experiment.
Toolkit for Ecosystem Service Site-based Assessment (TESSA)	A collection of models for quantifying and mapping values of multiple ecosystem services; Suitable for landscape based valuation
Travel Cost Method (TC)	Estimates economic values associated with ecosystems or sites that are used for recreation. Assumes that the value of a site is reflected in how much people are willing to pay to travel to the site.
WaterWorld model; Web-based application (http://www.policysupport.org/waterworld); (Mulligan and Burke, 2005, Bruijnzeel et al., 2011, Mulligan, 2013)	Detailed and process-based model; raster based modelling system; open source; documented
Water Evaluation and Planning System (WEAP)	Process based hydrological model with scenario analysis; well documented
Willingness-to-Accept (WTA)	Willingness to accept (WTA) is the minimum monetary amount that a person is willing to accept to sell a good or service.
Willingness-to-Pay (WTP)	Asks people to directly state their willingness to pay for specific environmental services, based on a hypothetical scenario.

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