



A Roadmap to Improving Ocean and Coastal Health

2022–2030



IBEROSTAR
GROUP

About the Roadmap

In 2020, Iberostar made a commitment to lead responsible tourism, in part by protecting and restoring the ocean on which its business depends. Through its pioneering Wave of Change movement, Iberostar is providing solutions for the ocean's biggest challenges using the strengths of tourism and the private sector's ability to accelerate and scale solutions. These actions will lead to a more resilient business and to resilient and regenerative destinations for all to enjoy for generations to come.

Iberostar's Coastal Health Roadmap addresses the third of Wave of Change's five long-term commitments: **ecosystems improving in ecological health**. This roadmap establishes clear goals in critical areas of the tourism sector, destinations, and the health of the ocean. The Roadmap sets clear precedents to prove the business case, establishes key progress indicators which we will use track success, and provides guiding actions. The Roadmap will guide our work but also seeks to also provide clear guidelines that may help others build regenerative destinations and resilient businesses.

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A commitment to the health of the ocean

In 2020, Iberostar launched its Wave of Change movement committing to ocean conservation. This commitment responds to the increased global concern for the health and wealth of the ocean as well as the coastal communities that depend on it. With more than 80% of Iberostar's hotels located in coastal areas, coral reefs and other ecosystems such as seagrass, mangroves, dunes, and salt marshes play a pivotal role in the protection and provision of services in our destinations and to our hotels and people.

The destinations that the tourism sector depends on are at risk. But the tourism sector can provide solutions that address the impact of climate change and ocean and coastal ecosystem decline and drive the shift to resilient and regenerative destinations. Iberostar's ambition is to engage in transformational and scalable actions that enable tourism to be a driving part of the solution.

Iberostar has committed that, by 2030: **All ecosystems that surround Iberostar properties are improving in ecological health alongside profitable tourism.** The Coastal Health Roadmap lays out our vision and the actions that Iberostar will take to achieve this goal. Furthermore, we aim for the Roadmap to provide guidelines to the sector more broadly, to drive collective action.

Tourism, the ocean and its coasts

The ocean and its coasts host complex ecosystems that provide invaluable services to humanity and directly contribute more than 1.5 trillion US\$ a year to the global economy (OECD). The ocean plays a fundamental role in addressing climate change through the uptake and redistribution of heat and carbon dioxide. The ocean absorbs 25% of all carbon emissions and regulates heat. Coastal and marine ecosystems have the ability to capture and store carbon efficiently, and

ocean mitigation actions could reduce greenhouse gas emissions by more than 11 billion tons per year by 2050 (Hoegh-Guldberg, O., et al.).

Marine and coastal ecosystems provide multiple services to hundreds of millions of people. More than 3 billion people rely on food from the sea as their primary source of protein (Stuchtey, M.R., et al.). Ecosystems like corals, mangroves, dunes, and seagrasses provide protection from extreme weather patterns and detoxify pollutants. The ocean and coasts nurture biodiversity, offer recreational and cultural/spiritual value, and enable livelihoods. These ecosystems are undervalued, the economic benefits are not internalized, and they are under severe threat from climate change and human activities.

Coral reefs can reduce up to 97% of wave energy, hence reducing property and beach damage during storms by more than 4 billion US\$ a year and protecting nearly 200 million people. Reef crests alone provide 86% of this energy reduction (Ferrario, Filippo et al.), making reefs a comparable wave attenuation tool. Adaptation and hazard mitigation are needed to mitigate the threats coral reefs face from human-induced climate change and human activity.

Mangroves play a critical role in coastal protection and risk reduction. Mangrove forests can protect against coastal flooding, providing up to US\$80 billion in avoided losses and protecting 18 million people (ORRAA). Mangroves also contribute to fish abundance, sequester much more carbon than land cover, and provide shelter. However, more than 50% of mangroves have been lost, and while mangrove de-

struction has slowed, there is an urgency to reverse the loss of mangroves to aid with climate mitigation and adaptation.

Dunes provide important ecosystem services that reduce risk in severe weather conditions and provide a barrier against sea-level rise. Dune vegetation also helps to reduce sand loss from beaches; however, dunes are threatened by tourism, agriculture, aquaculture ponds, and urbanization.

Seagrasses slow down currents and reduce wave height and energy in normal climate conditions, protecting the shorelines. Seagrasses alone are less effective at this in severe weather conditions, but combined with other ecosystems they can be very effective. Seagrass meadows also hold sediments, upholding the integrity of the shoreline. They are highly susceptible to temperature rises and increases in nitrogen pollution.

The health of the ocean is intrinsic to the benefits the tourism sector derives from it. The tourism sector profits from a healthy ocean and the destinations and communities we operate in depend on the services it provides. Hundreds of millions of people flock yearly to the ocean to connect with nature and seek well-being and recreation. Increasingly, people interact with the ocean through activities such as diving, snorkeling, sailing, kayaking, and more. The habitats and biodiversity of the coasts and oceans are the reason our travelers visit

hotels and resorts. Coral reefs alone generate 11.5 billion US\$ annually in tourism revenue (Stuchtey, M.R., et al.).

At Iberostar, we see the need to **reestablish marine and coastal health and strive towards resilient ecosystems with functioning ecosystem services that will build regenerative and resilient tourism destinations.** For us, that means valuing and protecting nature that benefits our operations, the tourism sector, and the destinations and communities we operate in.

Challenges facing coastal and ocean ecosystems

Coastal and ocean habitats and biodiversity are dwindling fast and marine and coastal environments are changing at an unprecedented rate. This change is affecting ecosystem services, reducing the benefits they provide. Human-induced global climate change and related threats such as elevated water temperature, ocean acidification, relative sea-level rise, and increased frequency and intensity of weather events are some of the greatest threats to coastal and marine ecosystems.

A scenario of an increase of more than 1.5 degrees of average ocean temperature would cause a 99% decline in coral reefs. Coasts are at imminent risk from sea-level rise and an increase in extreme weather patterns that lead to coastal flooding, coastal and beach erosion, salinization of groundwater, and destruction of tourism infrastructure. An estimate in the Caribbean puts resort rebuilding costs between 10 and 23 billion US\$ by 2050 (Scott, D. et al.).

Human activities are also putting increased pressure on the ocean. With nearly 40% of the world's population living within 100 km of the coast, and 80% of tourism conducted in that same area (UNWTO), human activities are generating waste, water pollution, and demanding more and more resources from the ocean for food, energy, and recreation.

Coastal impacts from climate change derive primarily from conversion for urban, agriculture, and tourism purposes. Mangroves alone declined over 20% between 1980 and 2000 (FAO). Urbanization and floods are affecting dune ecosystems and wetlands. Fish stocks are being depleted in most areas that lack strong management and oversight. Biodiversity is dwindling fast, with over 50% of open ocean species lost in the last 50 years (Stuchtey, M.R, et al.). Land-based pollution is affecting water quality, ecosystems, and the quality of the tourism experience, which is increasingly affected by increasing episodes of algae bloom, arrivals of sargassum, and the presence of jellyfish.

Sargassum is a natural occurring phenomena and an essential habitat for fish and food source for invertebrates. Increasing water temperature and the presence of nitrogen in the ocean has enabled massive sargassum arrivals. Sargassum is harmless to humans, but unpleasant to swimmers and emits an unpleasant smell when decomposing. The massive arrivals of sargassum also affect areas with coral reefs and larger ocean animals are affected as well.

Risks to the sector

Human-induced climate change is aggravating worldwide disasters. In the last 10 years, insurance companies have paid out over 300 billion US\$ for coastal storm damage and by 2050, it is expected that sea-level rise and increased extreme weather events are expected to cost urban areas more than 1 trillion US\$ annually (ORRAA).

Beach and coastal tourism make up the primary portfolio of Iberostar hotels, and for most leisure tourism. Iberostar has identified that **exposure to extreme weather events, natural disasters, and climate change is the number one threat to its business**. Not only will extreme weather patterns have a direct impact on the infrastructure and operations, but before that the financial impact will be felt even sooner, through higher insurance costs and investment risk assessments in future developments. In the Caribbean alone, it was estimated that about 30% of resorts would be partially or fully inundated by one meter of sea-level rise, and 60% would be at risk of beach erosion and beach loss (Scott, D, et al.).



Taking action

At Iberostar, we believe it is time for transformative action to reach tipping points that lead to ecosystem health and

function. We hope our actions inspire others to join the efforts and drive the scale needed for regenerative tourism.

Iberostar will seek to implement nature-based solutions (NbS) to achieve coastal health goals where feasible and relevant. To ensure effectiveness of the implementation of NbS, we will use the IUCN Global Standard for Nature-based Solutions.

Nature Based Solutions are actions that protect, sustainably manage, and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits. The solutions are designed to address major societal challenges, such as food security, climate change, water security, human health, disaster risk, and social and economic development (IUCN).

Global Standard for NbS: IUCN Global Standard is an environmental standard system designed for governments, businesses, financial institutions organizations and more, to be used across many different regions. It provides clear parameters, 8 criteria and 28 indicators, for defining NbS and a common framework to help benchmark progress. The 8 criteria are society challenges, design at scale, biodiversity net-gain, economic feasibility, inclusive governance, adaptive management, and mainstreaming & sustainability (IUCN).

IUCN Nature-based Solutions to address global societal challenges.

With the overarching goal of improving the health of marine and coastal ecosystems, Iberostar is working on five primary business cases:

Meeting carbon neutrality goal by 2030, filling the gap of reduction with high-quality, nature-based carbon offsets	Reducing risk derived from climate impacts by implementing nature-based solutions	Enhancing the coastal and marine tourism products: beach and water	Regreening Iberostar properties to enhance the health and wellness of travelers	Building equitable tourism by promoting community tourism and alternative livelihoods

Action, however, needs to be science based, data informed, well managed for the long term, and integrated into operations as part of our day-to-day business. We have to be inclusive of the value chain and the employees and customers, while working in collaboration with key stakeholders at destinations at the national and international level.

Overarching pillars

At Iberostar, we aim to work towards the goals of these business cases by:



Pushing the boundaries of knowledge through science.



Leading through action and driving change in the industry.



Integrating coastal health action into operations and investments.



Enabling employees, clients, and communities to "discover the ocean."

Pushing the boundaries of knowledge

Research is at the heart of all that Iberostar's coastal health team does to address the threats to coastal and marine ecosystems, with a solid base of sound, pioneering science that can lead to innovative solutions. We understand that rigorous science is the first step to ensuring a resilient and productive future for our ocean and the destinations we operate in and have set ourselves the goal of **leading in cutting-edge science to meet business objectives**. As Iberostar moves to the implementation of

nature-based solutions, these transformations must be grounded on science and follow-up monitoring that can determine scalable and replicable solutions.

With a dedicated science team, managers, and coordinators that are leaders in their fields, Iberostar drives action informed by applied science. Our experts lead the way, seeking innovative solutions that directly relate to the business case for Iberostar, while sharing knowledge through publications and participation in key fora. This team also drives critical partnerships with NGOs and academic institutions in our destinations to further catalyze applied science and management. Iberostar also seeks to shorten the knowledge gap, working with leading academic institutions, scientists, and experts as well as providing access to scholarships and internships that let students work hand in hand with our science team, enabling local capacity and knowledge.

Leading through action

The ocean and coasts are intrinsically interconnected to tourism, and tourism can lead the way toward a sustainable ocean economy. As an active participant in the World Economic Forum, an Advisory Network Member of the High Level Panel for a Sustainable Ocean Economy, and a

founding member and co-lead of the Tourism Action Coalition, Iberostar has paved the way for the tourism sector to play a leading role in the blue economy.

Iberostar seeks to demonstrate through science-based action how tourism can engage in building regenerative and resilient destinations, while playing a convener and facilitator role to find replicable and scalable solutions for the sector. We aim to do so at a local, regional, and national level. Iberostar's goal is **to be at the forefront of the industry, providing actionable, replicable, and scalable solutions for the tourism sector to build resilient and regenerative destinations**.

Integrating Coastal Health into business operations

The ecosystem services provided by the ocean affect the day-to-day operations of any tourism business. We depend on abundant and clean beaches, water quality, thriving corals, seagrasses and a healthy nature. At Iberostar we understand the intrinsic connection between the ocean and our business and the need to evolve our practices to account for these externalities.

Acknowledging the areas of intersection of coastal health action and operations allows us to identify where action can become part of our day-to-day work, be it in the management of gardens, the interaction with our clients, or the incorporation of the financial risks of climate change into our investments.

Employees at Iberostar proudly implement Wave of Change, creating training and engagement opportunities that are vital for the success of the movement. Working with marketing and communications, as well as our entertainment team brings the message to our clients and engage them actively in ocean and coastal protection. This allows us to reach **Wave of Change's goal of being a major driver for 60% of our clients to choose Iberostar by 2025.**

Discovering the ocean

“Our ocean defines our planet, it sustains us and is home to more than half of all life on earth today. The presence of the ocean touches every living thing... the air we breathe and the water we consume are ultimately linked to the seas. The ocean drives our weather and stabilizes our climate... **We have not understood what the ocean does for us...**”

Sir David Attenborough

The ocean is the last frontier, unknown to many. We may never fully discover or understand its riches because it is under threat. Ecosystems and species are disappearing. Unveiling the ocean and the value it has for tourism can help build not only an understanding but a connection between people and the ocean, satisfying the adventure and knowledge people seek and inciting its protection - building advocates for the ocean.

At Iberostar, we launched **Wave of Change Discovery**, a program that links all our stakeholders (guests, part-

ners, employees, and local communities) with our ocean, coasts, and ecosystems in and around our properties. Programs range from enhancing the experience by bringing people closer to nature, to volunteer programs that support nature and citizen science. Our goal is that **every Iberostar property has initiatives in place to build meaningful connections between tourism and the ocean.** This effort starts with exciting and training our staff in coastal health action, bringing communities closer to the ocean through education and engagement, and offering “discovery” experiences to our customers.

Defining and measuring coastal health at Iberostar


The protection and management of coastal and marine ecosystems will enable the healthy provision of ecosystem services to tourism and coastal communities, and will ensure the economic viability of tourism destinations. Tourism is highly dependent on the health of these ecosystems, with beach and ocean activities being the main driver of coastal and marine tourism. The tourism sector does not see the ocean and coastal resources as commodities; rather, they are the source of income for the sector and for communities in the destinations where tourism is present.

Iberostar strives to **create a tourism model that contributes to marine and coastal health, seeking to restore ecosystem services and sustainably manage natural areas while supporting local economies and economic returns from tourism.** All of this is done while optimizing resilience to climate threats. Iberostar seeks to build regenerative and resilient destinations through the discovery, protection and restoration of seagrasses, dunes, mangroves, coral reefs, and other ecosystems present in the places where we operate.


2030 Goal:

All ecosystems that surround Iberostar properties are improving in ecological health alongside profitable tourism.


1.1 2030 Targets



All Iberostar hotels are implementing Coastal Health projects.

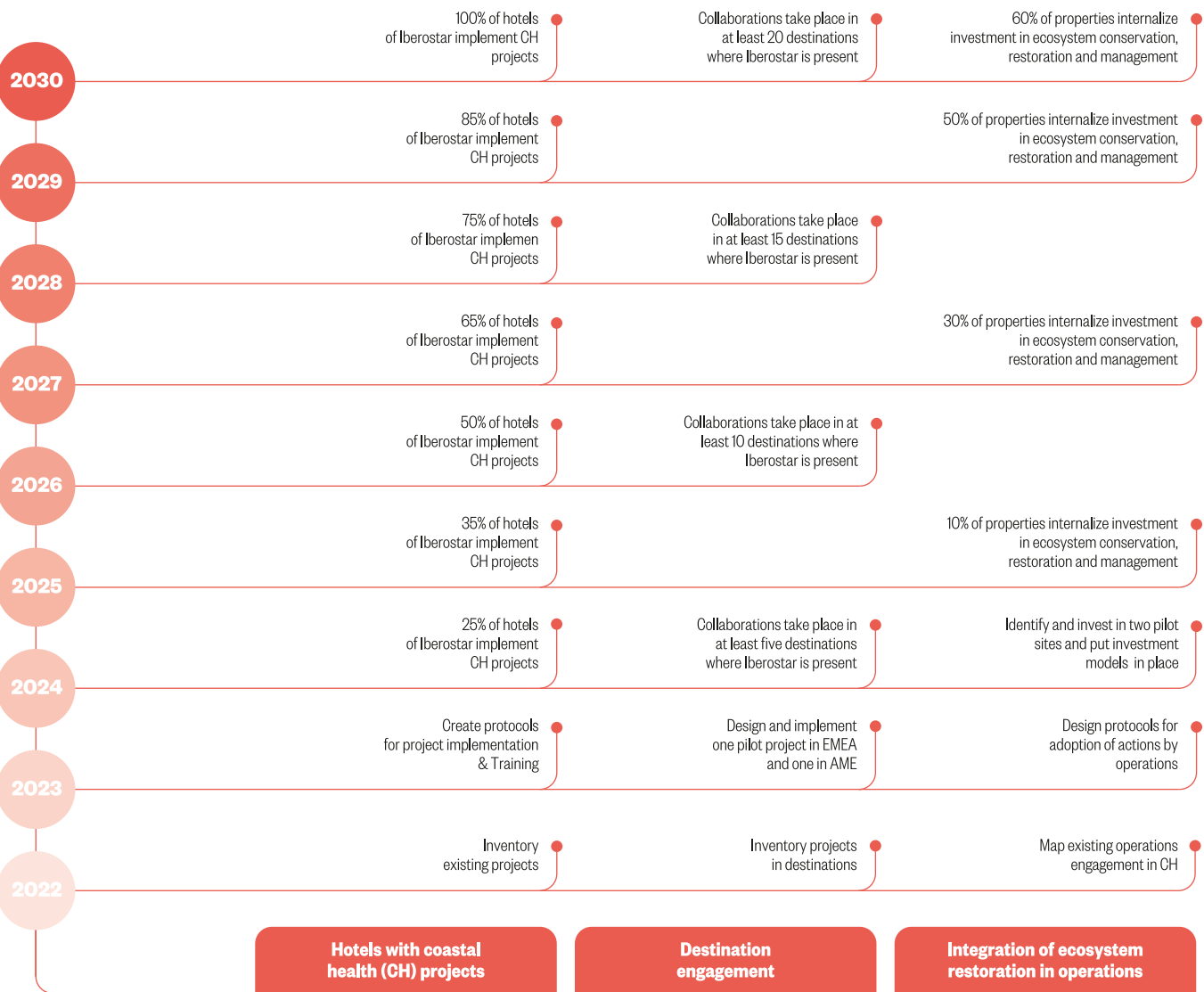


Collaborations with local stakeholders in 20 destinations where Iberostar is present.

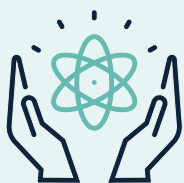


60% of properties internalize investment and implement restoration and the sustainable management of ecosystems.

1.2 Timeline and Milestones



1.3 Priority Actions



Knowledge

Understand the state of ecosystems by establishing baselines for all properties and surrounding areas.

Conduct research that enables the recovery of ecosystem services and helps build resilience of ecosystems.

Monitor and report scientific progress and outcomes, as well as evaluate corrective actions if needed.



Business integration

Engage with management and operations to introduce the Coastal Health Roadmap, explain the threats and impacts facing the hotels, and develop possible solutions for each property.

Build capacity and incentivize employee knowledge and engagement.

Establish protocols for improving the ecosystem and integrate with operations and investment.



Action

Develop projects that are relevant to the properties and ecosystems, with implementation protocols and monitoring and reporting mechanisms.

Establish relationships with government, NGOs, and the private sector to replicate and scale actions.



Discovery

Develop customer outreach and engagement strategy with the marketing team to create connections with the ocean.

Share research and science publications, case studies, and yearly reporting with wider audiences.

Further science through scholarships and internships in the destinations we operate.

2

Business case 1: Restoring ecosystem services for risk reduction

Action is needed to mitigate the impacts of climate change and to reduce exposure and vulnerability of beaches and infrastructure. A healthy ecosystem is a proven solution to addressing risk reduction and increasing the resilience of impacted destinations.

Nature-based solutions for risk reduction that enable the restoration, protection, and sustainable management of ecosystems. These options are more sustainable and cost-effective than gray solutions, which often have unintended negative consequences. Investing in disaster risk reduction through nature-based solutions

can help resist, absorb, adapt to, and recover from the impacts of the disaster while providing additional ecosystem services.

Iberostar is working with a team of in-house scientists and collaborating with academia and practitioners, to explore innovative, science-based solutions. Our goal is to respond to the needs of the tourism sector while aligning with the path of the insurance companies towards ocean risk. Iberostar seeks to recover ecosystem services and integrate nature-based solutions into our organization's investments and operations.

2030 Goal:

Procedures to enhance or restore ecosystem services that reduce risk to exposure to climate change are integrated into investments and operations.

2.1 2030 targets



100% of owned and managed* at-risk properties integrate mitigation procedures into operations.



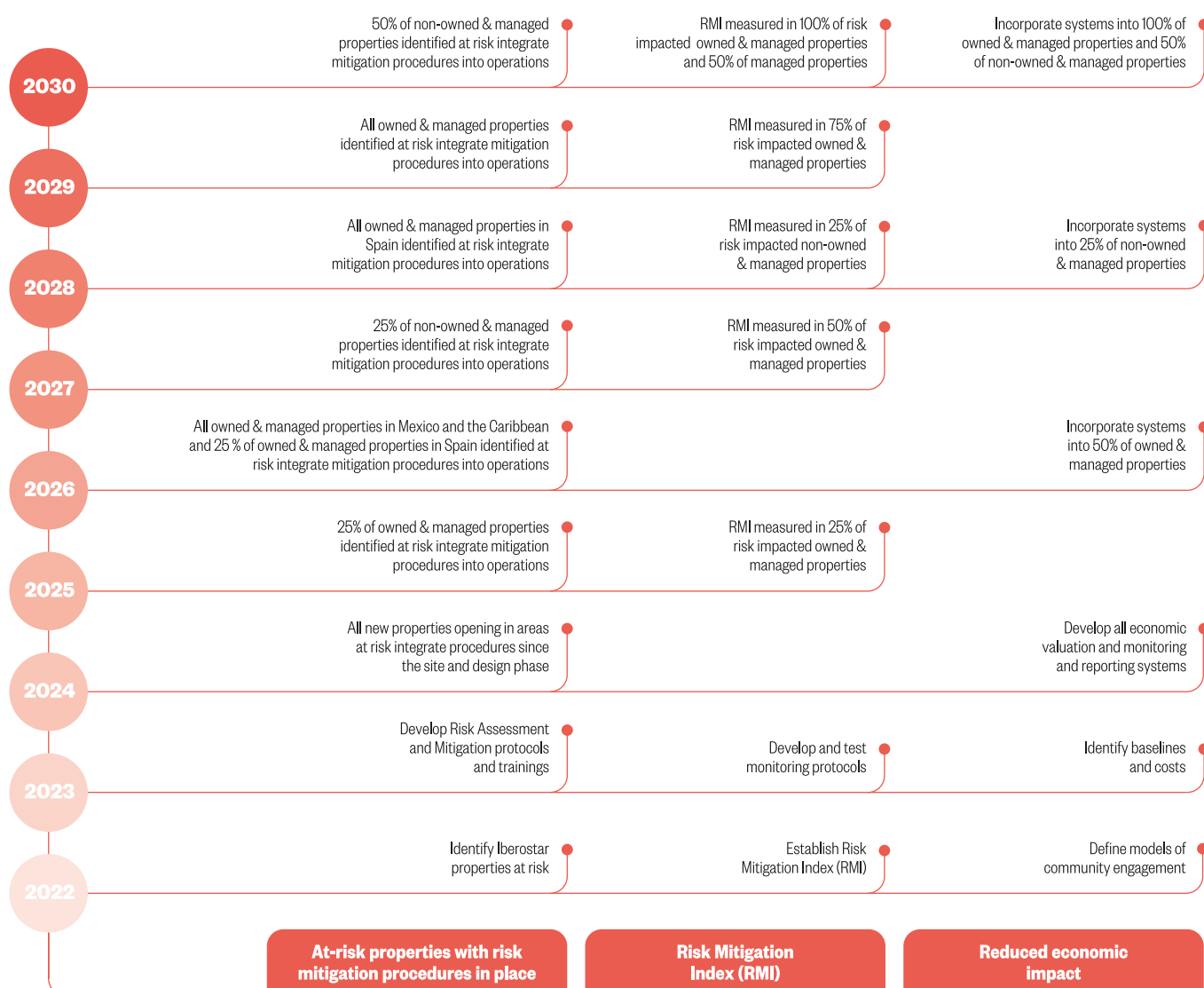
Risk has decreased in properties exposed to impact.



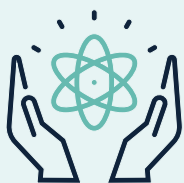
Incidences, as well as cost impacting hotel infrastructure, have been reduced.

* Iberostar has two main categories of hotel management: those owned and managed by Iberostar and those owned by a third party but managed by Iberostar these are designated as not-owned & managed

2.2 Timeline and Milestones



2.3 Priority Actions



Knowledge

Evaluate the risk of each Iberostar property and its surroundings, conduct a baseline analysis of ecosystems present or historically present, and develop a restoration, protection, and sustainable management strategy and plan.

Establish protocols to develop and monitor nature-based solutions for new and existing projects using the IUCN Global Nature-based Solutions Standard.

Conduct research to determine resistant species and ecosystem adaptation to climate change.



Business integration

Estimate and track the financial impact of climate related events and monitor impact and ROI of risk mitigation actions.

Incorporate climate change impact into valuation of new investments and acquisition of new properties.

Establish protocols for risk reduction actions in the operations.



Action

Restore coral reefs in front of Iberostar properties or in areas of influence to conditions that enable coastal protection and risk reduction.

Restore mangroves, dunes, salt marshes, seagrasses, wetlands, and other coastal and marine ecosystems to build resilience and reduce risk in front of Iberostar properties and in areas of influence.

Identify and invest in the protection, restoration, and long-term sustainable management of coastal and marine ecosystems to ensure the long-term provision of ecosystem services by supporting protected areas, co-management options, and other public-private partnership opportunities.



Discovery

Raise awareness amongst stakeholders about the value of ecosystem services for risk reduction.

Implement citizen science projects around monitoring ecosystem services and impacts of climate change.

Engage with academia and scientists to jointly explore and seek solutions to the challenges presented to retain healthy ecosystems and restore their functions.

3

Business case 2: **Investing in** **Blue Carbon to reach** **carbon neutrality**

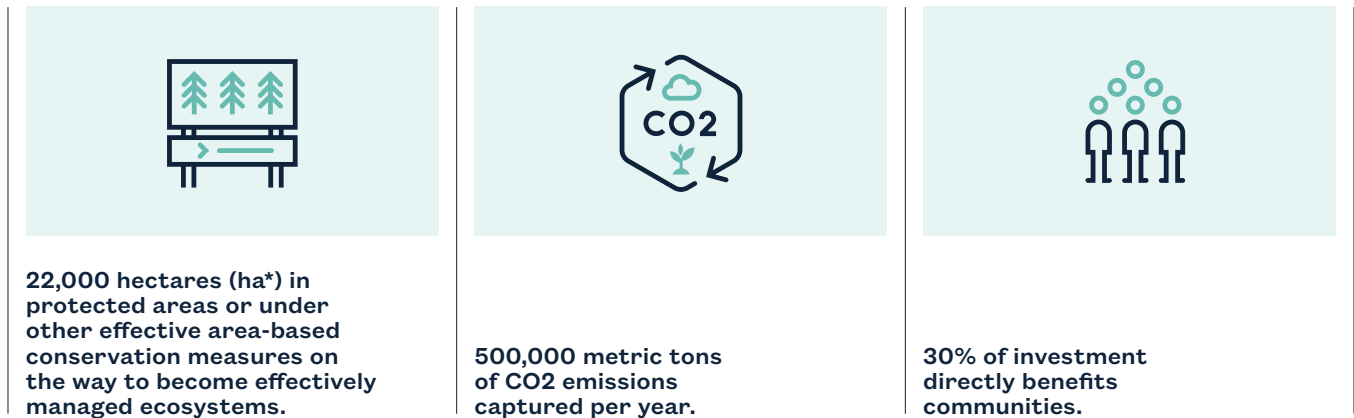
Blue carbon is the sequestration and storage of carbon dioxide by ocean and coastal ecosystems, mangroves, seagrasses, algae, salt marshes, and other wetland plants, which can remove far more carbon than terrestrial forests and store it for longer periods of time. Ocean and coastal restoration has significant potential to address climate change while protecting the ocean and fragile coastal areas.

Iberostar has an ambitious goal of being carbon neutral by 2030. To reach carbon neutrality, Iberostar will be primarily decarbonizing its operations and supply chain. To offset the remaining percentage at least 75% of our carbon compensation will be done through our own nature-based solutions projects that ensure the long-term sustainable management of ecosystems and biodiversity while providing economic benefits to local communities.

2030 Goal

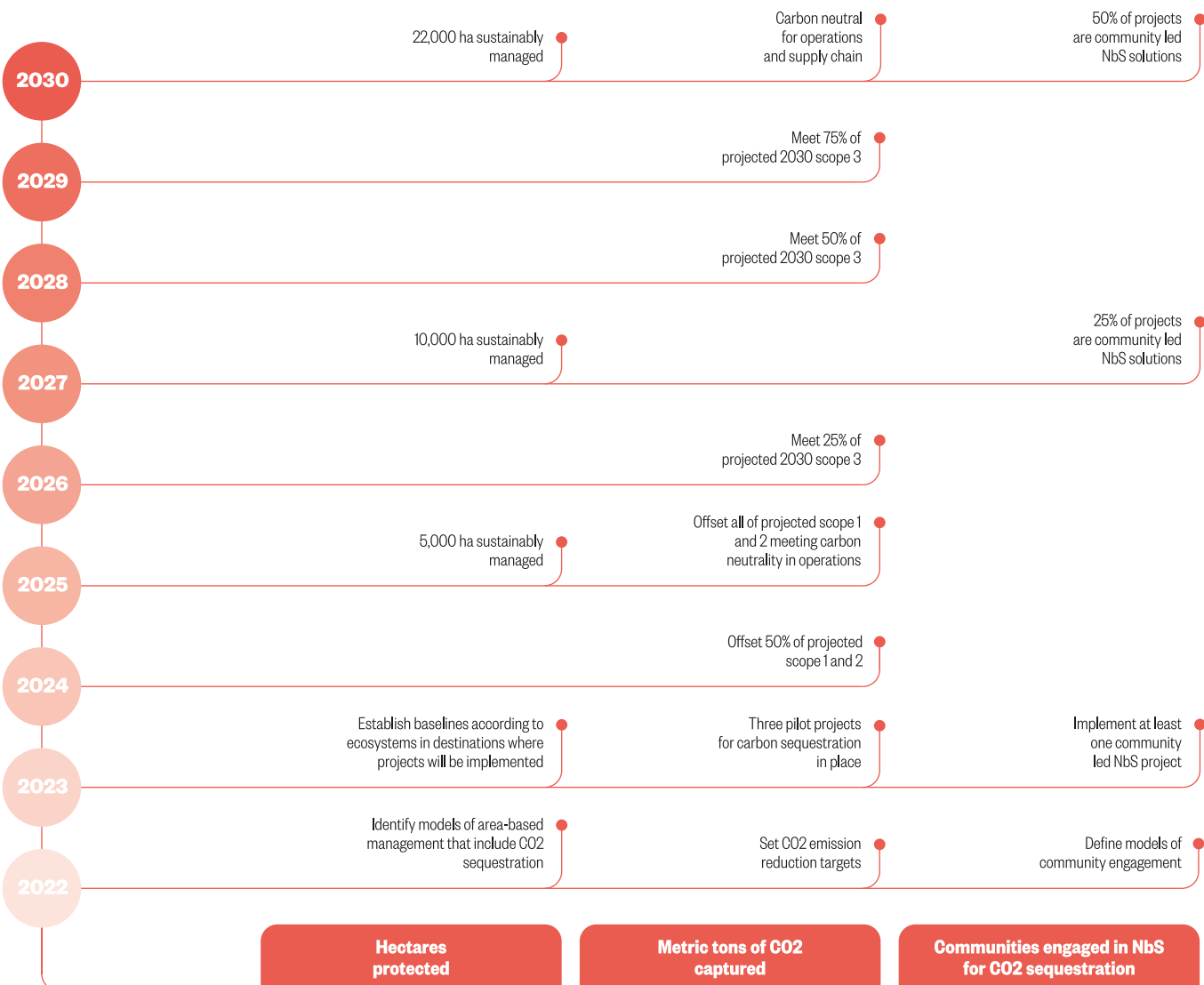
Offset 75% of Iberostar's emissions through high-quality carbon sequestration in our destinations that protects and restores ecosystems and provides economic benefit to local communities and stakeholders.

3.1 2030 targets

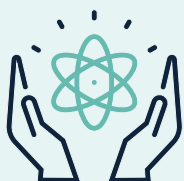


* 22,000 ha is an estimate based on 23mt2 of carbon captured per ha as per estimate of Winrock International <https://winrock.org/flir-calculator/>. Actual numbers may vary.

3.2 Timeline and Milestones



3.3 Priority Actions



Knowledge

Identifying and vetting locations for high-quality carbon sequestration that combines carbon capture, biodiversity enhancement, and community engagement.

Evaluate carbon offset programs and certifications to determine best options for blue carbon and tourism.



Business integration

Align the carbon sequestration strategy with the emissions reduction strategy and action plan.

Integrate carbon sequestration into the product offering and narrative, in alignment with finance, marketing and operations.



Action

Test different models to determine long term sustainable management of the area with highest ROI, replicability, and other ecosystem services provision.

Identify and invest in models that incorporate communities and local stakeholders to ensure income generation through carbon sequestration.

Establish relationships with government at national and local levels to drive innovative public-private partnerships linking carbon sequestration and conservation.



Discovery

Integrate opportunities to link carbon sequestration projects to customer engagement opportunities, like ecotourism activities.

Work with communities to build community-based projects with alternative livelihoods as high-value carbon sequestration projects.

4

Business case 3: **Enhancing** **the quality of the** **tourism product**

Beach and water quality are essential to the experience of the traveler. Beaches are the main tourist attraction, but they are also important to the ecological health of the coasts. Increased visitation, water pollution, severe weather impacts, sea-level rise, and algae blooms are some of the main impacts that affect beaches today and alter the customer experience.

Misunderstanding the value of coastal and marine ecosystems leads to misconceptions about ecosystems that are often considered a nuisance to beachgoers. Seagrasses contribute to sand restoration and water quality, but when they are present in bathing areas, they become an

annoyance to bathers. It is common practice by hotels to remove seagrass beds where not expressly prohibited by law, which has unintended consequences such as cloudier water, sand loss, increased vulnerability to extreme events, and loss of animal life.

Addressing water quality and beach erosion through the restoration of natural habitats will improve the beach visitor experience. Education and capacity building are needed to help employees understand the value of ecosystems and how to address water quality and sand loss. Equally important are awareness-raising campaigns for travelers.

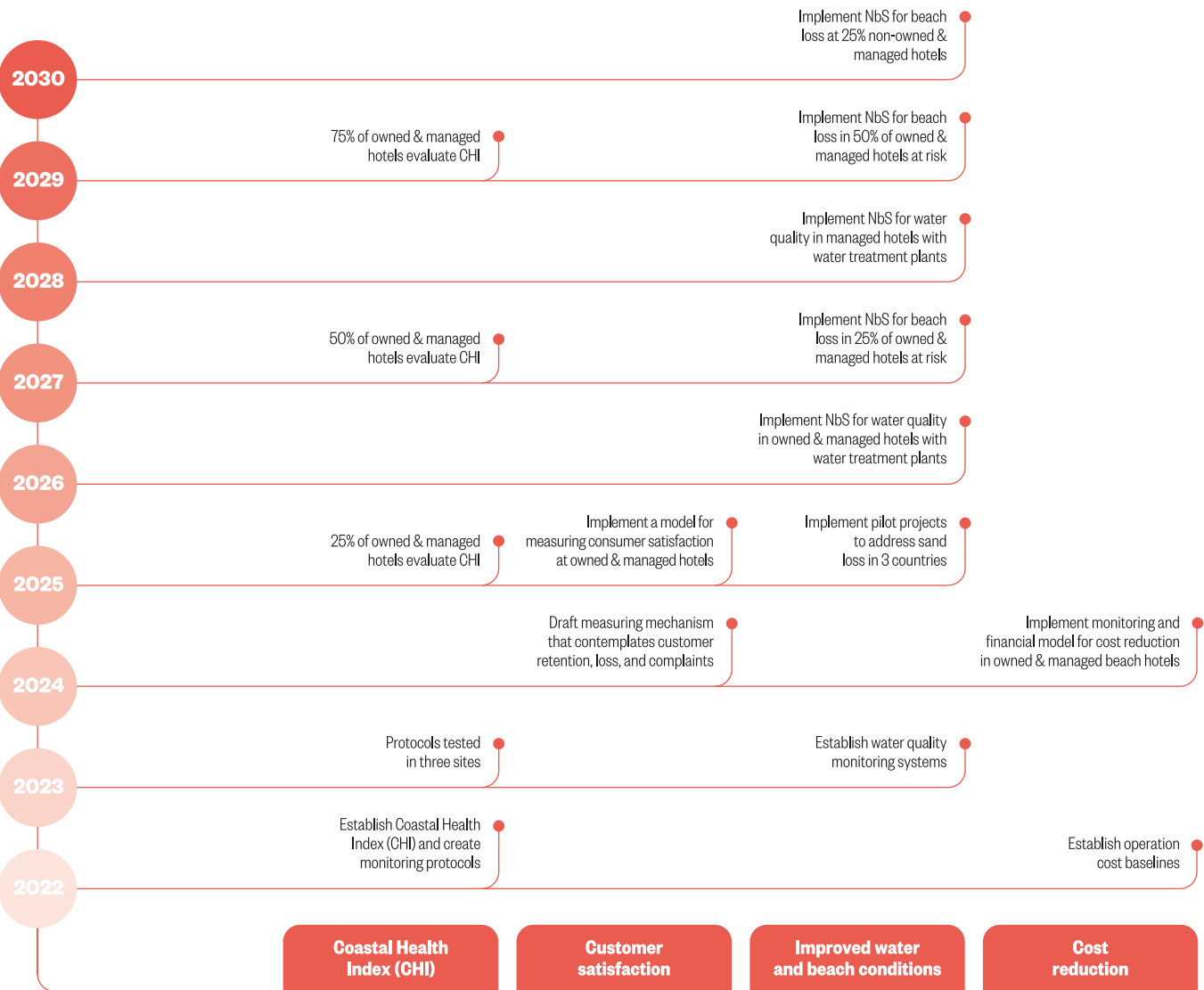
2030 Goal:

Enhance attractiveness of tourism product in front of and surrounding the property, contributing to destination environmental competitiveness.

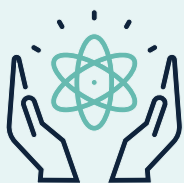
4.1 2030 targets



4.2 Timeline and Milestones



4.3 Priority Actions



Knowledge

Identify properties at risk and evaluate causes of concern regarding beach and water quality, client perceptions, and economic impacts.

Establish the baseline to measure water quality, sand (beach) loss, and the Coastal Health Index.

Establish protocols for monitoring and reporting Coastal Health Index, beach loss, and water quality.



Business integration

Establish monitoring mechanisms and protocols to address beach cleaning and improve water quality.

Work with operations to train and create capacity to address water quality, sargassum, and beach erosion through ecologically sound practices.

In alignment with operations, **develop economically viable and environmentally sound actions** for beach conservation, sargassum removal and water quality management nature-based solutions based on nature-based solutions.



Action

Use nature-based solutions such as dune and seagrass restoration and management to improve sand retention and reduce beach loss.

Establish partnerships with the public and private sector to extend projects to destination level.

Identify sargassum removal solutions that are ecologically sound and economically attractive; develop pilots, and incorporate into operations.

Address water quality issues that may arise within the properties and establish solutions (ideally nature-based solutions) to improve water quality.



Discovery

Work with communications and marketing on awareness-raising campaigns about the value of ecosystems like seagrass and the need for protection.

Develop signage where nature habitats and biodiversity are present in the complex to educate travelers.

Incentivize employees to think about solutions to address beach and water quality and engage them in actions alongside the coastal health team.

Invite communities to participate in education and volunteer programs to incentivize beach protection and raise awareness on the impacts of pollution and value of clean water.

5

Business case 4: Enhancing green spaces for human well-being

Incorporating plants and trees into the built environment provides important ecosystem services that affect human health and wellbeing. Studies have shown that plants address air and water pollution, serve as heat control, absorb carbon, and capture and condense water, amongst other services. The economic benefit and labor impact of greenery has also been extensively demonstrated.

Plants need to be an integral part of any built environment strategy. Implemented in Singapore a measure defined as the Green Plot Ratio establishes the relation between plant coverage and built area.

An important step in maximizing the value of plants and the services they provide is recognizing that native plants have adapted over time to the conditions in which they live. Native plants require less water and maintenance, reducing costs associated with gardening. They provide efficient

nature-based solutions such as soil retention and water filtration and provide food and shelter for animals. On the contrary, invasive plants cause negative impacts and environmental harm, and can threaten human health. They kill and displace native plants, negatively impact water filtration, clog waterways, and increase fire vulnerability.

At Iberostar, we value the guest experience in rooms and on our properties, and have always developed our gardens with pride. The health and well-being of our guests and co-workers is at the core of who we are. Regreening actions will apply the Green Plot Ratio, which will be incorporated into new development and applied to existing properties. They will have plans for the eradication of invasive species and will prioritize the use of native species. Success will be achieved when these regreening efforts extend to the destination level, where Iberostar will aim to lead by example.

2030 Goal:

Iberostar properties and surrounding areas will achieve 25% regreening and a 3:1 Green Plot Ratio, while eliminating invasive species and prioritizing native species.

5.1 2030 targets



5.2 Timeline and Milestones



5.3 Priority Actions



Knowledge

Establish baselines for all Iberostar hotels and conduct the GPR analysis for each.

Develop an inventory of species in the properties and provide a native and invasive species list for gardening.

Understand water consumption patterns of Iberostar hotels and monitor change derived from introduction of native species.



Business integration

Engage with gardening and operations to create plans to achieve GPR ratio with native species.

Develop language for new construction manuals and protocols for greening, eradication of invasive species, and use of native species.

Develop training materials and sessions for gardeners and operations.



Action

Create and implement a plan with gardening departments to eliminate invasive species and introduce native species.

Work with academia, NGOs and public sector to take a destination approach to greening and invasive species eradication

Develop greening solutions to address GPR challenges in more urbanized areas.



Discovery

Raise awareness in customers through interpretation and attractive materials talking about greening and native plants.

Engage employees to identify innovative solutions to introduce greening in the hotels they work in.

Work with surrounding communities and schools to raise awareness and develop projects for greening around the properties in their backyards.

6

Business case 5: Enabling coastal and island communities

As an 8 trillion US\$ global industry, we have the opportunity to uplift the economies and communities where the tourism sector operates. At Iberostar, we are committed to increasing the socio-economic benefits derived from coastal and marine tourism to enable the protection of ecosystems.

Tourism is an optimal development tool for Small Island Development States (SIDS) and Least Developed Countries (LDCs), as it creates jobs and supports the indirect economy of destinations. However, only a small percentage of tourism generated revenues remain in host countries, this is called leakage. During the recent COVID-19 pandemic lock-down, the impacts of leakage were eminent, moving governments to establish stronger regulations and incentives to ensure

economic benefits remained in country. Investing in local communities and creating opportunities is key to the economic recovery of destinations.

Iberostar aims to create a model for all-inclusive resorts and accommodations that will positively impact local communities, reduce leakage, and support the economic recovery and resilience of these destinations. To begin our engagement with communities, in 2022, Iberostar partnered with Planeterra to develop models of community tourism which work within all-inclusives. The model we are developing seeks to incentivize entrepreneurship and provide a market for community services and products while enhancing customer experiences. Opportunities arise from bringing clients to live authentic experiences alongside community product purchases for hotels and for the shops.

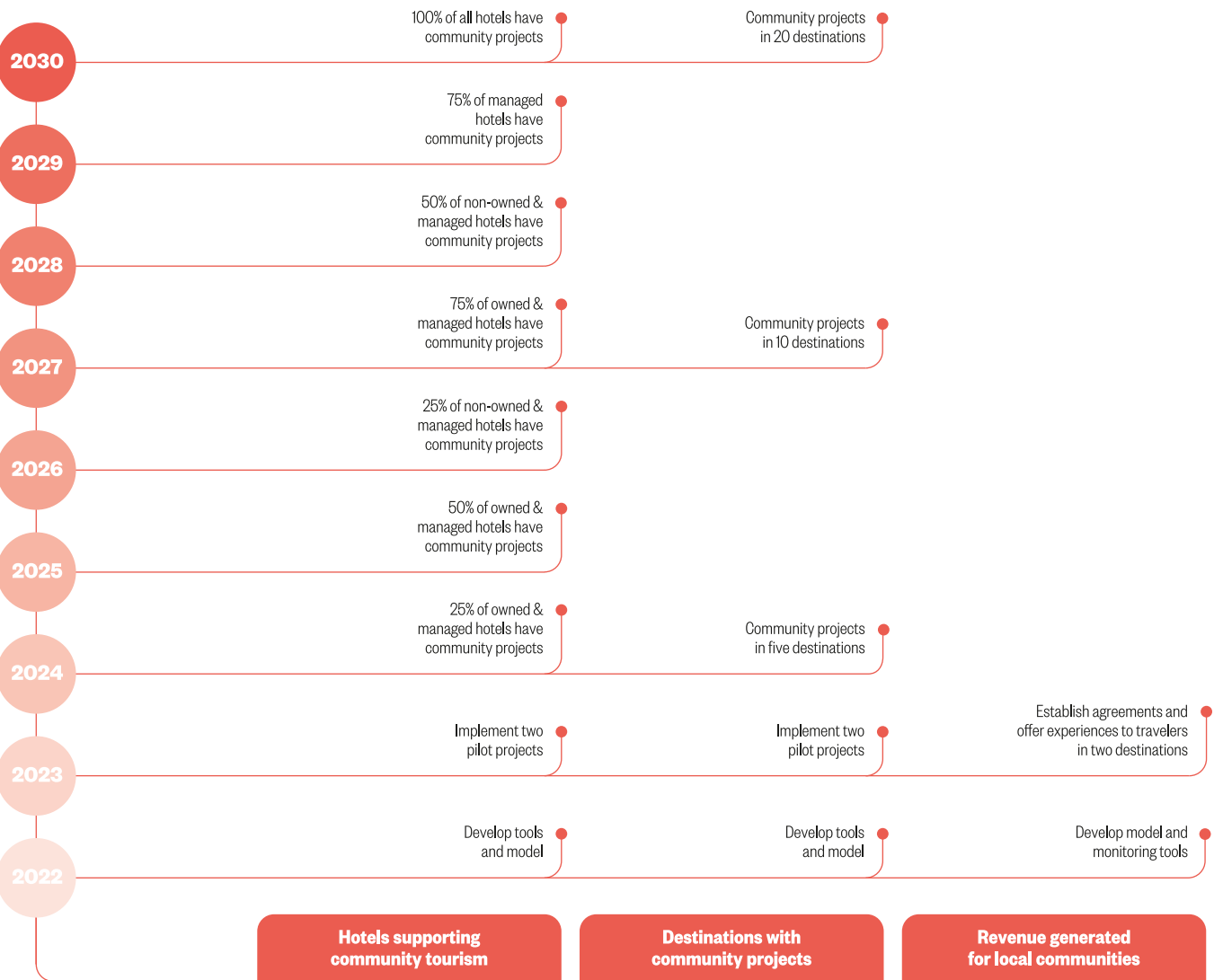
2030 Goal:

All Iberostar properties will offer community tourism experiences, services and/or products.

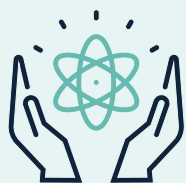
6.1 2030 targets



6.2 Timeline and Milestones



6.3 Priority Actions



Knowledge

Taking inventory of existing community projects and their distance from Iberostar properties.

Evaluate the quality of existing community products and services or identify potential for new products and services to be developed.

Monitor impact of actions taken to identify economic and social impact of projects on the communities and the destinations.

Survey clients base to understand preferences and follow up to determine level of satisfaction with the products and services offered.



Business integration

Create protocols and policies to integrate into the business.

Transfer product management and tours to operations and engage actively with Tour Operators in destinations where they are present.

Identify needs and develop products and experiences with Star Prestige, marketing, events, and other departments that align with the services offered by Iberostar and the desire of clients.



Action

Create the appropriate model for all-inclusive resorts with Planeterra.

Test the model and select opportunities that have demonstrated replicability and scalability.

Adopt and adapt the model to Iberostar destinations.

Promote the model and other related community tourism products at destination level.



Discovery

With marketing, **create relevant campaigns** as well as customer satisfaction surveys to increase visitor engagement.

Educate and engage communities in the protection and sustainable management of the ocean and coasts.

Link clients and employees to communities developing products and services in the destinations they work or visit to raise awareness of local traditions and customs.

Conclusion

At Iberostar we are determined to make a real and impactful contribution to the oceans, our coasts, and the destinations we operate in, leaving a legacy for those that will follow. We want future generations to enjoy the beauty of the ocean and benefit from the many services the ocean and coasts provide.

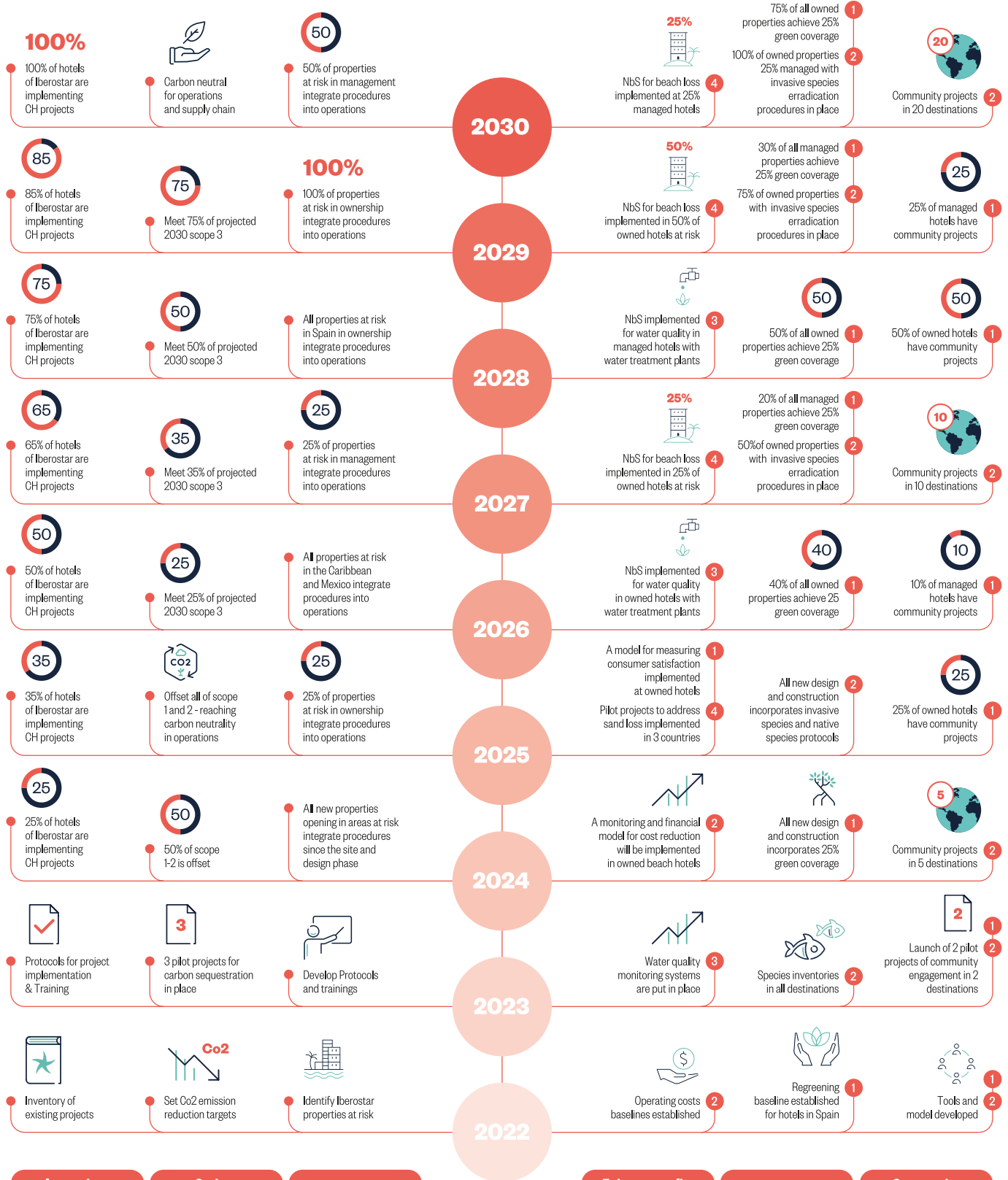
This Roadmap is our guideline to accomplish our goals, but we also hope it can provide principles for others engaging in this journey to regenerate our destinations and build social, environmental, climate, and economic resilience.



Annexes



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KPI Matrix

Iberostar Case Studies

Improving Ecological Health

Restoring mangroves at Iberostar properties

Mangroves provide multiple ecosystem services: They are nurseries for many marine fish species, they provide coastal protection, and they sequester carbon up to 10x more efficiently than other ecosystems. In 2021, with the support of the Ministry of Environment and Natural Resources of the Dominican Republic, Iberostar began a restoration project focused on clearing invasive species and restoring mangrove forests on its properties. Iberostar's mangrove restoration initiative started with a volunteer mangrove planting event in celebration of World Wetland Day at the Iberostar Bavaro hotel com-

plex. Since then, the initiative has continued to grow, with the addition of partner institutions and the scaling of the restoration program to include all Iberostar properties in the Dominican Republic.

To date, three mangrove nurseries with the capacity to host over 12,000 mangroves have been constructed on our properties in Bavaro, Bayahibe, and Puerto Plata. These nurseries will serve as propagation and distribution centers for continued restoration efforts within Iberostar properties and, in the future, for community donations. In the first year of the program, Iberostar has received donations from the Ministry of more than 12,500 mangrove plants, of which over 6,900 have been planted so far. This initiative will continue to build on its current successes with planned expansions to other Caribbean destinations where Iberostar operates.



Engaging with academia and strengthening local science capacity through research and internships

In 2018 the Iberostar Foundation and the University of the Balearic Islands created the program “Catedra del Mar” (Campus of the Ocean), which provides students with scholarships that align with the objectives of Wave of Change and the mission of protecting our oceans.

With 180,000 euros invested and over 33 scholarships granted, the program has generated key research on pollution, invasive species, and climate change impacts in the Balearic Islands, among other issues. Some of this research, like the studies about blue crab presence in the Balearic Islands, has led to legislation and policy reform.

As we enter the fourth year of the collaboration, the Catedra del Mar will expand to provide hands-on experience to students working alongside the Coastal Health team, and will strive to share knowledge with other academic institutions, the public sector, and industry through seminars and workshops.



Risk Reduction

Restoring coastal dunes ecosystems

Coastal dunes are accumulations of sand distributed along the coasts and with plants such as grasses, shrubs and trees along the coasts and with the presence of plants such as grasses, shrubs and trees. They provide ecosystem services of soil stabilization, erosion and flooding control, and serve as a natural barrier to natural barrier phenomena such as storms and hurricanes. In Mexico, coastal dunes cover a little more than 800,000 ha, and are key to the health of the seascape. However, some disturbances due to global environmental change, habitat degradation, and the introduction of invasive species can modify the coastal dune.

Iberostar has taken a three pronged approach to dune conservation. Our first step was to join local conservation efforts spearheading local conservation efforts spearheaded by an inter-institutional team to establish nurseries for the production of 6,000 coastal dune plants in Cozumel. Secondly, we have started a dune restoration project in 4 destinations: Cozumel, Paraiso, Playa del Carmen and Cancun. Dune recovery areas have been identified, areas marked and reforestation has begun. This is accompanied by a science team to monitor the impacts of dune restoration. Finally, in 2022 Iberostar signed an agreement with the tourism and the environment secretaries of Quintana Roo, The Nature Conservancy and the German cooperation agency GIZ, to disseminate lessons learned and seek joint action opportunities.



Identifying resilient coral species to improve reef restoration

The private sector is increasingly taking on reef restoration activities. Rigorous research is needed to ensure that these efforts are focused on promoting resilient coral restoration in the face of climate change. Bleaching events in coral reefs due to ocean warming are becoming more frequent and intense globally, which causing coral die-offs and is jeopardizing the important services and functions of coral reefs. However, observers have discovered that not all corals (both species and individuals within species) have the same tolerance to heat stress.

At Iberostar, we have focused on restoring coral reefs with the primary goal of risk reduction, while supporting other ecosystem services such as providing food security and enhancing biodiversity. As a first step, a Coral

Lab was built in 2019 in the Dominican Republic. The lab's purpose is to serve as a genetic bank and an outreach center, and to experimentally stress coral to find thermo-tolerant corals for reef restoration. Finding the most tolerant species and individuals and prioritizing their growth and transplantation in restoration efforts can increase the the reef's resilience, providing hope for the reefs and the coastal communities in the regions where Iberostar operates.

As of 2022, we have tested seven coral species in the Dominican Republic, four in Mexico, and four in Jamaica for their thermotolerance. We also found resilient individuals within four of the species in the Dominican Republic. We will continue to test species and individuals in all three locations in order to ensure the resilience of restored reefs. These efforts have led to the establishment of nurseries in four sites in Mexico and the Dominican Republic, and in 2022 we have begun with coral restoration at two of the sites. We are currently exploring the creation of a marine sanctuary in collaboration with a fishing community to conserve coral reefs and associated biodiversity.



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Enhancing the tourism product

Improvement of water quality through nature-based solutions

Mangroves have an unusual capacity to stressful environments and a high intake of nutrients due to their rapid growth, high primary productivity, accelerated metabolism and high return rate. These characteristics make mangrove forests an important nature-based solution for water quality restoration.

One of our objectives is to test the nutrient filtration through mangroves in the hotels where we have our own wastewater treatment facilities. In the first stage we have built experimental bio-gardens in the Bavaro complex to determine the nutrient removal capacity of the Red Mangrove species (*Rhizophora mangle*). The outcome of the experiments will determine the capacity to implement nature-based solutions in all destinations where we have water treatment plants.



Glossary

Algae bloom: Is a presence of algae driven by the phosphorus and nitrogen, normally a consequence of land-based pollution from agricultural runoff, livestock, and sewage. Algae blooms deplete the supply of oxygen, which creates dead zones, leading to the death of marine species in those areas and leaving those xto humans, hence affecting tourism.

Anthropogenic Originating from or relating to human activities and influence.

Area-based conservation measures A geographically defined area other than a protected area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the conservation of biodiversity, with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values

Carbon offset Methods of promoting global CO2 reduction that do not involve a direct reduction in the amount of CO2.

Coastal Health Index Index designed to **measure** the condition of marine and coastal ecosystems in Iberostar Group destinations, considering key elements of structure, function and ecosystem services.

Coastal Tourism Refers to land-based tourism activities such as swimming, surfing, sunbathing and other coastal leisure, recreation and sports activities which take place on the shore of a sea, lake or river (UNWTO).

Destination A place to which one is journeying or to which something is sent. Tourism destinations are unique locations with attractions that people travel to to visit.

Ecological Health The condition of an ecosystem relating to the health of biodiversity and geographical components; the relation of living organisms to one another and to their physical surroundings.

Ecosystems A geographical location characterized by the interaction of living and nonliving components. Living components include plants, animals, and other organisms, which interact with the nonliving components such as the landscape and weather of that region.

Ecosystem Services The processes by which life-supporting resources and services are produced. This includes production of clean water, timber, fisheries, and agricultural crops, disease regulation, climate regulation, and any other services that sustain human life.

Gray infrastructure Refers to structures that affect or alter the natural processes of nature such as dams, seawalls, roads, pipes or water treatment plants.

Green infrastructure Refers to vegetative infrastructure systems, such as green spaces and water systems, that enhance the surrounding environment by allowing natural processes to occur.

Green Plot Ratio An ecological measure for architecture and urban planning that identifies and integrates the ecological components with the built structures and urban areas.

Nature-based Solutions NbS are actions that protect, sustainably manage, and restore natural or modified ecosystems. The solutions

address climate change, biodiversity loss, increased extreme weather, and other human-made environmental issues, while providing human well-being and biodiversity benefits (UNDRR).

Regenerative The ability to regenerate, to be restored after damage or disturbance. In terms of tourism, regenerative tourism is restoring and improving the nature, biodiversity, and local communities in tourism destinations, leaving the destinations better than before.

Resilient The capacity to recover quickly from difficulties or challenges. This can be applied to tourism destinations as the destination's capacity to react to environmental disturbances and recover quickly to sustain their tourism.

Restoration The process of recovering and fixing a damaged entity. In the environmental sense of the word, environmental restoration is the process of recovering a damaged or destroyed ecosystem or destination.

Risk index Index designed to analyze the risk and response capacity of socio-ecological systems derived from the effects of climate change.

Risk mitigation index An index designed to measure the progress of operational responses to the risk of exposure of the Iberostar Group's coastal zones to climate change.

Sargassum: Sargassum is a genus of large brown seaweed (a type of algae) that floats in island-like masses and never attaches to the seafloor. (NOAA). Sargassum is abundant in the ocean. Upon close inspection, it is easy to see the many leafy appendages, branches, and round, berry-like structures that make up the plant. These "berries" are actually gas-filled structures, called pneumatocysts, which are filled mostly with oxygen. Pneumatocysts add buoyancy to the plant structure and allow it to float on the surface.

Floating rafts of Sargassum can stretch for miles across the ocean. This floating habitat provides food, refuge, and breeding grounds for an array of animals such as fishes, sea turtles, marine birds, crabs, shrimp, and more. Some animals, like the sargassum fish (in the frogfish family), live their whole lives only in this habitat. Sargassum serves as a primary nursery area for a variety of commercially important fishes such as mahi mahi, jacks, and amberjacks.

Sustainable Development Development that balances current human well-being and economic advancement with resource management for the benefit of future generations.

Sustainable management The application of sustainable practices in the management of different industries and sectors by making decisions to maintain the current environment and reduce disruption. This includes managing and maintaining sustainable practices in agriculture, environment, tourism, production, distribution, and many more fields.

Tourism Product Any natural, cultural, or man made resource, as well as attractions, facilities, services, and activities, centered around a tourism destination. These products are priced and sold through distribution channels (UNWTO).

Valuation The estimation of the monetary and environmental value of natural resources and ecological goods and services.

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