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Roadmap for Low Carbon and Resource Efficient Accommodation in the Dominican Republic

Promoting resource efficient and low-carbon development through transforming tourism value chains in developing countries and SIDS

The full report should be referenced as follows: United Nations Environment Programme (2019). *Roadmap for Low Carbon and Resource Efficient Sustainable Accommodation in the Dominican Republic.* Paris.

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The project Transforming tourism value chains in developing countries and Small Island Developing States to accelerate more resource efficient, low carbon development is part of the International Climate Initiative (IKI). The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) supports this initiative on the basis of a decision adopted by the German Bundestag.

Foreword

The Dominican Republic has responded positively to the global United Nations call to join efforts in the fight against Climate Change and its effects. To this end, the country has been developing a series of important initiatives in this regard, not only because it is one of the most vulnerable countries facing the impacts of climate change, but because it has an atomized economy in highly affected sectors, such as agriculture or tourism.

The Dominican tourism sector is mainly concentrated on the coasts of the country and that is why it has also actively joined the actions proposed in the project 'Transforming tourism value chains in developing countries and Small Island Developing States to accelerate more resource efficient, and low carbon development'.

After two years of research, data collection and analysis the project has identified environmental hotspots related to GHG emissions and low efficiency in the use of natural resources in the Dominican hotel sector. It has also identified three systemic solutions to reduce emissions, and improve resource efficiency from the sector in order to strengthen one of the most important economic sectors for the development of the country and to build its resilience.

This document compiles the results of the research and consultations with different stakeholders involved throughout the project to achieve an accommodation sector with a low carbon footprint, that is efficient in its use of natural resources. The roadmap is a tool that establishes the strategic vision and guidelines for a Dominican tourism sector that acts more responsibly, and drives sustainable development in our common house called Planet Earth.

The Ministry of Environment and Natural Resources, together with the Ministry of Tourism, the Hotel Association of Playa Dorada, the National Council on Climate Change and the Ministry of Industry and Commerce, confirm their commitment to reducing greenhouse gas emissions, and with the development of a sustainable and resilient tourism sector, and especially with the implementation of a roadmap that results in positive and substantial impacts along the tourism value chain.

Ángel Fco. Estévez
Ministry of Environment and Natural Resources
Dominican Republic

PHOTO BY JUSTIN AIKIN

Executive Summary

This is a roadmap to a sustainable and resilient tourism accommodation sector in the Dominican Republic. It will help the tourism sector to become a guardian of the natural beauty of the country, on which it relies, and showcase the hospitality of its people, their diversity and their culture.

The roadmap is based on an analysis of the tourism value chain, meaning not only the activities that happen within the hotels and restaurants, but also including all the activities that supply them with energy and materials; for example those that produce the food, and the waste that is created in the process. A notable exclusion from the analysis is international travel.

The analysis revealed that many environmental impacts related to tourism happen outside hotels; for example, 57% of greenhouse gas (GHG) emissions are associated with food served by the hotels, as is most of the water used. Inside the hotels, energy used in cooling and air-conditioning is the most significant source of GHG emissions.

The roadmap sets five targets for the accomodation sector in the Dominican Republic:

1. 25% GHG emissions reduction
2. 50% food waste reduction
3. 25% reduction of non-renewable energy use
4. Complete removal of problematic single-use plastics
5. Sustainability certifications for hotels

The headline target is to reduce the GHG emissions associated with hotels by 25 % by 2030 from 2020 baseline. The other four 2030 targets support the delivery of the GHG emissions target, in line with identified hotspots and the UN Sustainable Development Goals.

To deliver these targets, the roadmap proposes 3 systemic solutions:

1. Beat pollution

To reduce marine and land-based pollution and reduce the consumption of materials and waste arising from tourism. This includes: putting in place the mechanisms for hotels to collect environmental data relating to environmental permits and sustainable hotel certification schemes, eliminating problematic single use plastics in products and packaging by procuring more sustainable alternatives, enforcing and enhancing regulatory frameworks, looking at the role of financial incentives in reducing pollution and introducing innovation (e.g. to replace single use plastics), improving waste management and recycling systems. This should all be driven forward and underpinned by a nationwide uptake of best-practice sustainability certification for hotels.

2. Sustainable gastronomy

The second systemic solution will start by measuring and reducing food waste in hotels, introducing the concept of sustainable gastronomy by training chefs and hotel managers on the topics of food sustainability, encouraging the adoption of sustainable procurement practices when buying food, and sustainable dining.

3. Sustainable energy

The third systemic solution aims to increase energy-efficiency and the use of renewable energy in hotels. This includes the establishment of government policies and financial measures to support and incentivise the use of energy-efficient equipment and renewable energy technologies; the establishment of regulatory framework, including standards and certification schemes (such as energy audits and rating schemes); the identification of energy-efficient products and services available on the market to encourage the procurement of energy-efficient equipment by tourism businesses, and the implementation of training and awareness- raising programmes in energy management and renewable energy.

This will, in turn, require tourism businesses and their value chains, supporting trade bodies and government ministries, departments and agencies to join hands in developing an implementation plan to support transforming the tourism sector to more sustainable operations. ∎

Contents

Helpful definitions of terms used in the roadmap

A value chain is the entire sequence of activities or parties that provide products or services to support used in tourism (e.g. suppliers, contractors…).

An environmental hotspot is a process which accounts for a significant proportion of the negative environmental impact in the value chain.

A systemic solution is a strategic theme or a cluster of actions and interventions with the same overarching goal.

Objective and development process

The objective of the roadmap development has been to provide a strategic plan of actionable goals and activities for achieving a low carbon, resource-efficient tourism sector in the Dominican Republic.

A long-list of solutions has enabled the identification of hotspots, and resource efficiency indicators which were validated via the STAG and used as a key input for the identification of priorities and development of the roadmaps and country action plans.

A series of workshops was organized to prioritize solutions and develop the roadmaps and specifically, to discuss feasibility, and identify key stakeholders for synergies. Several steps were taken to refine the shortlisted solutions, such as in-country workshops and steering committee meetings.

The project team worked with tourism stakeholders in the Dominican Republic to identify and develop three systemic solutions to address priority environmental impact hotspots and develop the roadmap over an 18-month period.

Introduction

The Dominican Republic has a thriving and growing tourism industry based on its outstanding natural beauty. However, it is increasingly at risk from climate change and pollution and their varied impacts ranging from seaweed invasion, droughts, marine litter, untreated wastewater, loss of biodiversity to an increasing risk from tropical storms. While the tourism sector in the Dominican Republic cannot stop climate change and pollution alone, it must play its part to minimise its impacts and show leadership in protecting the natural beauty that it relies on.

The purpose of this roadmap is to provide a strategic plan to reduce GHG emissions and improve resource efficiency in the Dominican Republic, focusing on the accommodation sector and its value chains. It translates 'a vision' into actionable goals and activities over an agreed timeframe. **This roadmap provides context, highlights key issues to be addressed, sets goals and targets, identifies a range of solutions and actions, and maps the stakeholders that need to come together to help deliver them.**

The vision for this roadmap is for an environmentally sustainable, resilient, and competitive accommodation sub-sector in the Dominican Republic, that will become globally recognized as a guardian of the country's natural and cultural diversity, supported by the hospitality of its people.

Future growth in the tourism sector should be firmly

> **Tourism in the Dominican Republic to become sustainable, resilient, and competitive, recognized for the hospitality of its people and its natural and cultural diversity.**

based on the principles of inclusivity, social responsibility, environmental protection, local economic development and sustainable growth. The sector will seek to reduce its greenhouse gas emissions by 25% and significantly increase its use of renewable energy by 2030, in line with and exceeding the Dominican Republic's climate change commitments under the United Nations Framework Convention on Climate Change Paris Agreement (UNFCCC); and will contribute to the delivery of the UN Sustainable Development Goals by 2030, particularly those relating to the sustainable use of natural resources.

This roadmap has been consulted and elaborated with tourism stakeholders in the Dominican Republic over an 18-month period. It has been developed within the scope of UN Environment-led project "Transforming tourism value chains in developing countries and Small Island Developing States to accelerate more resource efficient, low carbon development", funded by the International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety.

A series of multi-stakeholder workshops have taken place to help build an understanding of the current status of the tourism sector, its operations, economic situation, policy landscape, value chain, use of resources and environmental impacts. ■

SECTION 2

Main components and structure of the roadmap

This roadmap aims to meet the needs of tourism businesses and their value chains, supporting trade bodies and government ministries, departments and agencies.

It includes information on the current situation in the tourism sector of the Dominican Republic in relation to sustainability, highlights key environmental hotspots relating to the sector's direct operations and those of its value chain. This roadmap identifies three 'systemic solutions' that highlight the national, cross-sectoral and individual tourism business-level actions required to address these hotspots before or by 2030 at the latest.

The roadmap will be followed with an implementation plan developed in close collaboration with the local stakeholders.

This roadmap supports the achievement of the UN Sustainable Development Goals (SDGs) and the goals identified in the Dominican Republic's Nationally Determined Contribution (NDC) submitted to the UNFCCC Secretariat. ■

Who is the roadmap for?
➔ Hotel managers
➔ Government officials
➔ Tourism business staff (procurement, operations)
➔ Tour operators
➔ Tourism trade bodies
➔ NGOs
➔ Utilities companies
➔ Certification schemes

Context
Vision & targets
Tourism sector hotspots
Systemic solutions
Recommendations
Roadmap
Next step: Implementation workplan

The contribution of the roadmap systemic solutions to Sustainable development goals

Beat pollution

Sustainable energy

Sustainable gastronomy

KEY FOCUS

Indirect contribution
Direct contribution
Direct contribution
Indirect contribution

Roadmap as a whole

TARGET 8-1 — SAFE AND AFFORDABLE DRINKING WATER
TARGET 6-3 — IMPROVE WATER QUALITY, WASTEWATER TREATMENT AND SAFE REUSE
TARGET 14-2 — PROTECT AND RESTORE ECOSYSTEMS
TARGET 15-1 — CONSERVE AND RESTORE TERRESTRIAL AND FRESHWATER ECOSYSTEMS
TARGET 15-5 — PROTECT BIODIVERSITY AND NATURAL HABITATS
TARGET 17-19 — FURTHER DEVELOP MEASUREMENTS OF PROGRESS
TARGET 2-3 — DOUBLE THE PRODUCTIVITY AND INCOMES OF SMALL-SCALE FOOD PRODUCERS
TARGET 9-1 — DEVELOP SUSTAINABLE RESILIENT AND INCLUSIVE INFRASTRUCTURES
TARGET 6-4 — INCREASE WATER-USE EFFICIENCY AND ENSURE FRESHWATER SUPPLIES
TARGET 12-5 — SUBSTANTIALLY REDUCE WASTE GENERATION
TARGET 2-4 — SUSTAINABLE FOOD PRODUCTION AND RESILIENT AGRICULTURAL PRACTICES
TARGET 14-4 — SUSTAINABLE FISHING
TARGET 7-B — EXPAND AND UPGRADE ENERGY SERVICES FOR DEVELOPING COUNTRIES
TARGET 14-1 — REDUCE MARINE POLLUTION
TARGET 9-4 — UPGRADE ALL INDUSTRIES AND INFRASTRUCTURES FOR SUSTAINABILITY
TARGET 7-2 — INCREASE GLOBAL PERCENTAGE OF RENEWABLE ENERGY
TARGET 7-3 — DOUBLE THE IMPROVEMENT IN ENERGY EFFICIENCY
TARGET 12-3 — HALVE GLOBAL PER CAPITA FOOD WASTE
TARGET 12-6 — ENCOURAGE COMPANIES TO ADOPT SUSTAINABLE PRACTICES AND SUSTAINABILITY REPORTING
TARGET 11-4 — PROTECT THE WORLD'S CULTURAL AND NATURAL HERITAGE

TARGET 8-4 — IMPROVE RESOURCE EFFICIENCY IN CONSUMPTION AND PRODUCTION
TARGET 8-9 — PROMOTE BENEFICIAL AND SUSTAINABLE TOURISM
13 CLIMATE ACTION

TARGET 4-7 — EDUCATION FOR SUSTAINABLE DEVELOPMENT AND GLOBAL CITIZENSHIP
TARGET 12-6 — ENCOURAGE COMPANIES TO ADOPT SUSTAINABLE PRACTICES AND SUSTAINABILITY REPORTING
TARGET 12-2 — SUSTAINABLE MANAGEMENT AND USE OF NATURAL RESOURCES
TARGET 12-8 — PROMOTE UNIVERSAL UNDERSTANDING OF SUSTAINABLE LIFESTYLES
TARGET 12-B — DEVELOP AND IMPLEMENT TOOLS TO MONITOR SUSTAINABLE TOURISM
TARGET 13-3 — BUILD KNOWLEDGE AND CAPACITY TO MEET CLIMATE CHANGE
TARGET 13-B — PROMOTE MECHANISMS TO RAISE CAPACITY FOR CLIMATE PLANNING AND MANAGEMENT
TARGET 17-14 — ENHANCE POLICY COHERENCE FOR SUSTAINABLE DEVELOPMENT
TARGET 17-16 — ENHANCE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT
TARGET 14-7 — INCREASE THE ECONOMIC BENEFITS FROM SUSTAINABLE USE OF MARINE RESOURCES

Tourism overview, context and sustainability snapshot

The Dominican Republic is a leader in the Caribbean region as a tourist destination, known for its "sun, sand and sea" model, All-inclusive accommodation and holiday packages organised by large tour operators.

The rapidly expanding growth of tourism in the Dominican Republic is resulting in increasing consumption of key resources - energy, water, land and materials together with growing generation of solid waste, sewage and greenhouse gas emissions (GHG). GHG emissions contribute to climate change, and this, along with pollution, is negatively affecting future tourism prospects due to impacts such as erosion of beaches, intensified tropical storms, destruction of marine ecosystems, salinization of coastal aquifers and Sargassum seaweed blooms.

The infrastructural challenges that will need to be addressed in the mid-term future include open landfill sites, some operating without a permit; availability of public wastewater treatment, occasional power cuts, and a high reliance on fossil fuels for energy generation, despite good renewable energy potential. ■

Puerto Plata

Santo Domingo

Punta Cana

Romana-Bayahibe

Country facts

AREA:
48,445 km²

POPULATION:
11m

GDP PER PERSON:
$18,164

ENERGY:
81%
of electricity comes from fossil fuels

ARRIVALS:
67%
of all arrivals go to Punta Cana airport

Tourism

NUMBER OF TOURISTS:
5.9m

NUMBER OF HOTELS:
815

NUMBER OF ROOMS:
80,000
The 114 large hotels provide 77% of all room capacity (56,000 rooms)

OCCUPANCY RATES:
75%+

CONTRIBUTION OF TOURISM TO GDP:
17.2% (total)   5.4% (direct)

CONTRIBUTION OF TOURISM TO EMPLOYMENT:
15.9% (total)   4.8% (direct)
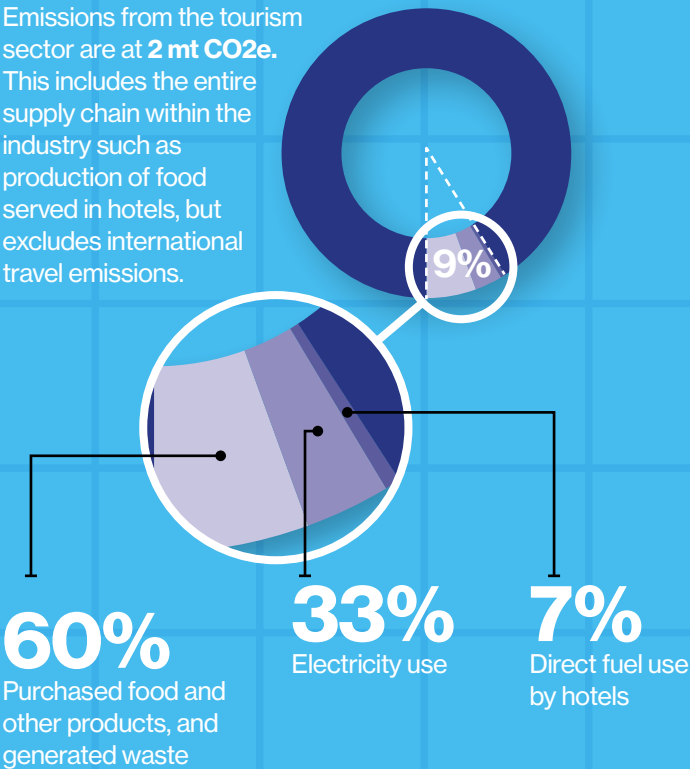
PROJECTED GROWTH:
3-4% p.a.

Hotspots

GHG EMISSIONS:
24.4 mt CO2e
Emissions from the tourism sector are at **2 mt CO2e.** This includes the entire supply chain within the industry such as production of food served in hotels, but excludes international travel emissions.

9%

60%
Purchased food and other products, and generated waste

33%
Electricity use

7%
Direct fuel use by hotels

WATER:
3x
A guest uses three times as much water as average Dominican

ENERGY:
43%
of commercial energy demand comes from tourism

WASTE:
40%
of all waste is generated by tourism

Policy context in country, existing & planned initiatives

The research has indicated that tourism's consumption of key resources - energy, water, land and materials (e.g. fossil fuels, minerals, metals, biomass) - is growing commensurately with growth of tourism arrivals in the Dominican Republic as is its generation of solid waste, sewage and greenhouse gas emissions. The current and forecast levels of travel and tourism have considerable environmental and social impacts.

Most investment in tourism is in coastal areas, which are highly vulnerable due to the effects of climate change (erosion of beaches, hurricanes, destruction of marine ecosystems, and salinization of coastal aquifers, among others). The intensity of tropical storms and their accompanying precipitation will increase as ocean and global temperatures continue to rise.

Combined with environmental degradation, tropical storm damage will worsen . For this reason, the Ministry of Tourism is seeking plans for diversification that provide greater resilience of the sector. The plans propose alternatives to the current "sun, sand and sea" tourism model.

The Dominican Republic ratified the UNFCCC Paris Agreement in September 2017 and submitted its first Nationally Determined Contribution (NDC). It sets out its efforts to combat climate change, including its mitigation goals and its national contribution to global mitigation efforts. The mitigation goal established by the Dominican Republic in its NDC is expressed as a "Reduction of 25% of base year emissions by 2030", the base year being 2010 and national emissions estimated at 3.6tCO2e per capita per annum. The NDC also identifies adaptation as a constitutional priority for the country. The NDC recognises climate adaptation as a constitutional priority for the country, in part as a consequence of large investments in coastal tourism destinations and also because it is high in the country rankings for climate vulnerability (ranking 11th in the global rankings in 2016).

The Dominican Republic has set an ambitious target to get 25% of its electricity supply from renewable sources (including largely hydro) by 2020. The country continues to experience frequent electrical outages that can last from several minutes to several days; nevertheless, the Dominican Republic is poised for an energy transformation.

Although the Dominican Republic does not have a climate change strategy for the tourism sector specifically, most of the strategic documents highlight tourism as a key sector for climate change adaptation and/or mitigation. This includes the Climate Compatible Development Plan of the Dominican Republic (CCDP), which can be considered the core document describing the vision and plan of the country in terms of low-emission economic growth.

Tourism can play an important major role in climate change mitigation, not least by engaging more directly with its value chain partners. This includes reductions in energy use related emissions, but also reductions from the agriculture, food and beverage, and waste sectors. ■

Sector	Climate change	Energy	Environment	Food & Agriculture	Tourism
Responsible body	National Council for Climate Change and the Clean Development Mechanism	Ministry of Mining and Energy	Ministry of Environment and Natural Resources	Ministry of Agriculture and Fisheries	Ministry of Tourism
Mandate	Preparation and co-ordination of climate change policies	All government activities related to energy	Conservation, management, development, and proper use of the country's environment and natural resources	Agricultural development, investments	Development and promotion of the tourism industry
Key policy	**National Policy on Climate Change (Política Nacional de Cambio Climático PNCC).** Aim to promote policy and institutional frameworks compatible with a low carbon development and a development resilient to climate change. **The Climate Compatible Development Plan** CCDP of the Dominican Republic can be considered as the core document describing the vision and plan of the country in terms of low-emission economic growth. **National Development Strategy of the Dominican Republic** Ensure a reliable, diversified fuel supply at competitive prices and in context of environmental sustainability. **Strategic Plan for Climate Change 2011 2030 (Plan Estratégico para el Cambio Climático PECC)** The PECC is a document which sets up the national institutional planning process to address climate change until 2030, focusing on institutional, adaptation and mitigation.	**The General electricity law** Establishes a tax on electricity production from fossil fuels. **Law 57-07 Incentive for Renewable Energies and Special Regimes** Define the legal framework and regulatory framework for the use of renewable energy for electricity production and biofuels. Target to get 10% of its electricity supply from renewable sources (including large hydro) by 2015, rising to 25% by 2020. **Hydrocarbons Law No.112-00 and its regulations.** Institutes a fund from the tax differential to fossil fuels, which will remain at 5%, from 2005, for programs to encourage the development of renewable energy sources and energy savings and that these resources must be used and optimized efficiently and transparently for the intended purposes. **Law 125-01 on Electricity and its regulations.** Decree 356-99 the creates the Government Ozone Committee (COGO). Purpose of executing the Program for the Reduction of the Consumption of Substances that Deplete the Ozone Layer of the Dominican Republic.	**Law No. 1-12** Establishes the National Development Strategy 2030. **Law 64-00 on Environment and Natural Resources.** Purpose is to establish standards for the conservation, protection, improvement and restoration of the environment and natural resources, ensuring their sustainable use.	**Law No. 8 that defines the functions of the Ministry of Agriculture.** Corresponds to the Ministry of Agriculture directly or in coordination with other entities or through the entities linked to the Ministry, mainly, Formulate and direct the agricultural policy of the country as a whole, in accordance with the general development plans. **Law No. 6186-63 of Agricultural Development.** It promotes the process aimed at using the resources of agriculture in an integral and accelerated manner, in order to obtain optimum production, in order to improve the standard of living of all sectors of the population. **Law 180-01 that creates the National Council for the Regulation and Promotion of the Dairy Industry. (CONALECHE).** **Decree No. 351-82 created the National Council of Livestock Production (CONAPROPE)** Function is to advise the Executive Power and governmental institutions linked to the sector, in livestock matters.	National Association of Hotels and Tourism (ASONAHORES) that handles the **Law 158/01 on Promotion to the Tourism Sector.**

Environmental hotspots in the tourism value chain

The graphic provides a simplified representation of the tourism value chain, taking a life cycle approach to illustrate the location and nature of six priority hotspots from farm to fork, mine to hotel and water supply to wastewater treatment. ■

The rest of the value chain
Transport, textiles, metals and other materials
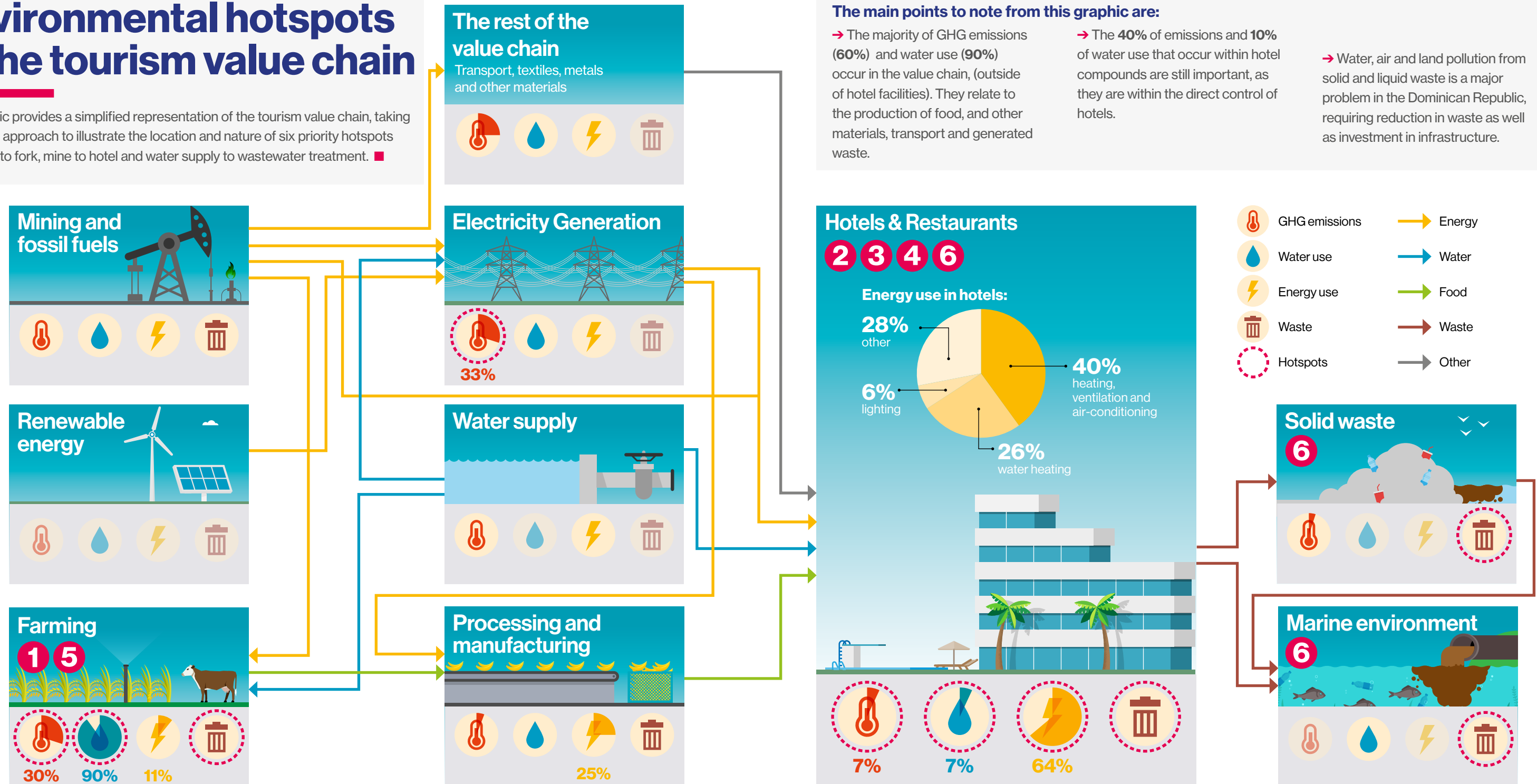
The main points to note from this graphic are:

→ The majority of GHG emissions (**60%**) and water use (**90%**) occur in the value chain, (outside of hotel facilities). They relate to the production of food, and other materials, transport and generated waste.

→ The **40%** of emissions and **10%** of water use that occur within hotel compounds are still important, as they are within the direct control of hotels.

→ Water, air and land pollution from solid and liquid waste is a major problem in the Dominican Republic, requiring reduction in waste as well as investment in infrastructure.

Mining and fossil fuels

Electricity Generation
33%

Hotels & Restaurants
2 3 4 6

Energy use in hotels:

28% other

6% lighting

40% heating, ventilation and air-conditioning

26% water heating

7% 7% 64%

Renewable energy

Water supply

Solid waste
6

Farming
1 5
30% 90% 11%

Processing and manufacturing
25%

Marine environment
6

Legend
- GHG emissions
- Water use
- Energy use
- Waste
- Hotspots
- Energy
- Water
- Food
- Waste
- Other

HOTSPOTS
Each one of the numbered boxes to the right represents a significant environmental impact hotspot identified by project partners and tourism stakeholders in the Dominican Republic.

1 Beef and dairy products
Many of GHG emissions associated with tourism actually happen on farms and are associated with food production, particularly livestock. About 24% of total GHG emissions in the Dominican Republic are from livestock digestion and manure.

2 Hotel and restaurant activities
Typical hotel energy use is 40% for heating, ventilation and air conditioning (HVAC) of rooms, public spaces and back of house areas, 26% for water heating and 6% for lighting. Hotels in the Dominican Republic account for 43% of the commercial sector's energy demand.

3 Water use in hotels and restaurants
While much of the water is used to grow food, hotels themselves also use lots of water for irrigation of grounds, swimming pools and spas, cleaning, laundry services, food preparation and by guests themselves, meaning a tourist uses 3 times as much water as a local.

4 Food waste in hotels and restaurants
Initial surveys show hotels waste up to 30% of food they purchased. Food waste creates GHG when it is discarded, unless it is composted or fed to animals. It also presents a wasteful use of natural resources used to produce wasted food in the first place.

5 Primary production of produce
Water used to grow fruit, vegetables and other food crops dominates water use across the life cycle. Over 50% of the vegetables produced in the Dominican Republic are consumed by the hotels sector.

6 Waste and pollution from single use items
e.g. plastic packaging, water bottles, cups, drinking straws, etc. creating litter and marine pollution, damaging natural environments and marine life, as well as present a wasteful use of natural resources used to produce them.

Call to action

Imagine you are living in 2030 and the vision for a more sustainable and resilient tourism sector has been delivered. Income from inclusive and sustainable growth in the sector is contributing almost 17% of national GDP in the Dominican Republic and has created a situation where over 250,000 people are employed directly in travel and tourism, and more than 825,000 people are employed in the sector and its value chains (estimated to be 16% of total employment at that time). At the same time, the cost base for the sector is down as a result of significant reductions in food waste, improvements in energy efficiency and the use of renewable energy and smarter, sustainable hotel operations and destination infrastructure designs.

Simultaneously, the natural beauty and cultural identity of the country has been enhanced through unprecedented levels of collaboration, including public/private sector partnerships and voluntary agreements, infrastructure investments in renewable energy, water supply and treatment, circular economy projects which have eliminated single use plastics, improved sustainable mobility and resort construction and refurbishment. Additionally a focus on sustainable gastronomy has attracted new visitors hungry for innovative, healthy and sustainable food and drink experiences.

The investments made in green infrastructure projects have helped to combat the impacts of climate change, protecting and enhancing the sector's natural, built and cultural assets: clean beaches, clear waters and mangroves, pristine national ecological parks, mountains and waterfalls, architectural landmarks and the cultural heritage and landscapes of the Taino Indians, weaving them into new eco-tourism and inland adventure tourism propositions and attractions.

Delivering this vision by 2030 and sustaining the quality of the tourism experience means the tourism sector stakeholders need to work together in closer and more coordinated partnerships and collaborations – government ministries and tourism businesses alike – combining the right mix of government policy and strategy with on-the-ground business action. The challenges that we face and the opportunities we embrace in the next decade will mark a turning point for tourism, one that benefits large and small businesses and communities alike, as well as the natural resources that the sector depends upon. ∎

> **The challenges that we face and the opportunities we embrace in the next decade will mark a turning point for tourism**

PHOTO BY OSCAR AGUILAR

Targets

To help make progress towards this vision more tangible, this roadmap suggests one headline and four supporting targets in 2030 compared to 2020 level:

1. **25% GHG emissions reduction;**
2. **50% food waste reduction;**
3. **25% reduction of non-renewable energy use;**
4. **Complete removal of problematic single-use plastics; and**
5. **Sustainability certifications for hotels.**

The targets were chosen as they are impactful, measurable and the delivery against the targets is likely to bring co-benefits in other areas. For example, meeting the sustainability certification target will result in improvements in general sustainability performance, as well as ensuring continued business opportunities with international tour operators, who are starting to require such certifications. In addition, meeting the food waste reduction target will also reduce the GHG emissions and water and energy use that happen in primary production of food.

Hotels contribute to the GHG emissions in different ways. Firstly, some emissions come from the use of fossil fuels, such as diesel, directly by hotels themselves. Secondly, emissions come from generation of the electricity that hotels use – reducing electricity use will reduce the emissions. Thirdly, emissions come from production of products and services that hotels buy, and from waste that they generate. The awareness about this third type of emissions (also known as Scope III) is low, but our analysis shows that these emissions are as big, if not bigger, than the other two types of emissions for a typical hotel.

The roadmap GHG emissions target includes the third type of emissions, in addition to fuel and electricity use. The biggest contributors to the third type of emissions are food purchases (especially meat and dairy) and hotel-generated waste. ■

GHG emissions in a typical hotel*

The diagram below shows reductions between annual scope I-III GHG emissions now and in 2030. The biggest contributions can be made by efficient air conditioning, halving food waste and introducing sustainable menus.

*200 rooms capacity

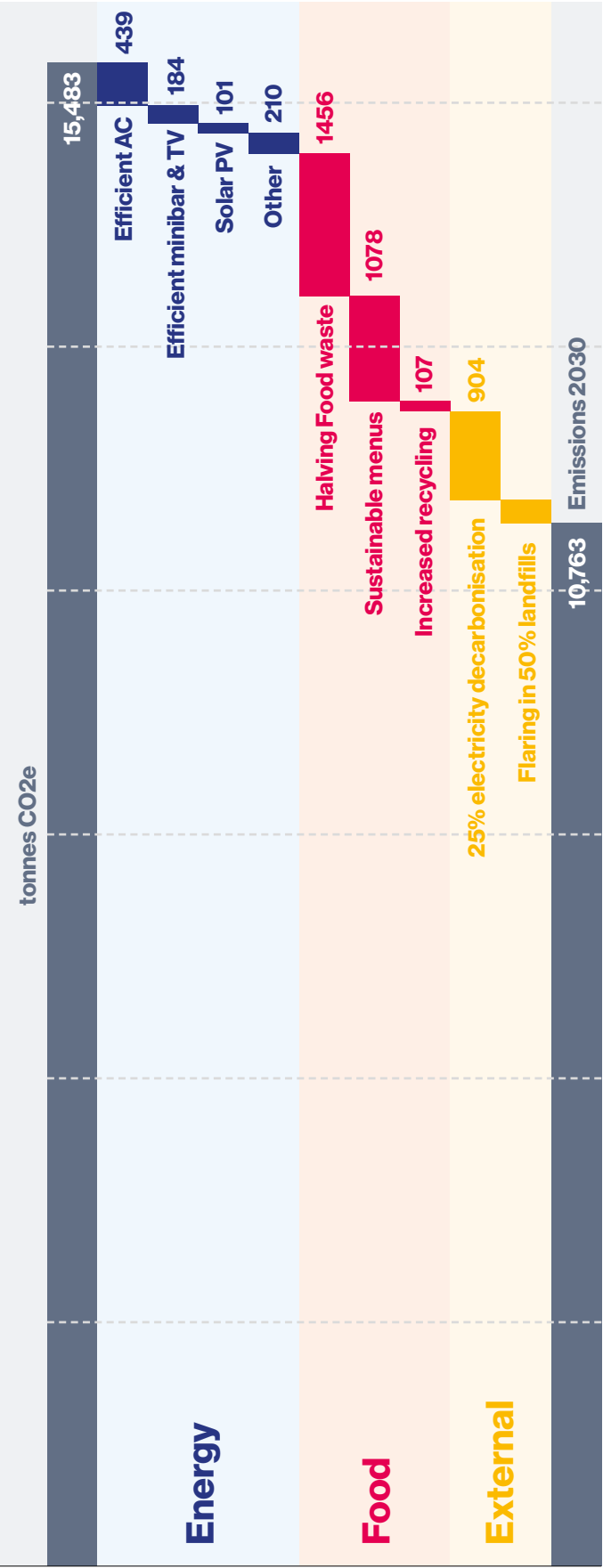|		2020	2025	2030	SDGs	Hotspots	Solutions
GHG emissions (CO₂)	The headline target is to reduce the GHG emissions associated with hotels by 25 % until 2030 from a 2020 baseline, similar to the national GHG target. Furthermore, analysis carried out in preparation of this roadmap suggests that this target can be mostly achieved by employing interventions that have **positive financial returns** for the hotels and are readily available, such as replacing air conditioning units with more efficient ones and reducing food waste.	Hotels representing **20% of hotel room capacity** are monitoring Scope I-III GHG emissions.	**15% reduction** in Scope I – III (fuel, electricity, food, waste)	**25% reduction** in Scope I – III (fuel, electricity, food, waste)	13 CLIMATE ACTION	1 2 4 5	🍴 ⚙ 🐟
Food waste	A recent study[1] showed that 42 hotels that started measuring food waste, reduced it on average by 21% in one year, suggesting that 50% in ten years – in line with SDG target 12.3 – is feasible. Hotels made $7 profit for every $1 invested in reducing food waste. Reducing food waste at source, redistribution and diverting it for animal feed, all count towards meeting the target.	Hotels representing 20% of hotel room capacity receive training on food waste and sustainable procurement and measure food waste.	**20% reduction** in Food Waste.	**50% reduction** in Food Waste.	TARGET 12·3 50% HALVE GLOBAL PER CAPITA FOOD WASTE	1 4 5	🍴
Energy	The reduction in fossil fuel energy use can be achieved through energy efficiency measures (for example installing more efficient devices and changing guest and staff behavior) and through the on-site self-production of renewable energy.	Hotels representing 20% of hotel room capacity are monitoring their electricity consumption in a disaggregated way.	**20% reduction** in non-renewable energy use.	**25% reduction** in non-renewable energy use.	TARGET 7·3 x2 DOUBLE THE IMPROVEMENT IN ENERGY EFFICIENCY	2	⚙
Plastics	The plastics target aims to reduce and eventually eliminate all use of problematic (unnecessary) single-use plastics, for example plastic water bottles, mini shampoo bottles and cutlery.	Market readiness assessed. Hotels representing 10% of hotel room capacity start removing single use plastics.	Hotels representing **50% of hotel room capacity** start removing single use plastics.	**All hotels have zero** problematic single use plastics.	TARGET 14·1 REDUCE MARINE POLLUTION	6	🐟
Certification	Tour operators are increasingly requesting that their partner hotels achieve sustainability certification, so this is an important business driver for sustainability. Certifications need to be Global Sustainable Tourism Council (GSTC) approved[2].	Hotel representing 20% of hotel room capacity work towards sustainability certification.	Hotels representing **80% of room capacity** work towards sustainability certification.	**All** hotels have achieved sustainability certification.	TARGET 8·4 IMPROVE RESOURCE EFFICIENCY IN CONSUMPTION AND PRODUCTION	1 2 3 4 5 6	🐟

1 https://champions123.org/the-business-case-for-reducing-food-loss-and-waste-hotels/
2 https://www.gstcouncil.org/

Overview of systemic solutions

The roadmap offers three systemic solutions - strategic themes or natural umbrellas for a cluster of actions and interventions with the same overarching goal. These solutions and their underlying actions are intended to address the environmental impact hotspots in the tourism sector described in Section 5, and deliver the targets outlined in section 6.
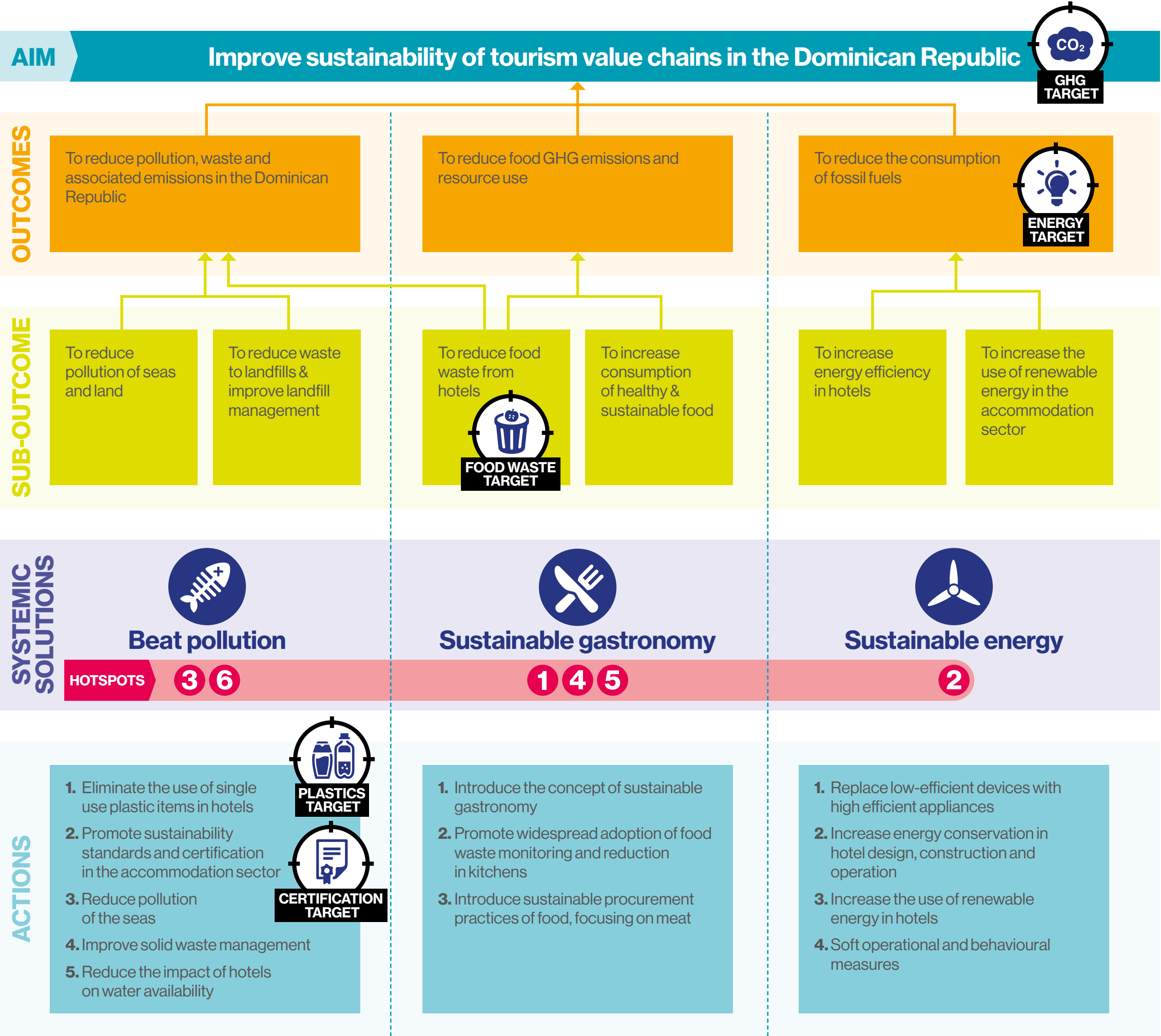
1. Beat pollution

To reduce marine and land-based pollution and reduce the consumption of materials and waste arising from tourism. This includes: putting in place the mechanisms for hotels to collect environmental data relating to regulatory permitting and sustainable hotel certification schemes, eliminating problematic single use plastics in products and packaging by procuring more sustainable alternatives, enforcing and enhancing regulatory frameworks, looking at the role of financial incentives to reduce pollution and introducing innovation (e.g. to replace single use plastics), improving waste management and recycling systems, all of it driven forward and underpinned by a nationwide uptake of best-practice sustainability certification for hotels.

2. Sustainable gastronomy

The second systemic solutions will start by measuring and reducing food waste in hotels, introducing the concept of sustainable gastronomy, by training chefs and hotel managers on the topics of food sustainability, encouraging the adoption of sustainable procurement practices when buying food and sustainable dining.

3. Sustainable energy

The third systemic solutions aims to increase energy-efficiency and the use of renewable energy in hotels. This includes government policies to support and incentivise the use of energy-efficient equipment and products, the establishment of standards and certification schemes (including energy audits and rating schemes); the identification of energy-efficient products and services available on the market to encourage the procurement of energy-efficient equipment by tourism businesses and the installation of building / room energy management systems, energy-efficient heating, ventilation and air conditioning (HVAC) systems and LED lighting, as well as training programmes in energy management and renewable energy.

AIM — Improve sustainability of tourism value chains in the Dominican Republic

GHG TARGET (CO_2)

OUTCOMES

- To reduce pollution, waste and associated emissions in the Dominican Republic
- To reduce food GHG emissions and resource use
- To reduce the consumption of fossil fuels

ENERGY TARGET

SUB-OUTCOME

- To reduce pollution of seas and land
- To reduce waste to landfills & improve landfill management
- To reduce food waste from hotels — **FOOD WASTE TARGET**
- To increase consumption of healthy & sustainable food
- To increase energy efficiency in hotels
- To increase the use of renewable energy in the accommodation sector

SYSTEMIC SOLUTIONS

Beat pollution

Sustainable gastronomy

Sustainable energy

HOTSPOTS 3 6 | 1 4 5 | 2

ACTIONS

Beat pollution
1. Eliminate the use of single use plastic items in hotels — **PLASTICS TARGET**
2. Promote sustainability standards and certification in the accommodation sector — **CERTIFICATION TARGET**
3. Reduce pollution of the seas
4. Improve solid waste management
5. Reduce the impact of hotels on water availability

Sustainable gastronomy
1. Introduce the concept of sustainable gastronomy
2. Promote widespread adoption of food waste monitoring and reduction in kitchens
3. Introduce sustainable procurement practices of food, focusing on meat

Sustainable energy
1. Replace low-efficient devices with high efficient appliances
2. Increase energy conservation in hotel design, construction and operation
3. Increase the use of renewable energy in hotels
4. Soft operational and behavioural measures

Beat pollution

Improve solid waste management

Improvement of solid waste management, including: reduction in the volume of waste; and improved management of remaining waste by enhancing waste infrastructure and ensure it does not pollute the natural environment.

Hotel & restaurant activities
➔ Implement separate collection for recyclables and organic kitchen waste.
➔ Encourage and work with local governments to improve the landfill and rubbish dumping situation across the Dominican Republic, focusing on preventing pollution of water sources.
➔ Identify possibilities for public-private partnerships to establish new licenced technical landfills and close and/or rehabilitate existing landfills, prioritizing those that pollute water sources.

Supportive activities
➔ Stimulate partnerships for circular economy models and support recyclers.
➔ Collect data from the recyclers and users of surplus food, such as livestock farmers. Check and list permits and map any gaps in recycling infrastructure.
➔ Set-up a financial mechanism to encourage new recycling, composting and livestock feed businesses (see above, with targets for gender and minorities).
➔ Set up a waste registry, so that waste collectors have to get a confirmation that they have deposited all waste they collected from commercial clients (e.g. hotels), to a licenced waste management site.

Stakeholders
➔ Hotel management staff
➔ Local governments
➔ Hotel associations
➔ Businesses providing waste recycling, composting or other waste-converting activities

Reduce pollution of the seas

Investigate how the accommodation sector could help in preventing marine pollution, and support city, coastal and ocean clean-ups.

Hotel & restaurant activities
➔ Sponsor beach clean-ups; hotels to reach out to local communities, schools or student organizations. Partner with them for beach clean-ups already happening in the area.
➔ Analyse the source of waste collected in clean-ups.
➔ Ensure disposable products from beach bars and hotels are removed from the beaches (by setting a deposits system).
➔ Manage sargassum seaweed problem jointly.
➔ Identify wastewater sources of pollution in hotels (e.g. cleaning products, untreated waste, laundry systems, etc.) and improve their management and reduce their use.
➔ Conserve and re-store mangroves on or near hotel sites as they function as natural wastewater treatment as well as carbon sinks.

Supportive activities
➔ Set up a research programme to investigate circular economy opportunities such as exploring alternative uses for plastics and sargassum in collaboration with universities and NGOs (e.g. plastics to be remade into carpets, clothes; sargassum to be used as fertiliser, animal feed supplement or bio-plastics feedstock).
➔ Set up a financial mechanism to encourage the start-up of circular economy businesses.
➔ Set targets to ensure women and entrepreneurs from minority backgrounds are included in research and circular economy opportunities.
➔ Set up a deposit scheme for dis-used fishing nets.
➔ Encourage mangrove conservation and restauration.

Stakeholders
➔ Local community groups
➔ Hotel associations
➔ NGOs
➔ Universities
➔ Circular economy & recycling entrepreneurs

1 http://www.portalindustrial.net/index.php/novedades/alertas/139-primer-fondo-de-agua-en-republica-dominicana-hacia-una-industria-sostenible
2 http://www.oneplanetnetwork.org/sites/default/files/encouraging_sustainable_procurement_through_the_use_of_third-party_certification_schemes.pdf

Eliminate the use of single use plastic items in hotels

Engage the Dominican Republic's tourism businesses to reduce the use of plastics, recognise plastic as a valuable resource, and improve waste management systems to keep it out of the oceans.

Hotel & restaurant activities
➔ Review plastic products with current suppliers and assess opportunities to eliminate, reduce, and replace current items with sustainable alternatives.
➔ Internal systems to measure and report progress against roadmap targets.
➔ Pilot test sustainable products or solutions to replace problematic single-use products (e.g. water bottles, mini shampoo bottles, plastic wrappers).
➔ Scale-up viable sustainable solutions to replace single-use items.

Supportive activities
➔ Launch phasing out of single-use plastics pilot project with four hotels.
➔ Identify the top plastic products procured and disposed by hotels.
➔ Identify alternative solutions for the top procured single-use items (market readiness study).
➔ Present alternative solutions to hotels and provide recommendations towards plastic waste management.
➔ Develop at least two national case studies from the participating hotels.
➔ Create and launch a communication initiative on plastics for the tourism sector, engage with existing pollution and plastics campaign at national level.

Stakeholders
➔ Hotel management staff
➔ Hotel associations (e.g. Asociación de Hoteles y Turismo de Republica Dominicana, Asociación de Hoteles de Playa Dorada)
➔ ECORED
➔ Hotel suppliers
➔ Waste management companies (e.g. Ecoservices)
➔ UN Environment
➔ Hotel chains (e.g. Grupo Piñero, Iberostar, Fundación Grupo Punta Cana, Viva Wyndham Resorts).

Reduce the impact of hotels on water availability

Water scarcity is becoming an issue and the frequency of droughts is likely to increase. Time and location of water use are important.

Hotel & restaurant activities
➔ Prepare plans for times of drought – identifying which uses of water (for irrigation of grounds, swimming pools) could be reduced voluntarily in times of droughts of different severities.
➔ Measure and monitor water use.
➔ Introduce rainwater harvesting to use in landscaping, incl. in golf courses. Aim for these uses to be 100% rain- and reused water-based.
➔ Implement reuse systems for landscaping and toilets.
➔ Ensure adequate wastewater treatment.
➔ Engage with ecosystem preservation and water fund activities[1] in the river catchments.

Supportive activities
➔ Investigate the potential to set up shared laundries with modern wastewater treatment, and high energy and water efficiency.
➔ Develop contingency plans for water scarcity to reduce the impact on local communities and minority groups.

Stakeholders
➔ Hotel management staff
➔ Local governments
➔ Hotel associations
➔ La Asociación de Industrias de la República Dominicana (AIRD)
➔ NGOs

Globally the number of customers staying in hotels certified by a GSTC standard increased by 11.9% in 2018, reaching 9.2 million in 1,520 hotels.[2]

TUI[2] reports that compared to non-certified hotels, hotels with sustainability certifications use 19% less water, produce 10% less CO2 ¬, and 24% less waste (per guest).

Beat pollution continued

Promote sustainability standards and certification in the entire accommodation sector

Harmonise data requirements and collection for the purposes of licensing and sustainability certifications, to reduce the reporting burden for hotels.

Work towards mandatory reporting of environmental key performance indicators associated with this roadmap, including GHG emissions, food waste and plastics.

Hotel & restaurant activities
➔ Pursue sustainability certification.
➔ Collect environmental data in a central database.
➔ Assign a person or persons to be responsible for data collection and analysis.
➔ Use this data to meet the requirements of environmental licensing and sustainability certification reporting to reduce the reporting burden.

Supportive activities
➔ Compare current reporting requirements for different purposes.
➔ Use the existing data collected by Ministry of Environment to benchmark and co-ordinate timely feedback to the hotels on their environmental performance.
➔ Liaise with existing certification schemes to establish new criteria and data collection that reflect the latest evidence on hotspots in tourism value chains (e.g. the importance of food). Ensuring their criteria promote the achievement of best practice on energy, food waste measurement & prevention, waste management, sustainable procurement and single-use plastics.
➔ Design technical and financial mechanisms to support hotels in overcoming barriers to obtain certifications.

Stakeholders
➔ Ministry of Environment
➔ Ministry of Tourism
➔ Hotel management staff
➔ Tour operators (e.g. TUI)
➔ Sustainability certifications (e.g.Travelife)
➔ Hotel associations
➔ ASONAHORES

Sustainable gastronomy

Introduce the concept of sustainable gastronomy

Raising awareness of how important food is for sustainability. With the right information and motivation, chefs will be able to reduce the impact of the food they prepare.

Hotel & restaurant activities
➔ Ensure the hotel managers and chefs are trained on the principles of sustainable gastronomy and environmental footprint of food.
➔ Organise audits of kitchen services.
➔ Raise awareness of farmers of sustainable agriculture practices, improving contractual arrangements to integrate sustainability practices.

Supportive activities
➔ Deliver capacity building training on efficient use of resources in cooking and circular economy principles related to food and low carbon menus.
➔ Train energy auditors to expand their audits to cover kitchen practices, including for example, equipment, efficient use of water and food storage temperatures.
➔ Circular economy opportunities / revalorization of organic waste to compost, energy, livestock feed.

Stakeholders
➔ Hotel associations
➔ Chefs and hotel managers
➔ WorldChefs Feed the Planet programme[3]

3 https://www.feedtheplanet.worldchefs.org/
4 https://champions123.org/the-business-case-for-reducing-food-loss-and-waste-hotels/

Promote widespread adoption of food waste monitoring and reduction in kitchens

Monitoring of the amount of food that is thrown away in the kitchens and from the restaurant floors can lead to a great reduction in food waste generated as well as reducing hotel costs.

Hotel & restaurant activities
➔ Relevant staff are trained to record the amount of waste that arises each day in the kitchen and from restaurants (using smart systems or noted manually).
➔ Internal systems set up to measure and report the amount of food thrown away in the kitchens and restaurants.
➔ Food and organic waste that cannot be reduced at source is either sent to animal feed or composting, or composted on-site.

Supportive activities
➔ Prepare and deliver capacity building training for chefs and cooks in food cooking practices that reduce waste e.g. to properly trim vegetables, make best use of whole fish or food, not overserving portion sizes and responsible disposal of waste.
➔ Ensure that training opportunities are made available to women.
➔ Design a 'pledge to reduce food waste' or voluntary agreement that hotels sign-up for.
➔ Organise an event to share best practice and success between hotels.
➔ Investigate current food waste practices and informal uses, to minimise and negative impacts on vulnerable aspects of society, minorities and women.

Stakeholders
➔ Hotel management and kitchen staff
➔ Hotel associations
➔ Commercial food waste measurement services (e.g. Leanpath, Winnow)
➔ Waste collectors

Reducing food waste pays off
Based on existing data, a 10-year investment of 60,000 USD in food waste prevention could lead to savings of 220,000 USD on food purchases and prevent 800 tonnes of CO2 eq. emissions in the average hotel

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Introduce sustainable procurement of food, focusing on meat

Develop a list of tender specifications for sustainable procurement of food items of suppliers that the hospitality industry can utilise to shorten the search process and identify those local suppliers achieving certain quality and sustainability criteria.

Hotel & restaurant activities
➔ Prioritise procurement of food from local sources, which are employing best practices to reduce methane emissions and pollution.

Supportive activities
➔ Prepare a market readiness report focusing on local meat, fruit and vegetable suppliers.
➔ Set up a research programme to investigate and support different mitigation actions to improve quality of meat, while reducing methane emissions in the livestock sector.
➔ Set targets to ensure women and minorities are not excluded from research and opportunities from sustainable procurement.
➔ Sustainable procurement training.

Stakeholders
➔ Hotel procurement staff
➔ Livestock farmers
➔ Universities

Sustainable energy

Increase energy conservation in hotel design, construction and operation

These options entail a broad range of actions that should be considered during the design, construction and operation of hotels.

Hotel & restaurant activities
➔ Install sensors to automatically shut-off air conditioning if windows or doors are opened.
➔ Incorporate shading (e.g. planting of trees) and reflective coatings on walls and the roof to reduce the thermal load on buildings.
➔ Incorporate as many trees in the hotel compound as they sequester carbon in their woody parts and roots, and can count towards GHG targets. Protect existing mangroves and other high-value natural habitats.
➔ Program the set-point of air conditioners to 24 degrees Celsius as the default when equipment is switched on.
➔ Clean indoor and outdoor heat exchangers and ensure that there is adequate airflow (e.g. free of plant leaves) on a monthly basis.
➔ Use building management system.

Supportive activities
➔ Establishing building codes for the construction of new hotels, including energy efficiency considerations.

Stakeholders
As above plus:
➔ Architects
➔ Building companies
➔ Ministry of Housing

Replacing less energy efficient air-conditioning systems in guest rooms...the highest emissions and money saving option
By replacing 516 old air-conditioning systems by energy efficient air-conditioning systems in the guest rooms, an hotel could save 366 TCO2 per year. At the same time, due to a decrease in the energy consumption, the hotel could save around 79,000 USD per year.

Replace less-efficient devices with high efficient appliances

A survey conducted by the Ministry of Environment and Natural Resources in collaboration with UN Environment, shows that many hotels in Dominican Republic could greatly improve their financial performance as well as energy efficiency by replacing some older devices with highly-energy efficient technologies. All these technologies are already readily available on the market in Dominican Republic.

Hotel & restaurant activities
Replace existing devices with:
➔ high-efficient air-conditioning systems[5],
➔ LED bulbs[6],
➔ energy efficient electric appliances in rooms (TVs, refrigerators),
➔ sensors to shut-off air conditioning if windows or doors are left open
➔ When purchasing new vehicles (cars, vans and busses), consider hybrid or electric vehicles.

Supportive activities
➔ Ensure engagement of female hotel staff in trainings on the operation and maintenance of energy efficient technologies.
➔ Support accreditation process for technicians.
➔ Develop standard tender specifications for energy technologies with recommended minimum performance standards.
➔ Develop financial mechanisms to support purchase and operation of energy efficient technologies by businesses.
➔ Pilot test financial mechanism to increase access to clean cooling technologies.
➔ Develop case studies from each of the participating hotels.
➔ Create and launch a communication campaign to showcase the benefits of using energy efficient technologies.
➔ Establish mandatory energy audits for hotels.

Stakeholders
➔ Hotel management staff
➔ Hotel associations (e.g. Asociación de Hoteles y Turismo de Republica Dominicana, Asociación de Hoteles de Playa Dorada),
➔ C-Cool Project
➔ Ministry of Energy and Mines
➔ Ministry of Environment and Natural Resource
➔ Energy service companies (ESCO)
➔ Other energy organisations (e.g. CNE, EDENORTE, EDESUR y EDEESTE, CDEEE, SIE)
➔ Suppliers of energy technologies

Increase the use of renewable energy in hotels

These actions are related to the production of energy by the hotels themselves using renewable energy technologies. These allow the hotels to reduce their electricity consumption from the grid, usually based on fossil fuel used for production.

Hotel & restaurant activities
Introduce the following technologies for self-production of electricity:
➔ solar PV,
➔ small wind turbine,
➔ hybrid systems.
Introduce solar water heater systems for hot water.

Supportive activities
➔ Build capacity in government agencies to address the topic and foster collaboration.
➔ Train technical staff from hotels on operation and maintenance of specific energy efficient technologies.
➔ Provide training to procurers focused on technology sustainability criteria.
➔ Support accreditation process for technicians.
➔ Provide financial incentives for the purchase and operation of renewable energy technologies by businesses.

Stakeholders
➔ Hotel management staff
➔ Hotel associations
➔ Ministry of Energy and Mines
➔ Ministry of Environment and Natural Resources
➔ Energy service companies (ESCO)
➔ Other energy organisations (e.g. CNE, EDENORTE, EDESUR y EDEESTE, CDEEE, SIE)
➔ Suppliers of renewable energy technologies

Producing its own electricity
By installing 75kW of photovoltaic solar panels for self-production of electricity, an hotel could save 80 TCO2 per year. At the same time, due to a decrease in the electricity consumption from the grid, an hotel could save around 14,000 USD per year.

5 consistent with the performance recommended in U4E's Model Regulations for Air Conditioners and similar best practice guidance (e.g. DOE's Advanced Energy Design Guides for Hotels
6 U4E's Model Regulations for General Service Lamps and similar best practice guidance

Changing your bulbs - a win-win option:
Replacing less efficient, incandescent light bulbs with LEDs could prevent 17.3 TCO2 while saving 5,200 USD through decreasing energy consumption in hotels

Soft operational and behavioural measures

The soft measures are other actions taken in order to change behaviour. Those measures can target different groups of stakeholders such as either staff or employees of hotels or clients (tourists).

Hotel & restaurant activities
➔ Formulate a simple energy management policy at hotel level and make it available to all staff.
➔ Capture baseline information on energy use over the year through utility bills for each area of the hotel (e.g. distinguishing guest rooms from the restaurant and lobby) and/or by system (lighting, HVAC, pumps). Track variations or excessive uses and the reasons for it. Include GHG estimations.
➔ Train staff in energy consumption reduction practices. These can target specific staff groups such as kitchen staff (also see Sustainable gastronomy).
➔ Train key maintenance staff in proper operation and maintenance for energy saving.
➔ Communicate to guests about the importance of switching-off lights or other equipment.
➔ Communicate to guests about maintaining room/venue temperatures at 23-25 degrees Celcius.

Supportive activities
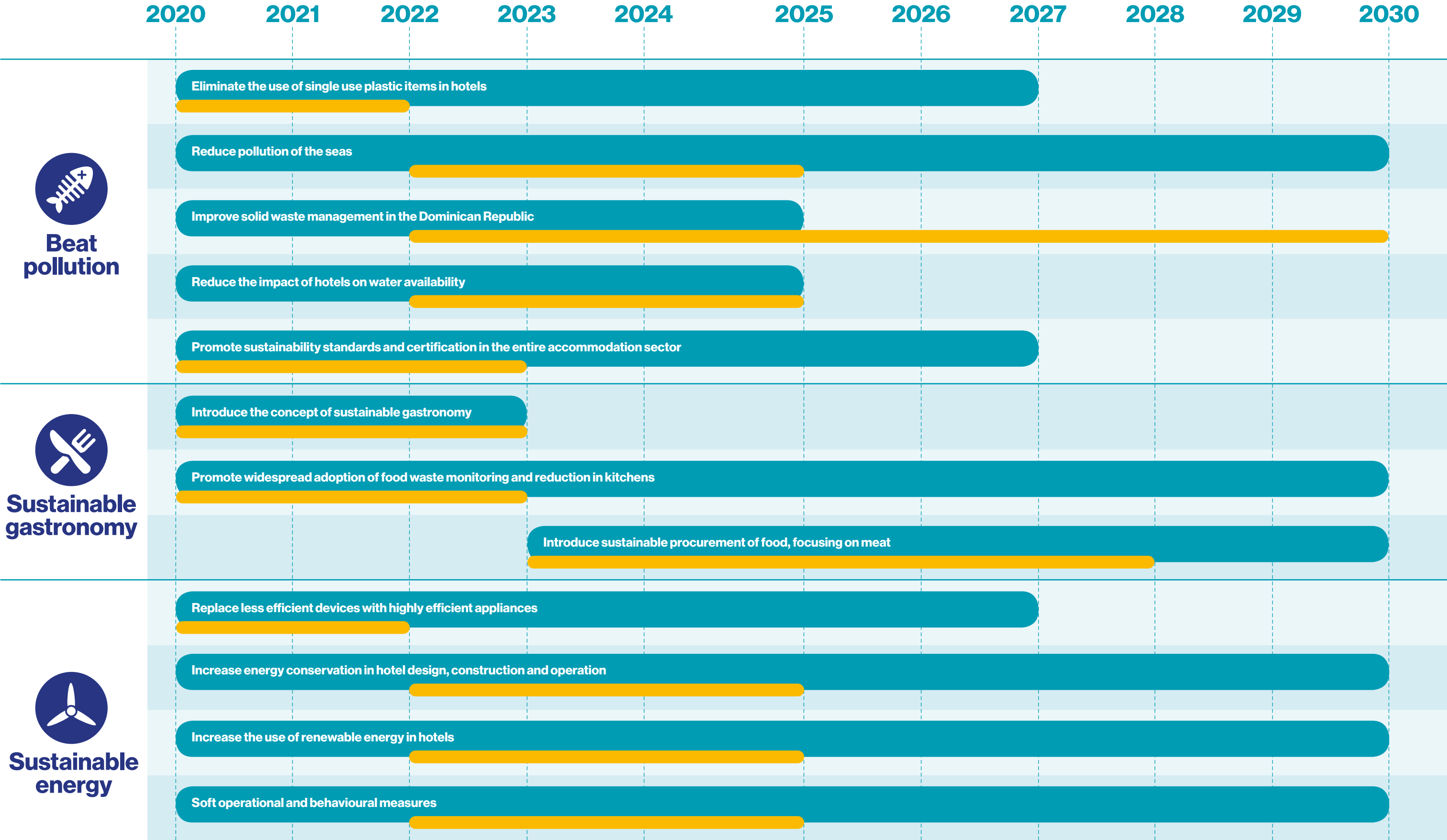➔ Train hotel environmental managers in energy management and importance/ benefits of soft measures.
➔ Prepare joint communication materials targeted at guests that all hotels can use freely.

Stakeholders
➔ Hotel management staff
➔ Hotel Associations
➔ Ministry of Energy and Mines
➔ Ministry of Environment and Natural Resources
➔ Energy service companies (ESCO)
➔ Hotel marketing departments

Timeline

Legend:
- Hotel and restaurant activities
- Supporting activities

Timeline years: 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030

Beat pollution

- Eliminate the use of single use plastic items in hotels
- Reduce pollution of the seas
- Improve solid waste management in the Dominican Republic
- Reduce the impact of hotels on water availability
- Promote sustainability standards and certification in the entire accommodation sector

Sustainable gastronomy

- Introduce the concept of sustainable gastronomy
- Promote widespread adoption of food waste monitoring and reduction in kitchens
- Introduce sustainable procurement of food, focusing on meat

Sustainable energy

- Replace less efficient devices with highly efficient appliances
- Increase energy conservation in hotel design, construction and operation
- Increase the use of renewable energy in hotels
- Soft operational and behavioural measures

Summary of recommendations

To achieve sustainable tourism, the solutions and actions suggested in this roadmap need to be supported by changes in policy, improvement in infrastructure and delivery of existing plans broader than the tourism sector. Here are the key recommendations for policymakers and businesses operating either directly or indirectly in the tourism sector. ■

Policy...

1. Prepare **training** for hotels on: food waste measurement, training on sustainable procurement, including circular procurement practices, low-carbon menus, and energy and water efficiency measures.

2. Develop and pilot **financial mechanisms** to encourage: circular economy models, eco-innovation, recycling, energy efficient appliances, installation of renewable energy technologies, obtaining sustainability certification and mangrove protection and restauration.

3. Set-up **research programmes** to foster innovation for reduction in GHG emissions from domestic beef production, removal of plastics from the ocean, re-use of recovered plastics, and development of circular solutions for ocean sargassum.

4. Prepare and launch **communication campaigns** on: food waste, plastic and energy- and water-efficient behaviour to staff, guests and suppliers.

5. Develop registries of recycling businesses and providers of local food products who are champions of sustainability best practices.

6. Establish sustainable **building codes** for the construction of new hotels.

7. Set up **monitoring programmes** to track progress against roadmap targets for corporate GHG emissions and food waste and single-use plastics for hotels larger than 100 rooms (starting in 2022). Provide feedback to hotels on their environmental performance.

8. Speed up policy and regulation implementation for safe solid waste and wastewater management, as well as waste minimisation in the Dominican Republic, focusing on **improvements in infrastructure**.

Business...

Begin your journey...

1. Monitor energy and water use, resource efficiency (including food waste) and GHG emissions related to business scope I-III .

2. Train staff in sustainable procurement, food waste measurement, resource efficient kitchen practices, energy efficiency measures and circular economy approaches related to food and low-carbon menus.

Become more efficient and achieve greater financial savings...

3. Organise energy, water and kitchen practice **audits**.

4. Replace old (inefficient) devices with energy-efficient ones .

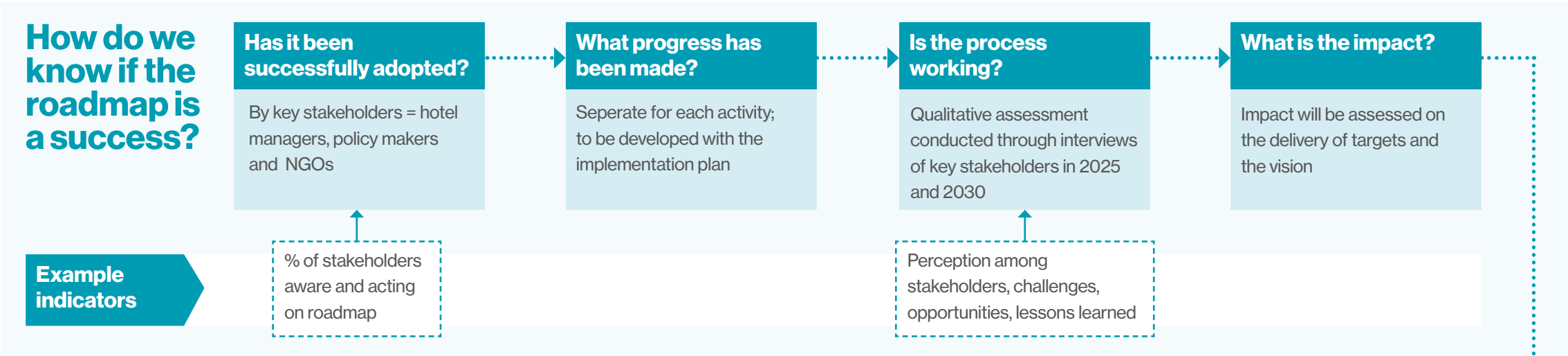**Protect the natural beauty of the Dominican Republic...**

5. Replace **single-use plastics** with reusable and refillable items; including toiletries, water bottles, cups and cutlery.

6. Implement **separate collections** for recyclables and food waste.

7. Communicate to guests about reducing waste, maintaining room temperatures at 23-25 degrees and saving water.

Collaborate with peers, neighbour communities, suppliers, and civil society...

8. Communicate to your suppliers your ambition to have more **sustainable products and services** (for example, tour guides, excursions preserving natural beauty of the island) to offer to your customers.

9. Share your best practices, successes and challenges in improving your environmental performance.

10. Participate actively in the regional and sectoral discussions seeking solutions to environmental and social challenges.

Monitoring and evaluation of the roadmap

Monitoring the implementation of this roadmap is crucial to ensuring a successful realisation of sustainable tourism in the Dominican Republic. Similarly, evaluation during the process can help improve the rollout and can help to demonstrate and share learnings with other initiatives in the Caribbean and internationally. ■

How do we know if the roadmap is a success?

Has it been successfully adopted?	What progress has been made?	Is the process working?	What is the impact?
By key stakeholders = hotel managers, policy makers and NGOs	Seperate for each activity; to be developed with the implementation plan	Qualitative assessment conducted through interviews of key stakeholders in 2025 and 2030	Impact will be assessed on the delivery of targets and the vision

Example indicators

% of stakeholders aware and acting on roadmap		Perception among stakeholders, challenges, opportunities, lessons learned	

	2030 Target (against 2020 baseline)	Indicator (Units)	Who reports?* Data source	Data collection standard	Validation data source	Relevant SDG target & indicator
Greenhouse Gases	25% reduction in Scope I – III GHG emissions	GHG emissions (tonnes CO2e)	Hotels and establishments using data records and bills	GHG Protocol Corporate Standard GHG Protocol Scope 3 Standard	National GHG emission accounts	TARGET 13.2 INTEGRATE CLIMATE CHANGE MEASURES INTO POLICIES AND PLANNING
Energy	25% reduction in non-renewable energy use	GHG emissions (tonnes CO2e) kWh	Hotels and establishments using data records and bills	GHG Protocol Corporate Standard	National energy accounts	TARGET 7.2 INCREASE GLOBAL PERCENTAGE OF RENEWABLE ENERGY / TARGET 7.3 DOUBLE THE IMPROVEMENT IN ENERGY EFFICIENCY
Food waste	50% reduction in food waste	Wasted edible food (tonnes)	Hotels and establishments using own measurement systems	Food Loss and Waste Standard	SDG 12.3.1.b national reporting	TARGET 12.3 HALVE GLOBAL PER CAPITA FOOD WASTE
Plastics	Eliminate all use of problematic single use items and packaging	Tonnes or no. of items purchased by the hotels classified as problematic	Hotels and establishments	No existing standard. Agreed in the initial stages of the action.	Visits by inspection body (could be regulator or industry-appointed independent body)	TARGET 14.1 REDUCE MARINE POLLUTION
Sustainability certifications	All hotels in the Dominican Republic have achieved a sustainability certification	% of hotels achieving sustainability certification	Hotels	Simple yes / no (certification achieved yes or no)	Certification bodies	TARGET 8.4 IMPROVE RESOURCE EFFICIENCY IN CONSUMPTION AND PRODUCTION / TARGET 12.8 DEVELOP AND IMPLEMENT TOOLS TO MONITOR SUSTAINABLE TOURISM

*One of the actions of the roadmap is an establishment of a mandatory reporting or a mandatory reporting system by all hotels larger than 100 rooms on the above indicators to either the Ministry of Tourism or Hotel Association. Mandatory reporting has been shown to accelerate positive action, help establish ownership and responsibility and uncover opportunities for improvement. Reporting mechanism should be established by 2020 for early adopters, with mandatory reporting starting in 2023 at the latest. Assuming the smooth implementation of this roadmap, hotels larger than 50 rooms should report from 2025 voluntarily, mandatory reporting following in 2027.

The purpose of this roadmap is to provide a strategic plan to reduce GHG emissions and improve resource efficiency in the Dominican Republic, focusing on the accommodation sector and its value chains. It translates 'a vision' into actionable goals and activities over an agreed timeframe.

PHOTO BY KAMIL-KALBARCZYK

UN environment

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