

Roadmap for low-carbon and resource-efficient tourism in the Philippines

Transforming tourism to achieve sustainable
accommodation & Meetings, Incentives,
Conferences and Exhibitions.

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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.



An initiative contributing to the network:



Foreword - Department of Tourism

The Department of Tourism lauds the Initiative taken by the Philippine Center for Environmental Protection and Sustainable Development, Inc. (PCEPSDI) in crafting the "Roadmap for Low-Carbon and Resource-Efficient Tourism in the Philippines", anchored on the strategic direction of the National Tourism Development Plan (NTDP) 2016-2022 in pursuing sustainability and inclusive growth.

We at the DOT also extend our gratitude to the United Nations Environment Programme (UNEP), the Tourism Congress of the Philippines (TCP), and the Tourism Working Group members representing the accommodation and MICE sectors for joining hands with the Department to develop a globally competitive, environmentally sustainable, and socially responsible tourism industry.

In 2018, the DOT was able to pursue several initiatives. We implemented the National Ecotourism Strategy and Action Plan (NESAP) 2013-2022 with three model sites: Balinsasayaw, Bataan and Bucas Grande; we also conducted tourism and climate change workshops and budget tagging in Manila and Bicol, recognized 12 green hotels and zero-carbon resorts, developed the ASEAN Sustainable and Inclusive Tourism Assessment Tool in 14 sites including South Cotabato, Palawan, Baguio, and Bohol, and conducted roll-outs and orientation seminars on Sustainable Tourism for Development in different provinces.

The success of these initiatives would not be possible without you, our industry stakeholders, host communities, and our partners in the Department. Your

continuous support and collaborative efforts in responsible stewardship are valued not only for helping us protect our environment, but also for their long-term effects in boosting the national economy.

As I always say, our world-renowned destinations are the backbone of Philippine tourism; as such, we must do our utmost to ensure they remain viable attractions for the generations to come. I encourage every one of you to practice sustainability as a way of life, starting in your own homes. All of us must do our share; only then can we convincingly say that "It's More Fun in the Philippines!".



Bernadette Romulo-Puyat
Secretary, Department of Tourism



Foreword - Tourism Congress of the Philippines

The Philippines enjoys a flourishing tourism industry that owes its success to the country's lush natural resources, in the form of spectacular beaches, tropical weather, rich biodiversity and unique culture. Contributing 12.2% to the country's GDP, the tourism sector employs 5.4 million people as of 2018. It is an understatement to say that the country would have a lot to lose should these elements be put at risk.

The Philippines ranks fifth among countries in the world most vulnerable to climate change, according to a report by the Intergovernmental Panel on Climate Change (IPCC). As the third largest contributor of plastic trash, based on a report by the Ocean Conservancy and McKinsey Center for Business and Environment, the Philippines, especially the tourism sector, would benefit from a national effort to shift to more sustainable practices.

As such, the Tourism Congress of the Philippines, in collaboration with the Philippine Center for Environmental Protection and Sustainable Development, Inc., commits to the vision of enhancing the Philippines as a globally recognized tourism destination using the Roadmap for low-carbon and resource-efficient tourism in the Philippines. Tourism stakeholders from both the public and private sectors would be able to understand the environmental impacts of tourism value chains in terms of energy, food and waste, to be guided by roadmap targets and systemic solutions for interventions designed to achieve these targets. Shifting to low carbon and resource efficient operations would increase the overall value of the

service being provided by the industry, to achieve the triple bottom line of people, planet and profit.

Tourism sector stakeholders then need to work together in closer and more coordinated partnerships and collaborations – government agencies 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 and the natural resources that the sector depends upon.



Jose C. Clemente III
President, Tourism Congress of the Philippines



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Helpful definitions of terms used in the roadmap

A **value chain** is the entire sequence of activities or parties that provide or receive value in the form of products or services (e.g. suppliers, outsourced workers, contractors...) and their relationships and dynamics.

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

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

MICE stands for meetings, incentives, conferences and exhibitions sector and activities.

Executive Summary

This is a roadmap to sustainable accommodation and MICE sectors in the Philippines, via resource-efficient and low-carbon development.

Its vision is to enhance a globally recognized tourism destination that showcases and protects the natural beauty of the Philippines, the hospitality of its people and its cultural identity.

Future growth in the tourism sector will be firmly based on the principles of inclusivity, social responsibility, environmental protection, local economic development and sustainable growth. It will be contributing to the delivery of the UN Sustainable Development Goals and the Philippines' climate change commitments by 2030, under the Paris Agreement within the United Nations Framework Convention on Climate Change (UNFCCC).

The roadmap is based on an analysis of the tourism value chain. This analysis covers the activities that happen within the hotels, restaurants and venues for meetings, incentives, conferences and exhibitions (MICE), but also the activities that supply them with energy and materials; for example food production, processing and associated waste arising. A notable exclusion from the analysis is international travel.

The analysis revealed that many environmental impacts related to tourism happen outside hotels; for example, over 90% of water used in tourism value chains is used to grow food served in hotels and venues, and producing food also contributes 50% of total greenhouse gas (GHG) emissions. Inside hotels, energy used in cooling and air-conditioning is the most significant source of GHG emissions.

To help focus the delivery of this roadmap, a headline target of 30% reduction in greenhouse gas (GHG) emissions from fuel use, electricity use and purchased goods and services is proposed. This target is supported by three sub-targets relating to food waste, energy and wastewater treatment:

- **A 30% reduction in greenhouse gas emissions for hotels and MICE venues by 2030;**
- **A 30% reduction in non-renewable energy used by the hotels and MICE venues by 2030;**
- **A 50% reduction in the amount of food waste generated by hotels and MICE venues by 2030; and**
- **No untreated wastewater or sewage resulting from tourism operations in the Philippines reaches rivers, lakes and seas by 2025.**

Systemic Solutions

The roadmap offers a suite of actions and activities to reduce carbon emissions and improve the resource efficiency of the tourism sector. These are grouped under four systemic solutions that have been identified to mitigate key impacts.

 **1. Sustainable food value chains:** seeks to reduce food waste by 50% by 2030 and improve the environmental impact of food consumed in tourism, by highlighting the value and provenance of food, and especially Filipino food, such as fruits, rice and fish, and integrating the food-producing landscapes and communities as part of tourism offer.

 **2. Sustainable events:** outlines sustainability considerations to complement the national MICE sector 2030 roadmap and systemically reduce the impacts of the MICE sector by improving its resource efficiency, reducing waste and incorporating sustainability requirements in procurement.

 **3. Beat pollution in tourism:** aims to stop coastal pollution from sewage and reduce the use of - and impacts created by - single use plastics, by creating financial mechanisms and incentives to reduce pollution, and strengthening the legal framework, regulation and enforcement regimes applied to the waste management and water sectors, leading to improved solid and liquid waste management infrastructure.

 **4. Sustainable energy:** intends to increase energy-efficiency and the use of renewable energy in hotels and conference venues through government policies to incentivize energy-efficient technologies and the establishment of performance standards, and by increasing access and appetite of business for these technologies.

To deliver these solutions, tourism businesses will need to join hands with their value chain actors, supporting trade bodies and government ministries, departments and agencies to develop an implementation plan that supports the transformation of tourism sector operations towards more sustainable practices.

SECTION 1

Introduction

Tourism in the Philippines is quickly growing and has become a key pillar of the country's economy. Tourism is driven mainly by the archipelago's natural beauty, which in turn is increasingly threatened by climate change and pollution.

The vision for this roadmap is to make the Philippines a more competitive and globally recognised tourism destination, based on its sustainability credentials, natural beauty, and cultural identity. This is only possible through a more environmentally sustainable tourism sector that shows leadership in protecting the very foundations on which it is grounded. Growth in the tourism sector is to be rooted in values including inclusivity, social responsibility, environmental protection and local economic development.

The roadmap translates this vision into actionable goals and activities over an agreed timeframe. It provides the context, highlights key issues, sets goals and targets, identifies solutions, actions and finally maps the stakeholders that need to come together to help deliver them. It will be followed by a more detailed Implementation Workplan.

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

Objective

The objective of the roadmap development is to provide a strategic plan of actionable goals and activities for achieving

a low carbon, resource-efficient tourism sector in the Philippines, focusing on hotels, restaurants and venues for meetings, incentives, conferences and exhibitions (MICE).

This roadmap supports the delivery of the UN Sustainable Development Goals (SDGs) and the development of Philippines' Nationally Determined Contributions (NDCs) under the 2015 UN Framework Convention on Climate Change Paris Agreement, which should be published by The Climate Change Commission in 2019.

Development process

In preparation for the roadmap, project partners first analysed the country context and completed an extensive value chain and hotspots analysis.

A long-list of solutions was validated by an in-country steering committee and used as a key input for the identification of priorities and development of the roadmap.

A series of workshops were organized to prioritize solutions for the roadmap and specifically, to discuss feasibility and identify key stakeholders for synergies. Several steps were taken to refine the shortlisted solutions, such as further in-country activity with stakeholders from the tourism sector and steering committee meetings.

Finally, the project team worked with tourism stakeholders in the Philippines to identify and develop four systemic solutions to address priority environmental impact hotspots and develop the roadmap over an 18-month period.

Audience

This roadmap aims to meet the needs of tourism businesses and their value chains and support trade bodies, government ministries, departments and associated agencies. However, other tourism stakeholders are likely to find the roadmap useful.

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 contributed to prosperous economy of the Philippines. The natural beauty elements that have always attracted tourists to the archipelago, such as sandy beaches, colourful coral reefs and lush rice terraces, have been protected from effects of warming climate, pollution and risks associated with uncontrolled development. This was delivered through unprecedented levels of collaboration, including public/private sector partnerships and voluntary agreements, habitat conservation and infrastructure investments.

At the same time, the cost base for the sector has been reduced as a result of significant reductions in food waste, improvements in energy efficiency and the use of renewable energy and smarter hotel and conference venue designs. Financial savings from these initiatives are fairly distributed along the tourism value chain, and amongst the diverse and inclusive tourism workforce.

The investments made in renewable energy, circular economy projects, water supply and treatment, sustainable mobility and resort construction and refurbishment have helped to combat the impacts of climate change, protecting and enhancing the sectors natural and cultural assets: clean beaches, coral reefs, clear waters, architectural landmarks and cultural landscapes, like rice terraces and artisanal fishing villages, weaving them into new tourism propositions and attractions.

Tourism overview, context and sustainability snapshot

The thriving economy of the Philippines, including its tourism, is increasingly threatened by climate change, pollution and their varied impacts, such as sea level rise and increasingly regular extreme weather events.

The tourism sector in the Philippines is growing, with an increasing range of tourism operators. Tourism plays a significant role in employment within the Philippines, employing 12.8% of workforce. The growing commercial activities in the Philippines are business-class accommodation and Meetings, Incentives, Conferencing, Exhibitions sector (MICE).

In addition to the growing demands on energy and water resources, improper solid waste and wastewater treatment are among the main environmental issues faced by the Philippines. The first step is better implementation and enforcement of the existing regulations. The second step is to improve existing waste management, water supply and treatment infrastructure.

Finally, tourism businesses themselves have expressed an ambition to go beyond meeting the minimum regulatory standards – they wish to become leaders in sustainable business both within the Philippines and internationally. They want to make the Philippines the most attractive, competitive sustainable tourism destination in Southeast Asia and to protect the country's natural beauty and cultural assets. ■

Environment in figures



NATIONAL GHG EMISSIONS

171.6 Mt CO₂e

(ref: WRI CAIT)

TOURISM SECTOR EMISSIONS

2.7 Mt CO₂e*

3% of these are Scope I (direct fuel use), 21% are Scope II (electricity use) and 76% are Scope III emissions (mostly associated with purchased food and generated waste).

Country facts



POPULATION

101 million



AREA

116,518 m²



GDP PER PERSON

\$18,164



Tourism in figures



NUMBER OF ROOMS

over 200,000



NUMBER OF TOURISTS

6.6m (2017)

11% rise from 2016
Projections for 12m by 2020



OCCUPANCY RATES

over 75%



CONTRIBUTION OF TOURISM TO GDP

12.7% (increasing)



CONTRIBUTION OF TOURISM TO EMPLOYMENT

13%



PROJECTED GROWTH

Significant (-5% per year)



*Scope I-III, includes embodied emissions, excludes air travel

Tourism value chain map

A value chain is the entire sequence of activities or parties that provide or receive value in the form of products or services (e.g. suppliers, outsources workers, contractors, investors). Mapping and managing the value chain is about extending one's line of sight

and influence beyond the traditional areas of focus on immediate supply chain partners, to take a more comprehensive look at the entire commodity or service chain: creating a map of the structure of the value chain, of actors within it and their interactions. ■

Tourism industries

Goods and services supplies

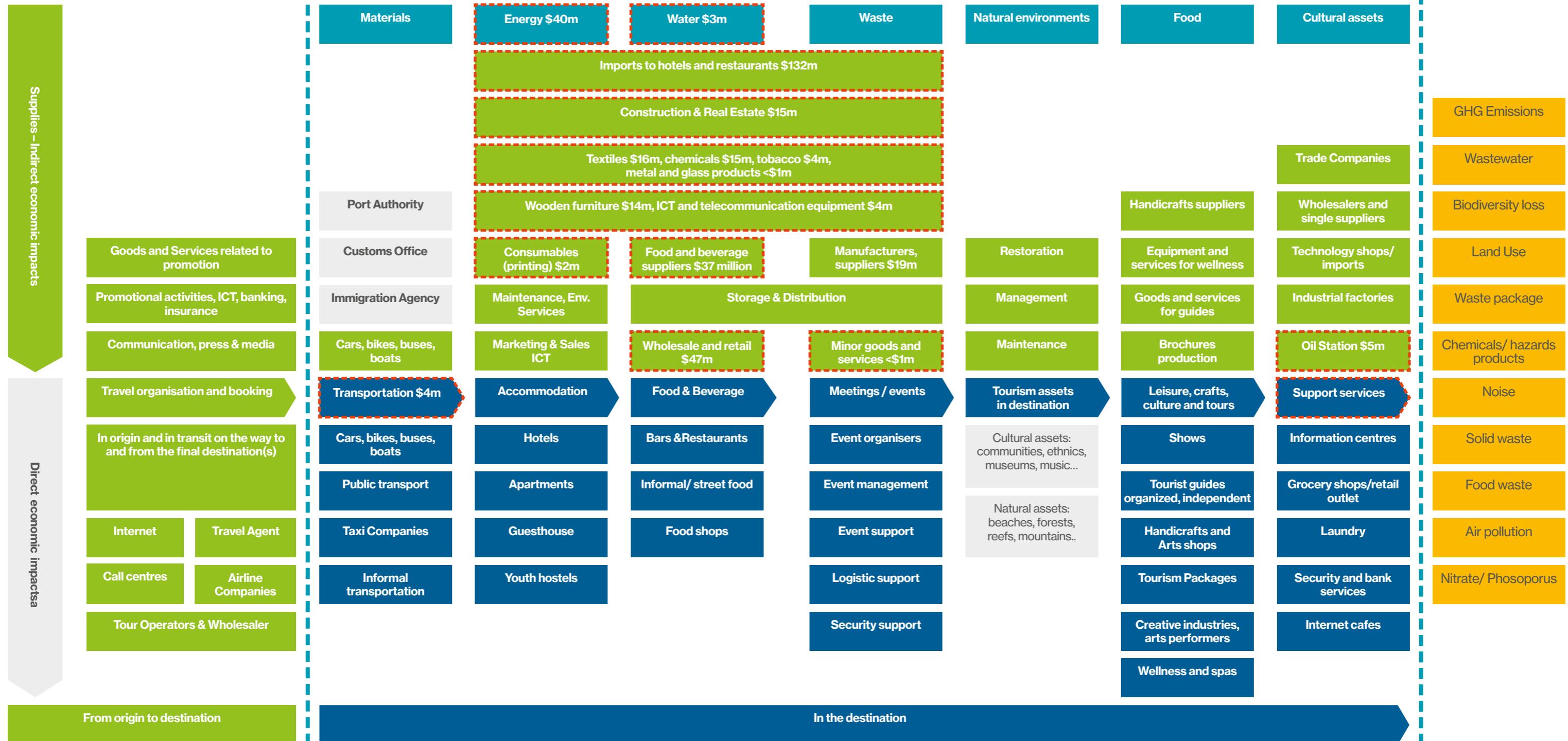
Infrastructure and support

Significant spending in USD

Value chain map for hotels and MICE in the Philippines.

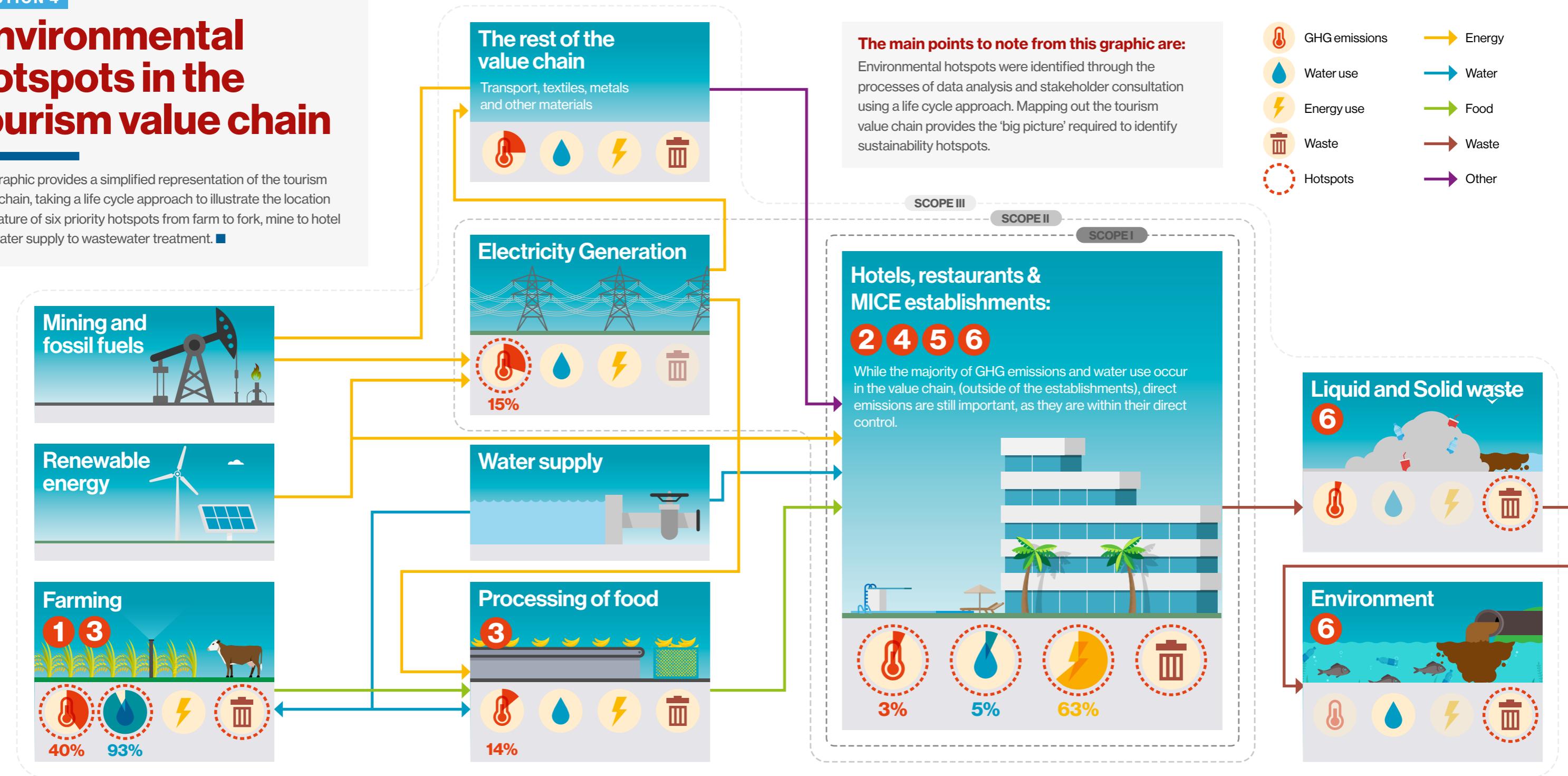
Adapted by UN Environment from ITC WTO (2015)

The map shows expenditure by hotels across the Philippine's tourism value chain in USD for 2013. Source: EORA database – Lenzen et al. (2012, 2013)



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. ■



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 Philippines.

1

Meat and dairy products: GHG emissions from the rearing of livestock for meat and dairy products (e.g. methane emitted through bovine enteric fermentation) account for estimated 31% of the GHG emissions for hotels and establishments.

2

Electricity use hotels and establishments: for example, lighting, heating, ventilation and air conditioning (HVAC) of rooms, public spaces, back of house areas. In the whole tourism value chain, hotels are the biggest users of electricity.

3

Farming and beverage production: In the tourism value chain, most water is used on farms and in beverage production. Rice in particular uses a significant amount of water for irrigation, and contributes about 13% to the country's GHG emissions.

4

Food waste in hotels and establishments: initial estimates show that 7-12% meat waste and 20% of edible vegetable parts are wasted in hotel kitchens and by customers. Unused food is likely to account for a large proportion of organic waste also leading to methane emissions from landfills.

5

Water use in hotels and establishments: Washing and sanitation in guest rooms, cleaning of rooms and public spaces, laundry services, food preparation and cooking, irrigation of grounds, swimming pools and waste-water treatment are all the likely significant uses of water.

6

Water, air and land pollution from liquid and solid waste, resulting from a lack of modern, regulated waste management infrastructure. This is a threat to tourism amenities and drinking water supply. The low cost and convenience of single use plastics have made the Philippines one of the world's top three¹ plastic polluters.

Roadmap Targets

To help make progress towards this vision more tangible, this roadmap suggests to the tourism sector an ambitious target of **reducing GHG emissions by 30% between 2020 and 2030**. Hotels and venues contribute to 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 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 analysis shows that these emissions make a significant contribution.

To support the delivery of the GHG target (and ensure other environmental issues are not overlooked), the roadmap also puts forward three further sub-targets:

1. 50% food waste reduction (to be delivered through systemic solutions 'Sustainable Food Chains', and 'Sustainable Events');

2. Stop wastewater pollution (to be delivered through systemic solution 'Beat Pollution'); and

3. 30% reduction of non-renewable energy use (to be delivered through systemic solution 'Sustainable Energy').

Targets were chosen as they are impactful and measurable and the delivery against them is likely to bring co-benefits in other areas. For example, meeting the food waste reduction target will also reduce the GHG emissions and water and energy use that happen in primary production of food. The targets are set for 2030 with progress milestones set for 2020 and 2025.

The energy target is expected to deliver the Scope I and II components of the GHG emissions target. Food waste target is expected deliver about half of necessary reductions in Scope III emissions, with the remainder coming from improved waste and waste-water treatment and reduction in GHG-intensity of purchased food. ■

Food waste

A recent study 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.

Reducing food waste at source, redistribution and diverting it for animal feed all count towards the target.

Energy

Energy target in the reduction in non-renewable energy use can be met through energy efficiency and own production of renewable energy.

Pursuing energy efficiency brings a host of financial benefits, not only related to reduced energy bills but also other benefits, such as reduced maintenance that comes with new technologies, such as LED lights. Hotels and venues can also take advantage of financial incentives.

Offsetting GHG emissions

The emphasis of the roadmap is on the reduction of emissions. GHG emissions from international travel of guests and delegates are not included in the GHG emissions reporting and GHG reduction target, as these are difficult to be addressed by hotels and MICE sector directly. However, event organisers should aim for carbon neutrality by employing 'measure, reduce and offset' approach, which should include international travel. Guidance and options for offsetting GHG emissions are available from: <https://offset.climateneutralnow.org/>

	Who is included?	What is included?	2020	2025	2030
 GHG emissions	Department of Tourism accredited Hotels and MICE in the Philippines	<ul style="list-style-type: none"> Direct fuel use (scope I) Purchased electricity, steam, heat and cooling (scope II) Embodied emissions in purchased food and generated waste (part of scope III) 	At least 10% of hotels (by room capacity*) monitor GHG emissions.	At least 50% of hotels and venues (by room and guest capacity) in Philippines monitor GHG emissions, and have achieved 15% reduction in GHG emissions.	30% reduction in hotel & venue GHG emissions.
 Food waste	Department of Tourism accredited Hotels and catering companies	<p>Food waste</p> <p><i>Where possible focusing of wasted edible food, such as spoiled food and plate waste.</i></p>	At least 10% of hotels and catering companies* in the Philippines monitor food waste.	At least 50% of hotels and venues (by room and guest capacity) monitor food waste, and have achieved 25% reduction in edible food waste.	50% reduction in food waste (aligned with SDG 12.3).
 Waste-water pollution	Department of Tourism accredited Hotels and MICE venues	Waste-water and sewage (black water)	At least 50% of hotels and venues* monitor and report effluent quality, type of management and water quality on their beaches.	Zero untreated sewage from hotels and venues goes into sea.	
 Energy target	Department of Tourism accredited Hotels and MICE venues	Non-renewable energy (from fossil-fuel sources), including purchased electricity and own fuel use.	At least 10% of hotels and venues* in the Philippines monitor energy use by source.	At least 50% of hotels and venues (by room and guest capacity) monitor energy use, and have achieved 15% reduction in non-renewable energy use.	30% reduction in non-renewable energy use.

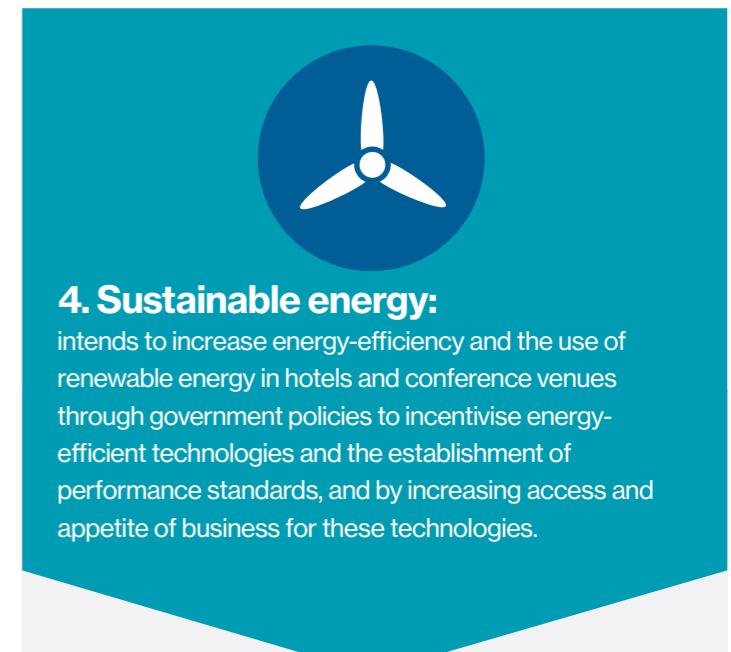
* Percentage of hotels and venues to be determined based on room and delegate capacity.

Overview of systemic solutions

The roadmap offers four 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 and deliver the targets outlined in section 4. ■



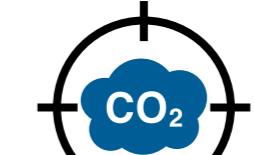
1. Stop untreated sewage from accommodation sector polluting water bodies
2. Eliminate the use of single use plastic items in hotels and MICE
3. Improve solid waste management



1. Achieve cost savings by replacing inefficient devices
2. Build smart hotels and venues for the future
3. Staff training and guest communication
4. Deploy own renewable energy



**ZERO WASTEWATER
TO SEA TARGET**



CO₂
**GHG
TARGET**



**ENERGY
TARGET**

Sustainable and resilient accommodation and MICE sectors
Contribute to the reduction in GHG emissions and increasing Resource Efficiency relating to tourism in the Philippines

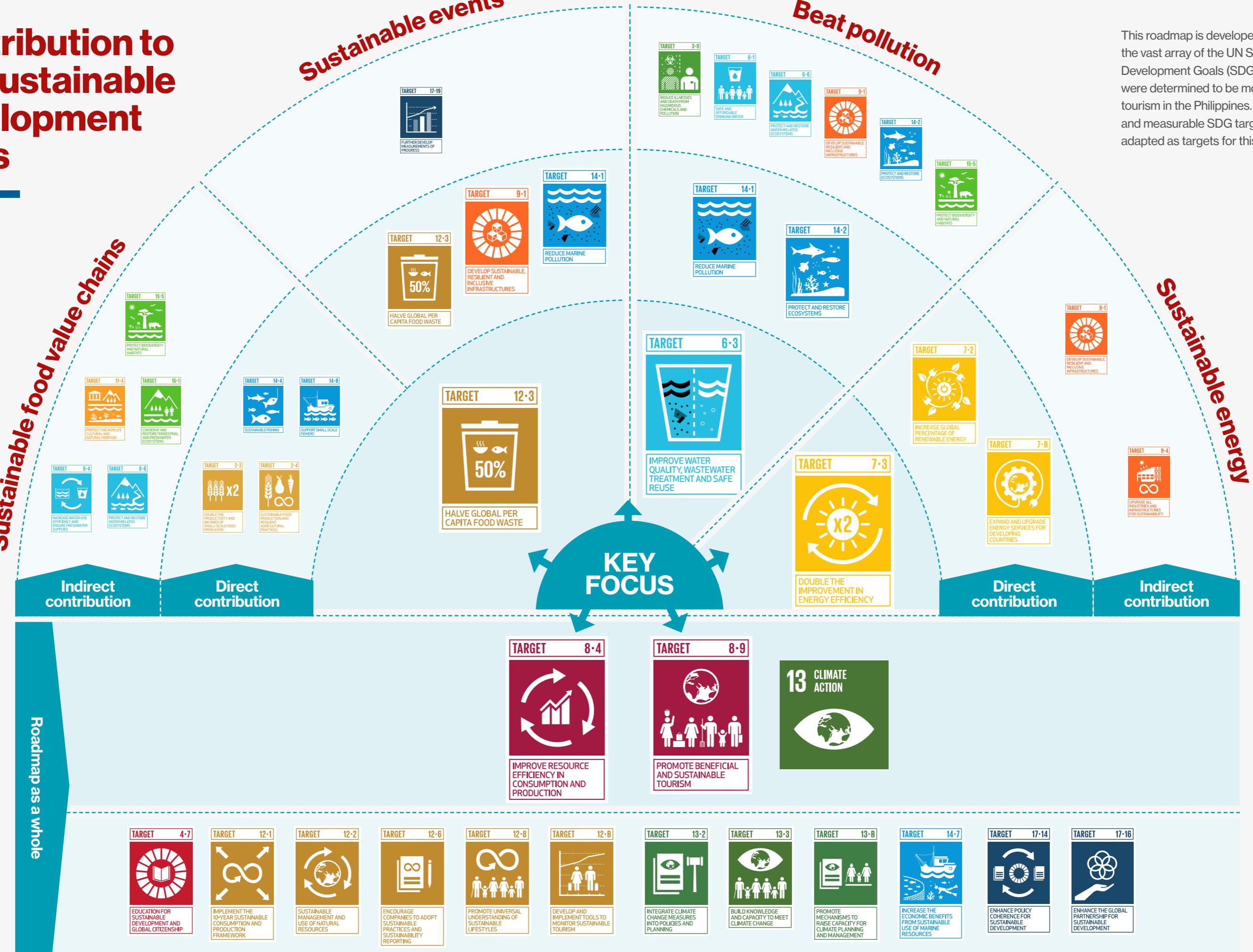
Contribution to the sustainable development goals

Sustainable food value chains

Sustainable events

Beat pollution

This roadmap is developed to help deliver the vast array of the UN Sustainable Development Goals (SDG) and targets that were determined to be most relevant for tourism in the Philippines. The most relevant and measurable SDG targets have been adapted as targets for this roadmap. ■





Sustainable Food Value Chains

Introduce the concept of food sustainability

MICE focus

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 & MICE establishments activities

- Ensure hotel managers and chefs are trained on principles of sustainable food and the environmental footprint of food.

Supportive activities

- Deliver capacity building training on efficient use of resources in cooking and circular economy principles related to food and low carbon menus.

Stakeholders and existing initiatives

- Tourism Industry Skills Program (Department of Tourism)
- Hotel associations
- Chefs and hotel managers
- Catering companies
- WWF Sustainable Diner Project

Promote widespread adoption of food waste monitoring and reduction in kitchens

MICE focus

Monitoring of the amount of food that is thrown away in the kitchens, from the restaurant floors and at the events typically leads to significant cost savings and reduction in environmental impact.

Hotel & MICE establishments activities

- Train relevant staff to record the amount of waste that arises each day in the kitchen, buffets and restaurants.
- Set up internal systems to measure and report the amount of food thrown away.
- Plan food requirements for events, confirming number of delegates as precisely as possible
- Provide smaller plates in buffets and smaller portions of rice and other items commonly left on plate (with optional free side helping for those customers that want it).
- Distribute surplus food to local charities, food banks and community groups (following the approval of the Zero Food Waste Bill, an upcoming piece of legislation in the Philippines).
- Investigate how to best support charities in accepting donations, for example by establishing networks to connect donors to distributors, providing them with vehicles and cold storage.
- Send food and organic waste, that cannot be donated or reduced at source, to animal feed or composting, or composted on-site.

Supportive activities

- Investigate current food waste practices and informal uses, to minimise any negative impacts food waste reduction could have on vulnerable members of society
- Prepare and deliver capacity building for chefs in food waste measurement, food cooking practices that reduce waste e.g. to properly trim vegetables, making best use of whole fish, not overserving portion sizes and responsible disposal of waste.
- Design a 'pledge to reduce food waste' or voluntary agreement/task-force that hotels and MICE establishments sign-up for (can be joint with other topics, such as single-use plastics).
- Secure a pilot initiative using smaller plates in buffets in 2-3 hotels and establishments.
- Organise an event to share best practices and successes.

- Develop alternative food waste management practices based on sustainability analysis (animal feed, composting).
- Investigate viability of small (on-site) and large scale (centralised) Anaerobic Digestion (bio-gas generation) technology for the Philippines.
- Include recommendations in national guidance documents (for example, in the Philippine Sustainable Tourism Guidebook).

Stakeholders and existing initiatives

- Tourism Industry Skills Program (Department of Tourism)
- Hotel management and kitchen staff
- Hotel associations
- Catering companies
- Commercial food waste measurement services (e.g. Leanpath, Winnow)
- Waste collectors

Reducing food waste pays back

A review¹ of 42 hotels across 15 countries, many of which were in Asia Pacific, found that nearly every site evaluated achieved a positive return, with the average hotel saving \$7 for every \$1 invested in reducing kitchen food waste.

The report also found:

1. On average hotels achieved a 21% reduction of kitchen food waste in just one year by weight. Over 70 percent had also recouped their investment in one year, raising to 95% in two years.
2. Nearly 90 % of sites were able to keep their total investment below \$20,000, (<1% percent of sales)

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

Review cooking and storage practices in kitchens to reduce environmental impacts and save costs

Low cost changes to kitchen management practices and cooking can lead to large financial and environmental savings.

These changes can be technological or behavioural, and typically provide a quick return on investment

Hotel & MICE establishments activities

- Ensure that kitchen equipment such as ovens are turned off at night (e.g. by using timers).
- Sub-metering and monitoring of water use, install water flow limiting devices, movement sensor taps to turn on/off water.
- Close monitoring of food storage temperatures (kitchen chillers, fridges and freezers) to extend shelf-life and maintain quality of meat and fish.

Supportive activities

- Prepare guidance and deliver workshops on cooking, storage and appliance use practices.
- In collaboration with individual hotels, identify tailored opportunities to install low energy devices and self-supply systems.
- In collaboration with individual hotels, identify opportunities to negotiate contracts with waste management, energy and water providers to move away from fixed costs to measurement-based payments.

Stakeholders

- Tourism Industry Skills Program (Department of Tourism)
- Catering companies
- Local Government Units,
- Hotel and MICE associations,
- Certified food trainers such as ServSafe





Sustainable Food Value Chains

continued

Strengthen sustainable procurement policies

Most organizations will have a significant impact through their procurement decisions and the actions of goods and services suppliers.

Hotel & MICE establishments activities

- Clearly identify sustainability requirements- listing procurement categories and what's expected for each e.g. all fish sustainably sourced.
- Establish clear criteria for evaluating prospective suppliers; talk to prospective suppliers and clearly communicate needs and expectations. If in pre-existing contract- be prepared to challenge suppliers through positive engagement.
- Prioritise procurement of food from local sources, which are employing best practices to reduce methane emissions and pollution.
- Organise a business fair on fruits, with hotels, MICE and their suppliers.
- Develop a pilot study in small establishments to systematize purchasing and test the use of tenders .
- Pilot embedding sustainability criteria into the existing computerized purchasing, inventory and point-of-sale systems used in larger establishments.
- Build gardens to sustainably grow healthy produce for hotel kitchens.

Supportive activities

- Develop guidance on key environmental indicators on fruit procurement based on market readiness assessments.
- Develop checklists outlining important sustainability criteria against which potential suppliers will be evaluated, to facilitate the search process.
- Reach out to and engage the supplier community to disseminate these criteria so that they can prepare themselves to offer sustainable options.
- Build the capacity of Hotels and MICE in developing and

MICE focus

implementing actions on sustainable food procurement with focus on: rice, fish and fruits (all of which were determined to be hotspots in tourism value chains, but also represent iconic produce of the Philippines).

- Set targets to ensure women, small-holders and minorities fully included in the opportunities in sustainable procurement.
- Include a list of recommended sustainable procurement criteria national guidance documents (for example, in the Philippine Sustainable Tourism Guidebook).

Stakeholders and existing initiatives

- Tourism Industry Skills Program (Department of Tourism)
- National Ecotourism Strategy and Action Plan (DENR)
- Hotel and MICE procurement staff
- Local Government Units
- Catering companies
- Hotel and MICE associations,
- fruit growers and fruit wholesalers.



Establish value chain working groups for high intensive food products

Organise rice and fish-focused value chain working groups that includes hotels, farmers, fishermen and middlemen to discuss opportunities to provide more sustainable products (e.g. establish longer term contracts; technology transfer; increase investment in best practices).

Hotel & MICE establishments activities

- Participate in the workshops with producers, establish direct relationships with producers.

Supportive activities

- Analysis of Market readiness for lower-impact rice and fish, and review existing rice and fishing community initiatives.
- Organise a roundtable to discuss opportunities for reduction of impacts in rice farming and fishing.
- Create dishes recipes and menus using fish species and rice varieties with most positive impacts.
- Include recommendations in national guidance documents (for example, in the Philippine Sustainable Tourism Guidebook).

Stakeholders and existing initiatives

- National Ecotourism Strategy and Action Plan (DENR Initiative)
- Support for Micro-Small-Medium Enterprise under National Tourism Development Plan (DOT initiative)
- Department of Agriculture
- Local Government Units
- Hotel and MICE associations
- fishing and rice grower's representatives
- Fish and rice wholesalers

Celebrate agriculture, aquaculture and food culture of the Philippines

Hotels and MICE offer information celebrating the food culture of the Philippines, rice farming, rice research and traditional fishing (linking to Action 5).

Hotel & MICE establishments activities

- Prepare poster, websites and other visual materials evoking food production landscapes and communities.
- Offer trips to rice paddy fields and traditional fishing villages, including educational campaign about the local food, and cultural activities.
- Communicate the provenance of food products served (Action 6), how are they prepared (Action 3), how guests are part of the solution (Action 5), and what happens to products that are left (responsible waste management).
- Communicate sustainability commitments of the hotels and MICE, especially any successful reductions in waste levels of locally produced food.
- Communicate support for local communities.

Supportive activities

- Prepare visual and text campaign materials that hotels and MICE establishments can freely use or adapt on the topic of Filipino Food;
- Connect to the local food festivals and fiestas, such as the Tuna Festival; enhance and support such festivals.
- Support and celebrate indigenous minorities, for example Bontoc and Ifugaos, who built illustrious rice terraces in the mountainous interior of Luzon; co-develop any destinations harmoniously with indigenous minorities, and respect ancestral domain rights.

Stakeholders and existing initiatives

- National Ecotourism Strategy and Action Plan (DENR Initiative): expansion and promotion of cultural & heritage offerings in Tourism sites
- National Commission for Culture and the Arts (NCCA)
- Catering companies
- Local Government Units
- Philippine Rice Research Institute
- Tour operators
- Communities



Sustainable Events

The demand for sustainable events is on the rise, (and plastic give-aways and over-catered buffets out of fashion). The number of organisations, including the UN, that request that certain sustainability criteria are met before commissioning an event with an organiser is rapidly increasing. For the MICE sector in the Philippines to remain competitive it must make a quick build capacity in organising sustainable events.

The Department of Tourism recently published a sector roadmap 2030 for MICE. Here we follow its structure but specify complementary sustainability considerations that should also be included when encouraging MICE sector growth.

Enabling policies and institutional support

Ensure policy and regulatory environment for the MICE sector contributes to GHG reduction targets and resource efficiency improvements.

Hotel & MICE establishments activities

- Communicate societal and economic value of MICE sector as well as sustainability commitments and distribute these points through industry associations and campaigns (for example Global Meeting Industry Day).

Supportive activities

- Establish a new Sectoral Working Group providing leadership and research making the MICE sector in Philippines more sustainable.
- Ensure that any investment and financing in MICE sector is also subject to environmental considerations.

Stakeholders

- Department of Tourism
- Financing organisations

Sustainably improve infrastructure that underpins MICE sector

Infrastructure improvements are important for the growth of the sector, but need to be carefully planned, and a range of environmental considerations, from natural hazards to the importance of green and environmental infrastructure should be considered.

Hotel & MICE establishments activities

- New MICE buildings built according to international sustainability certifications, e.g. EDGE or other regional certifications.
- Set clear criteria for evaluating prospective suppliers for new venues, based on ability to meet or contribute towards key sustainability goals.
- Reduce the burden on public infrastructure by planning events off-peak times, reducing waste generation and encouraging guests to use public transport.
- See also sustainable energy solution actions.

Supportive activities

- Develop and apply guidelines for energy efficient hotel and venue buildings (see energy solution).
- Through planning policy steer construction to brownfield land, as opposed to greenfield spaces.
- Develop environmental infrastructure such as wastewater management and recycling at the same time as transport and energy networks.
- Integrate mitigation of risks from natural hazards when planning infrastructure. Develop guidelines on beneficial risk management solutions (e.g. rainwater harvesting).
- Prioritize sustainable public transport options.
- Consider and protect green infrastructure services provided by ecosystems, such as rivers and forests.
- Undertake Environmental Impact Assessment for larger infrastructure projects.

Stakeholders

- Department of Tourism
- Hotels and other event venues
- Department of Transportation
- Department of Energy
- Department of Environment and Natural Resources
- Department of Public Works and Highways

Develop a highly competitive workforce, trained in sustainable events

Development and delivery of skills program focusing on sustainable event objectives and environmental training for MICE professionals.

Hotel & MICE establishments activities

- Train full time and temporary event team on sustainable event objectives and processes.

Supportive activities

- Develop a skills enhancement program for local MICE event organizers and professionals with support of the government on key resource efficiency topics.
- Develop a standard and certification based on sustainable events (specifying all criteria on catering, venue energy efficiency, waste minimisation, transport considerations).
- Promote accreditation for the including consideration of international standard ISO 20121 for sustainable events.

Stakeholders

- Tourism Industry Skills Program (Department of Tourism)
- Local Government Units,
- Hotel and MICE associations
- Catering companies
- Event venues

There are a number of guides available to help event planners maximise the positive environmental impacts and minimise the potential negative ones in the course of planning and delivering meetings and events. For example, the UN Sustainable Events Checklist and those published by the European Commission.

Strengthen research and development in event sustainability

Ensure inclusion of environmental criteria in the design of the country's MICE monitoring and evaluation system.

Hotel & MICE establishments activities

- Share learnings of innovative environmental best practise in the MICE sector via government-led sectoral working groups.
- Ensure delivery stage of events should include measuring positive and negative impacts and telling the story of the power of events so that attendees are inspired by their impact.

Supportive activities

- Government to include key environmental indicators during the review of the monitoring and evaluation system for MICE.

Stakeholders

- Philippines statistics authority
- Department of Tourism
- Hotel and MICE associations
- Catering companies
- Event venues



Beat Pollution

Stop untreated sewage from accommodation sector polluting water bodies

Rapid deployment of modern wastewater treatment (public or of-grid) in tourist areas. Hotels and venues to take a leadership role and help other parts of local communities solve the wastewater problem, resulting in safe and clean beach water and reduced impact on marine ecosystems.

Hotel & MICE establishments activities

- Ensure compliance of regulatory wastewater treatment standard.
- Identify wastewater sources of pollution in hotels (e.g. cleaning products, untreated waste, laundry systems, etc.) and improve their management and reduce their use.
- Large hotels in areas not connected to public waste water treatment should employ best wastewater treatment practice (e.g. constructed wetlands) on site and provide waste-water treatment service to local communities.
- Conserve and re-store mangroves on or near hotel sites as they function as natural wastewater treatment as well as a carbon store.

Supportive activities from value chain stakeholders

- In critical areas, interview Local Government Units and local communities about barriers to sewage treatment and assess their technical needs.
- Train hotels and establishments in wastewater treatment (promoted through Department of Environment and Local Government Units).
- Raising awareness through social media, associations and local government advisors, sharing of best practice, technology transfer (e.g. knowledge about grease traps and other technical elements) from big to small establishments.
- Improve existing financial schemes for example micro-financing available for improved sewage treatment.
- Enhancement and enforcement of existing legal framework.

Stakeholders

- Tourism Industry Skills Program (Department of Tourism)
- Local Government Units
- Smaller establishments' representatives
- Local community groups
- Hotel Associations

Eliminate the use of single use plastic items in hotels and MICE

MICE focus

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

Hotel & MICE establishments activities

- Review plastic products with current suppliers and assess opportunities to eliminate, reduce, and replace current items with sustainable alternatives.
- 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 avoid or replace single-use items.
- Support communities with use of local materials grown and fashioned into bracelets, gift items, tote bags
- 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.

Supportive activities from value chain stakeholders

- 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.
- Create and launch a communication initiative on plastics for the tourism sector, engage with existing pollution and plastics campaign at national level.
- Get involved in the New Plastics Economy Global Commitment.

Stakeholders

- Hotel management staff
- Hotel Associations
- Hotel suppliers
- Waste management companies
- UN Environment
- Hotel chains
- Catering companies
- Local community groups
- NGOs
- National Solid Waste Management Commission (NSWMC)
- Cleaner production centre

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, and own material recovering facilities.
- Increase awareness raising activities of tourism employees and guests in coordination with government (e.g. anti-littering, reduction of single-use plastic).

Supportive activities from value chain stakeholders

- Prepare studies on existing recycling destinations in each locality and map gaps.
- Stimulate partnerships for circular economy models and support recyclers.
- Set-up a financial mechanism to encourage new recycling, composting and livestock feed businesses (with targets for access to benefits based on gender and minorities).
- Develop a policy for a waste transactions registry (similar to the one already in place for hazardous waste for all types of waste), so that waste management companies have to demonstrate responsible disposal, to reduce the amount of illegal dumping.

Stakeholders

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

Achieve cost savings by replacing inefficient devices

Replacing any older devices with highly energy efficient technologies improves financial performance by reducing energy consumption. Proposed technologies are already readily available on the market in the Philippines.

Hotel & MICE establishments activities

- Replace existing devices with:
 - highly efficient air-conditioning systems with climate-friendly refrigerants²,
 - LED bulbs³,
 - energy-efficient electric appliance in rooms (TV, refrigerator),
 - sensors to shut-off air conditioning if windows or doors are left open
- Consider purchasing hybrid or electric vehicles.
- Ensure a proper disposal of air-conditioner and refrigerator equipment to avoid leakage of refrigerants.

Supportive activities

- Train hotel environmental managers, technical and procurement staff on the benefits, availability, operation and maintenance of specific energy efficient technologies.
- Support accreditation process for technicians.
- Develop standard tenders for energy technologies with recommended minimum performance standards.
- Develop financial mechanisms to support purchase and operation of energy-efficient technologies by businesses.
- Develop and pilot test financial mechanism to increase access 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

- Tourism Industry Skills Program (Department of Tourism)
- Hotel management staff
- Hotel Associations (e.g. Hotel and Restaurant Association of the Philippines),
- Department of Energy
- Department of Environment and Natural Resources
- Energy service companies (ESCO)
- Other energy organisations (e.g. P.E.R.C, PE2)
- Suppliers of Energy Technologies
- GIZ Green Cooling Initiative



Sustainable energy

Build smart and efficient hotels and venues

Implementing best practice through design, construction of new and renovation of existing hotels, which offers a critical opportunity to reduce lifetime energy needs and environmental impacts of hotels and venues.

Hotel & MICE establishments activities

- Use building energy management system
- Incorporate shading and reflective coatings on walls and the roof to reduce the thermal load on the building.
- Incorporate as many trees in the hotel compound as possible: they provide shade, reduce thermal load of surrounding buildings and sequester carbon in their woody parts and roots
- 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.

Supportive activities

- Ensure that new hotels integrate the energy efficiency consideration expressed in the national building codes.
- Develop guidelines for energy efficient hotel and venues buildings, incorporating natural shading and other passive-house design principles, with possibilities for district cooling options.

Stakeholders

- As above plus:
- Architects
 - Building companies
 - Real Estate developers
 - Ministry of housing

Staff training and guest communication

Target behaviours that influence the use of energy of different groups of key stakeholders such as staff employees of the hotels or the clients (tourists).

Hotel & MICE establishments 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 though 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 for proper operation and maintenance for energy saving.
- Communicate to guests about the importance of switching-off the lights or other equipment.
- Communicate to guests about maintaining room/venue temperatures at 23-25 deg.

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

- Tourism Industry Skills Program (Department of Tourism)
- Hotel management staff
- Hotel Associations
- Department of Energy
- Department of Environment and Natural Resources
- Energy service companies (ESCO)
- Hotel marketing departments

Deploy own renewable energy

Deploy own production of renewable energy, for which coastal resorts in particular have large opportunity and potential. These allow the hotels to reduce their electricity consumption from the grid, usually based on the use of fossil fuels.

Hotels in urban environments (e.g. in Manila) might have more limited opportunities due to restrictions related to surface area.

Hotel & MICE establishments 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.
- Sea-front hotels to investigate sea-water air cooling technologies.

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.
- Inform businesses about the existing financial and tax incentives in place in the country to take advantages of these incentives for the purchase and operation of renewable energy technologies by businesses.

Stakeholders

- Hotel management staff
- Hotel Associations
- Department of Energy
- Department of Environment and Natural Resources
- Energy service companies (ESCO)
- Other energy organisations (e.g. Philippine distribution utilities, DOE-EPIMB, DOE-REMB, DTI-BPS, ERC, NEA)
- Suppliers of Renewable Energy Technologies

² 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)

³ U4E's Model Regulations for General Service Lamps and similar best practice guidance

Timeline

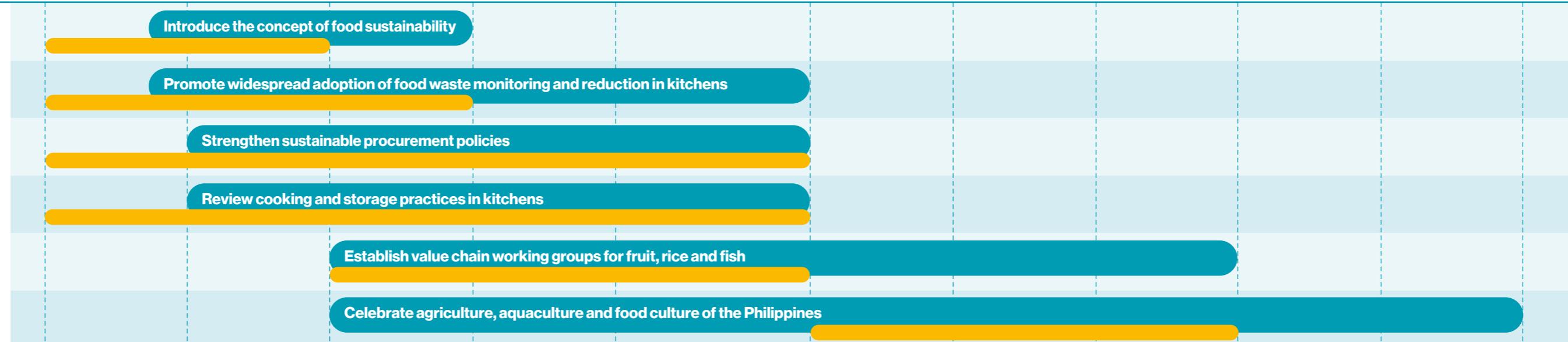
 Business activities

 Supporting activities

2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030



Sustainable food value chains



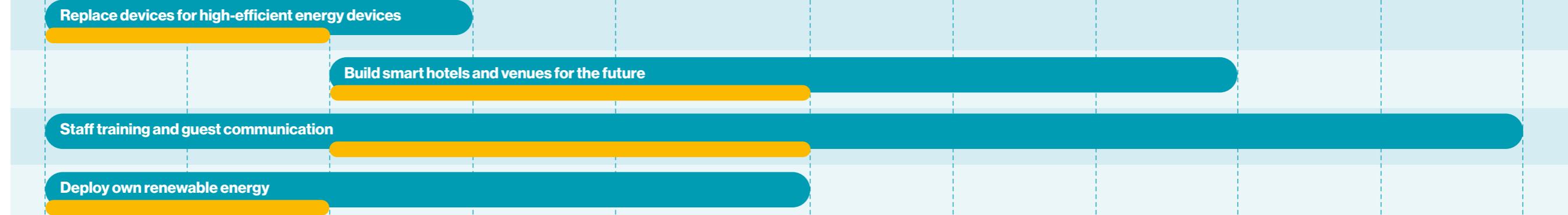
Sustainable events



Beat pollution

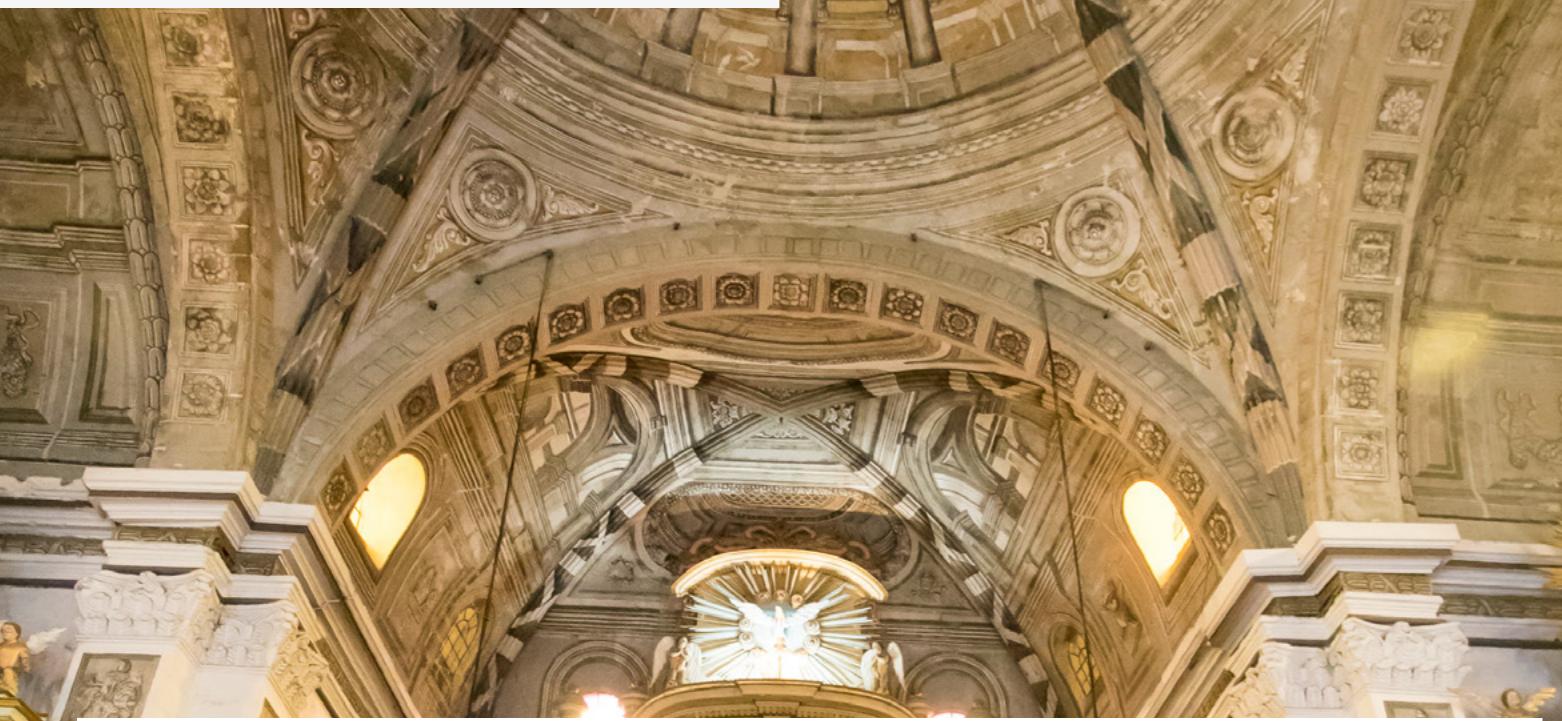


Sustainable energy



Summary of recommendations

These are the key recommendations across all strategic solutions, and general recommendations that have emerged throughout roadmap development in consultation with national and international experts and stakeholders. ■



Policy...

- 1.** Explicitly recognise the important role of tourism for climate change mitigation and strengthen the climate mitigation elements of the National Tourism Development Plan.
- 2.** Incorporate training on a wide range of topics such as food sustainability, efficient kitchen practices, food waste monitoring, recycling, energy-efficient devices and sustainable events in the Tourism Industry Skills program.
- 3.** Review and suggest legal and regulatory frameworks to drive improvements in waste management practices, recycling rates and wastewater treatment. Consider setting

- national targets for solid waste reduction, recycling of packaging materials and elimination of problematic or unnecessary plastic items. Sign and follow New Plastics Economy Global Commitment.
- 4.** Evaluate the role of financial incentives, performance standards, energy rating and certification schemes in improving the energy efficiency of equipment (HVAC, water heating equipment, lighting, kitchen appliances). Implement similar financial incentives as those that already exist for renewable energy in other areas, such as waste, waste water and water. Pilot and implement with tourism businesses.
- 5.** Require mandatory reporting of corporate GHG emissions, energy use, water use, waste and specifically food waste for hotels larger than 100 rooms, starting in 2022.
- 6.** Approach infrastructure development with vigilance and care for the environment; plan for natural hazards and give equal consideration to green and environmental infrastructure, (renewable) energy and (sustainable) transport.
- 7.** Seek to protect and restore natural and cultural heritage upon which the whole of the Philippines' tourism sector depends on.



Business...

To begin your journey:

- 1.** Start monitoring energy use, water use, waste and specifically food waste; calculate own GHG emissions using existing tools.

To promote sustainable food value chains:

- 2.** Implement separate collection for recyclables and food waste.
- 3.** Review cooking and storage practices, and look for opportunities to save food, water and energy as ways of reducing costs.
- 4.** Embed sustainability in your procurement practices and policies, use sustainable events checklists-start simple and scale up.
- 5.** Get involved with value chain working groups on rice, fruit and fish.
- 6.** Provide information to tourists about the initiatives, explain why you are moving more towards 'availability on request' and smaller portions for certain foods and items.

To beat pollution from plastics, waste and waste water:

- 7.** If not already employed, find a solution to waste water treatment.
- 8.** Raise awareness of employees and guests on waste, separate recyclables collection and reduction in single-use items.
- 9.** Avoid using problematic single-use plastics (e.g. toiletries, water bottles, cups, and cutlery) and replace with reusable/refillable items.

- 10.** Consider how your business can help local communities with wastewater treatment, beach clean-ups and mangroves restoration.

To reduce the impacts of your energy use:

- 11.** Install energy efficient equipment e.g. HVAC, LED lighting.
- 12.** Install own Renewable energy capacity for generating electricity, hot water and air chilling.
- 13.** Use building and room energy management

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 increasing commensurately with growth of tourism arrivals in the Philippines as is its generation of solid waste, sewa. According to IPCC, the Philippines are among the five countries most impacted by climate change. Strong action by both the tourism sector and the government is

required to reduce the country's contribution to climate change and to build resilience to climate impacts.

Climate change policy in the Philippines is institutionally well organised through the activities of the Climate Change Commission. The importance of tourism in relation to climate adaptation is clearly defined, but its role in climate mitigation is not directly recognised. The Intended Nationally Determined

Contribution of the Philippines under the UNFCCC Paris Agreement sets out a reduction goal of circa 70% by 2030 relative to its business-as-usual scenario of 2000-2030, conditional on receiving external support. Reductions in GHG emissions will come from the energy, transport, waste, forestry and industry sectors. Tourism and food (agriculture) are not mentioned, even though the latter represents approximately

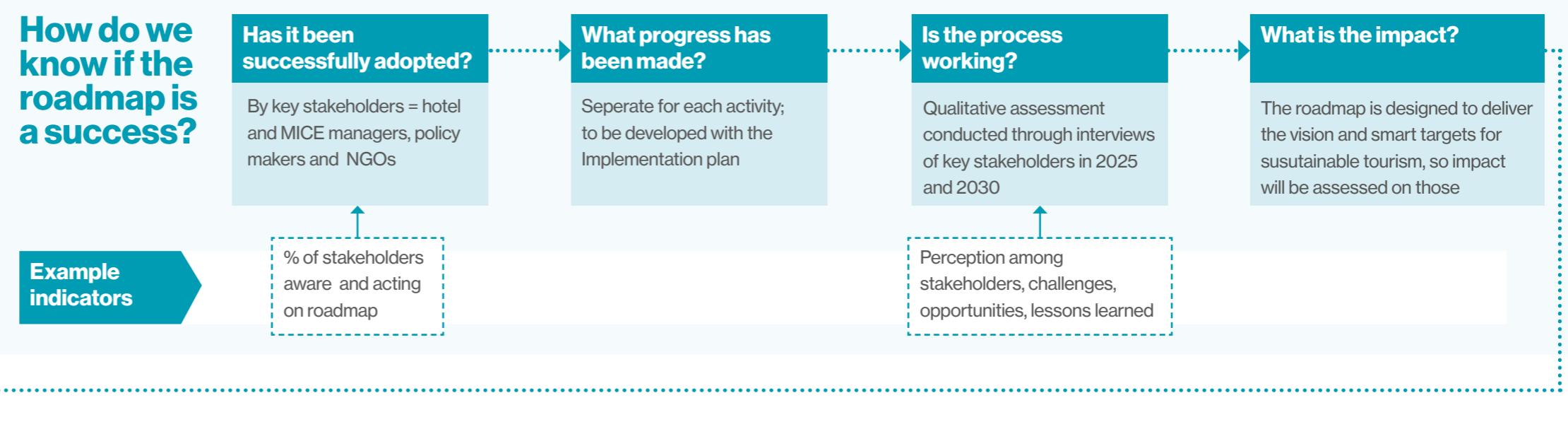
29% of national GHG emissions.

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	Tourism	Climate change	Energy	Environment	Food & Agriculture
Responsible body	Department of Tourism	Climate Change Commission (CCC)	Department of Energy	Department of Environment and Natural Resources	Food and Drug Administration Department of Agriculture
Mandate	Development and promotion of the tourism industry	Preparation and coordination 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, framework, investments Ensure the safety and quality of food and health products
Key policy	The Tourism Act of 2009 National Tourism Development Plan (2016-2022) Investing in a competitive and inclusive tourism.	Climate Change Act (2009 and 2012) Philippine Green Building Code (2015) National Framework Strategy on Climate Change (NFSCC) (2010) • RE capacity to double from 4,500 MW to 9,000 MW • energy conservation programs	Power Development Program Power Sector Restructuring Utilities privatization (proposed) Renewable Energy Act (2008) • Feed in tariffs • Renewable energy equipment free of import fees and capped tax Energy Efficiency and Conservation Act (Filed 1988, approved 2019) Standardize energy efficiency and conservation measures by regulating the use of energy efficient technologies in buildings.	Ecological Solid Waste Management Act (2000) Clean Water Act Clean Air Act Guidelines on Ecotourism Planning and Management in Protected Areas	The Food and Drug Administration Act (2009) Food Safety Act of 2013 Zero Food waste bill (in progress) • mandatory donations of some types of food by restaurants and supermarkets guidelines for collection • National Anti-food waste Scheme (Department of Social Welfare and Development)
Regulation and permitting	Department of Tourism Accreditation is needed to operate hotels	All new or refurbished hotels above 10,000 sqm need to achieve the Green Building Code standards		Environmental Compliance Certificate required for hotels (ECC)	Sanitation Code and permitting carried out by local government units (LGU).

Monitoring and evaluation of the roadmap

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



	2030 Target (against 2020 baseline)	Indicator (Units)	Who reports?* Data source	Data collection standard	Validation data source	Relevant SDG target & indicator
Greenhouse Gases	30% reduction in Scope I – III GHG emissions	GHG emissions (tonnes CO2e)	Hotels and MICE 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
Food waste	50% reduction in Food Waste	Wasted edible food e.g. plate waste Total food waste (tonnes)	Hotels and MICE 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
Waste-water pollution	Zero untreated sewage from tourism establishments reaches the sea	Type of wastewater treatment Quality of effluent from hotel (mg COD /L)	Hotels and MICE establishments and inspection bodies	Based on existing methodologies, for example Blue Flag Standard for Water Quality	Local government beach water quality testing data	TARGET 14·1 REDUCE MARINE POLLUTION
Energy	30% reduction in GHG from direct 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

* One of the actions of the roadmap is an establishment of a mandatory reporting by all hotels larger than 100 rooms on the above indicators to either the Department of Tourism or Hotel Association. Mandatory reporting has been shown to accelerate positive action and 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 2022 at the latest.



The vision for this roadmap is to make the Philippines a more competitive and globally recognised tourism destination, based on its sustainability credentials, natural beauty, and cultural identity. This is only possible through a more environmentally sustainable tourism sector that shows leadership in protecting the very foundations on which it is grounded.

PHOTO BY NACHELLE NOCOM



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