greeninitiative
For a climate positive planet
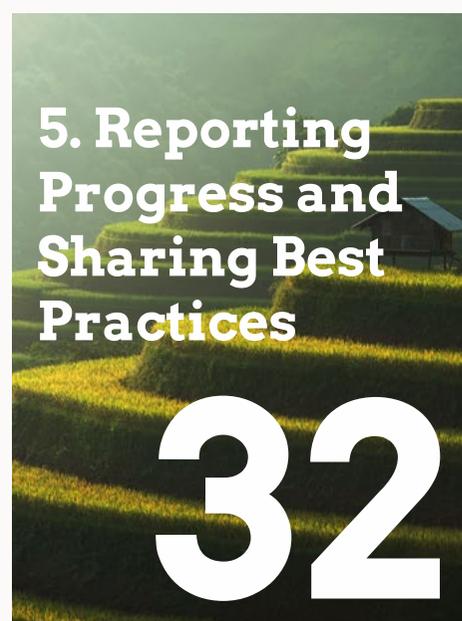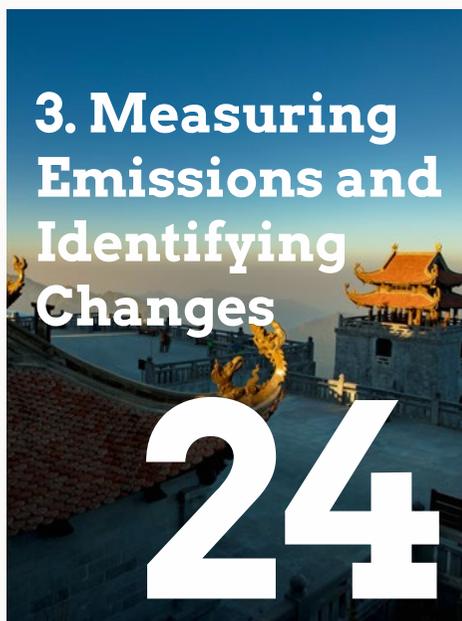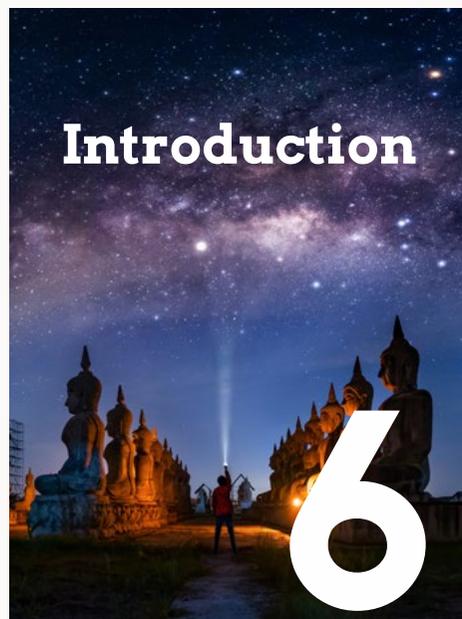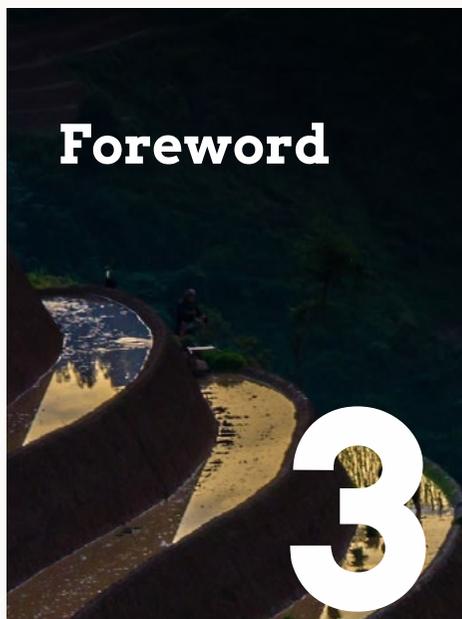
Glasgow Declaration *
Climate Action in Tourism

A CLIMATE ACTION GUIDE FOR TOURISM BUSINESSES AND DESTINATIONS

Machu Picchu: World's First Carbon Neutral Destination

"If you want to go fast, go alone; if you want to go far, go together"
African Proverb

Foreword
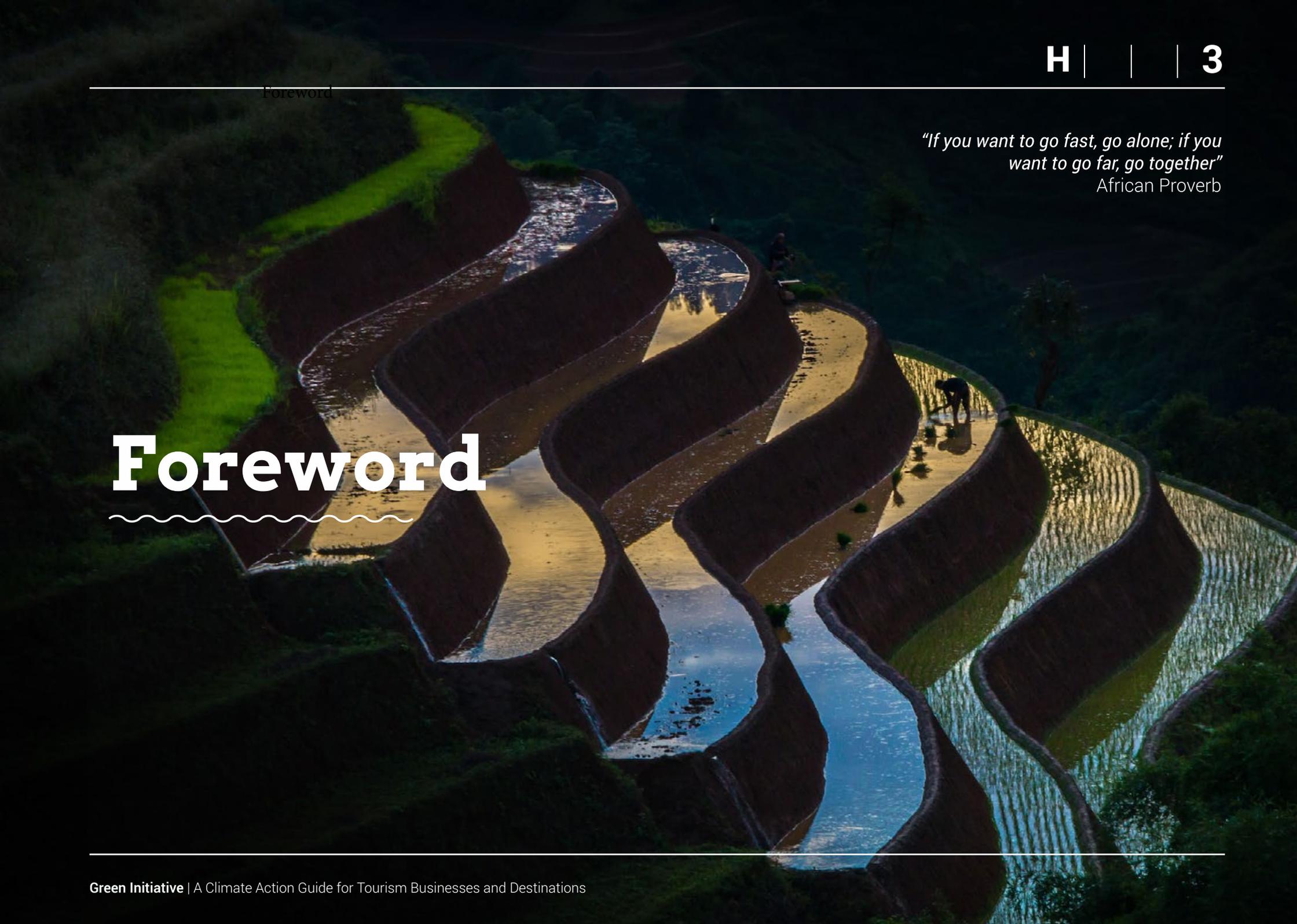
Climate change is one of the world's greatest challenges and tourism can be part of the solution. To do this, **the tourism industry needs to come together and collaborate to meet this existential challenge**. Since launching the **Glasgow Declaration** for Climate Action in Tourism at COP26, in partnership with Tourism Declares a Climate Emergency, VisitScotland, the UN Environment Programme (UNEP) and the World Tourism Organisation (UNWTO), we have witnessed how this global platform has catalysed collective thinking and action of tourism stakeholders around the world.

To maximise our ability to make a positive difference **we all need to build our knowledge and capacities for Climate Action**. We have seen a huge demand for resources which help tourism destinations and businesses to know how to start, where to get support and what a good climate action plan looks like. This is why we have committed to facilitating the generation and sharing of practical guidance to support the tourism sector to build its climate literacy and integrate a climate lens into day-to-day decision-making.

We are therefore delighted to see that partners are creating guidelines such as this **Climate Action Guide** for Tourism Businesses and Destinations by the Green Initiative. Resources such as these play a vital role in helping destinations and businesses to navigate complexity and accelerate climate action to mitigate and adapt to climate change.

There is a wealth of guidance and support available, including through organisations such as the Green Initiative, to support you in action planning. Further guidance will also be released shortly to support in measuring, reporting and reviewing your action plan progress in the years to come.

We are excited to see how some **Glasgow Declaration** signatories have already been making real progress and leading the way in developing Climate Action Plans. **We encourage all tourism organisations to sign the Glasgow Declaration** and follow its five pathways (measure, decarbonise, regenerate, collaboration, finance) to create a Climate Action Plan that is tailored to your specific challenges and opportunities.

In addition to taking our own action, we can all be catalysts by openly sharing our progress and by inspiring action amongst our peers. After all this change matters for all of our futures.

Jeremy A. Sampson

Jeremy Sampson
CEO, the Travel Foundation
Chair, Future of Tourism Coalition
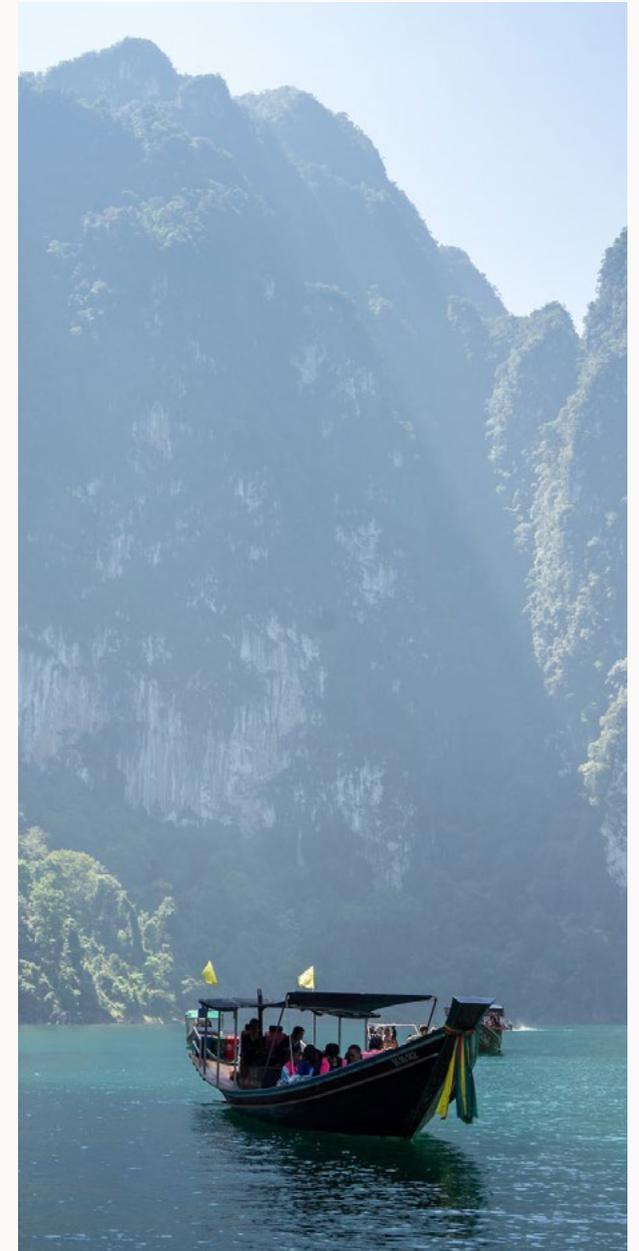
As the world continues to recover from the unprecedented shock of the COVID-19 pandemic, rebuilding a sustainable tourism sector remains a shared responsibility for tourism organizations worldwide.

Amid mounting evidence of severe climate change, the window of opportunity for swiftly reducing greenhouse gas (GHG) emissions is rapidly narrowing.

In November 2021, the UN World Tourism Organization (UNWTO) and the UN Environment Programme (UNEP), in collaboration with the Travel Foundation, launched the **Glasgow Declaration** for Climate Action in Tourism at the climate-change conference COP26. **The declaration calls on all tourism stakeholders to publicly demonstrate a joint commitment towards GHG reduction and climate resilience.**

In the wake of the **Glasgow Declaration**, the tourism industry is striving to embrace the challenges posed by climate change. Reaching a broad consensus on how to address climate change would be of utmost importance, impacting tourism industry developments and performance in the years to come.

Since 2014, Green Initiative has been working alongside tourism businesses and destinations worldwide, introducing best climate action practices leading to efficient processes, access to climate financing, cost reductions, compliance with ESG standards, and international climate leadership.

As part of our continuous support to accelerate the decarbonization of global tourism, a **Climate Action Guide** for Tourism Businesses and Destinations was prepared by **Green Initiative** and technically reviewed by the staff of the United Nations Environment Programme (UNEP), United Nations World Tourism Organization (UNWTO), United Nations Climate Change (UNFCCC) and United Nations Conference on Trade and Development (UNCTAD).

Forthcoming at COP 27th at Sharm El-Sheikh, Egypt, **the guide provides a practical roadmap to define baseline emissions,** monitor carbon footprint changes, set emissions targets, evaluate progress, and publicize climate commitments and successes.

At **Green Initiative**, we believe that unsustainable business-as-usual models will lose competitiveness and disappear. **It's time to reinforce collaborative processes and work together, "Building Tourism Back Better".**

Tatiana Visnevski
Institutional Relations Director
Green Initiative

Introduction

As the world continues to recover from the unprecedented shock of the COVID-19 pandemic, **rebuilding a more sustainable tourism sector remains a shared responsibility** for tourism organizations worldwide. Amid mounting evidence of severe climate change, the window of opportunity to swiftly reduce greenhouse gas (GHG) emissions and adapt to the damage done by global warming, is rapidly narrowing. **Atmospheric temperatures have already risen by roughly 1º Celsius from preindustrial levels**, and in 2022 extreme heat waves caused thousands of heat-related deaths.[1] If atmospheric temperatures continue increasing at this rate, the effects will be catastrophic. Keeping the temperature increase to less than 1.5º by 2050, as planned in the Paris Agreement, will require intense and coordinated efforts by the public and private sectors[2].

At the COP26 climate-change conference held in November 2021, the UN World Tourism Organization (UNWTO), the UN Environment Programme (UNEP), and its partners issued the **Glasgow Declaration** for Climate Action in Tourism[3] which calls on all travel and tourism stakeholders to publicly demonstrate, for the first time as a united sector, a joint commitment to align their approach to GHG emissions and climate resilience with scientific recommendations and international agreements. The **Glasgow Declaration** commits its signatories to integrate climate-impact management into the core of their business models by:

Engaging in proactive carbon-footprint management to identify direct and indirect GHG emissions and support the global goals of halving emissions by 2030 and reaching net zero emissions before 2050.

Formulating or updating climate-action plans within 12 months of signing the declaration and then implementing them.

Aligning climate action plans with the five pathways of the Glasgow Declaration: measurement, decarbonization, regeneration, collaboration, and financing.

Making public annual reports on interim and long-term targets, as well as actions being taken.

Actively collaborating, sharing good practices, disseminating climate-relevant information, and encouraging additional organizations to sign the Declaration and support one another in achieving their objectives.

In the wake of the **Glasgow Declaration**, businesses across the tourism industry are striving to adopt a new approach to the challenges posed by climate change. Reaching a broad consensus on how tourism businesses and destinations can address climate change will be crucial and will profoundly affect the way that the industry develops and performs in the years to come.

This **Climate Action Guide** has been developed to assist businesses and destinations as they strive to adopt the climate-impact management practices recommended by the **Glasgow Declaration** and accelerate the decarbonization of global tourism[4]. The Guide provides a practical roadmap for tourism businesses to assess and reduce their carbon footprint.

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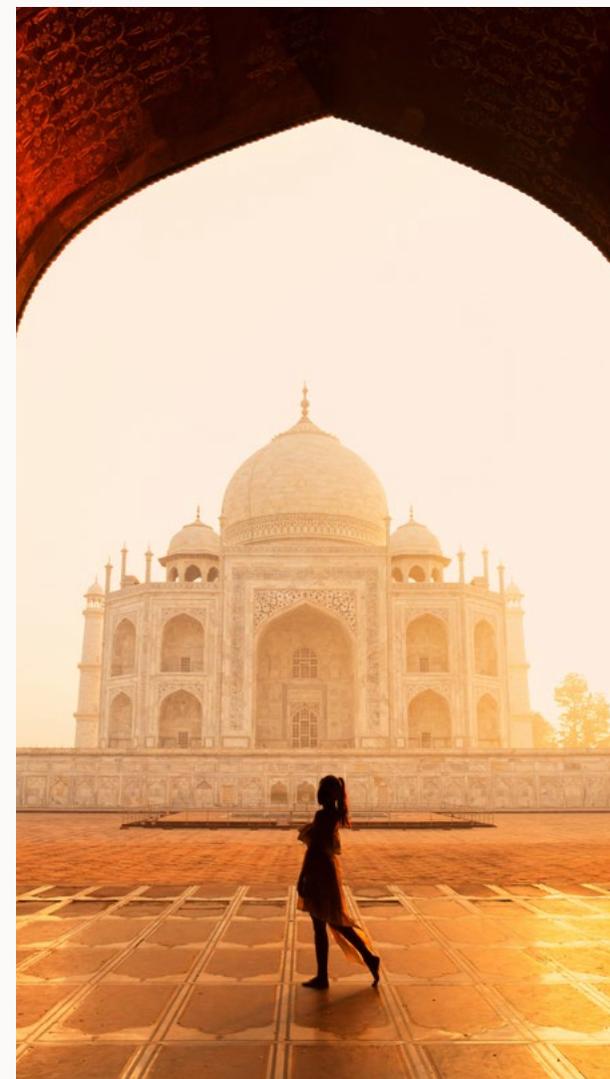
[1] Earth Observatory. (2022). A July of Extremes. **https://earthobservatory.nasa.gov/images/150152/a-july-of-extremes**
[2] Global Planet Change. Vital Sign of the Planet. **https://climate.nasa.gov/**
[3] Glasgow Declaration. Climate Action in Tourism. **https://www.oneplanetnetwork.org/programmes/sustainable-tourism/glasgow-declaration**
[4] Glasgow Declaration. Climate Action in Tourism. **https://www.oneplanetnetwork.org/programmes/sustainable-tourism/glasgow-declaration**

It describes how to establish baseline emissions for a business or destination; monitor changes in its carbon footprint; set emissions targets and evaluate progress; share experience with other businesses and destinations; and publicize climate commitments and successes. This last point is crucial, as such communication both encourages further engagement with climate issues among tourism operators and enhances the business or destination's reputation for environmental sustainability.

Increased climate awareness, new market drivers, and intense competition are making climate action a rapidly emerging competitive factor in the global tourism industry. Organizations that integrate climate considerations into their business models will gain a competitive advantage and access to new markets. The collapse of ecosystems and the broader disruptions caused by climate change, both in tourism destinations and source markets, pose an existential threat to the business operations, long-term competitiveness, and sustainability of tourism operations. To address this threat, the Guide presents a four-step process for developing and implementing a climate action plan, along with additional resources for understanding how efforts to measure and reduce GHG emissions impact the efficiency of tourism businesses and destinations, affect their access to source markets and financial resources, and influence their international reputation.

Carbon emissions and GHG emissions are used interchangeably in this report. Emission calculations are shown in form of CO_2 equivalents (CO_2e) and include scope 1, 2, 3 emissions, unless otherwise indicated.

The collapse of ecosystems, and the broader disruptions caused by climate change, both in tourism destinations and source markets, poses an existential threat to the businesses

Key Concepts Involved in Climate Action

While the terms and concepts that underpin climate action have become increasingly well known in recent years, it is still worthwhile to review several of the core ideas behind greenhouse gas (GHG) emissions and climate change. **A wide range of human activities produce GHGs such as carbon dioxide and methane**. While the burning of oil, gas, coal, and other carbon-based fuels is a key source of GHG emissions, other activities such as deforestation, agriculture, and livestock production are also major contributors. **When GHG emissions exceed the ability of ecosystems to absorb and sequester them, the increased concentration of GHGs traps heat in the earth's atmosphere**, driving a process of global warming with far-reaching and deeply negative consequences for human beings and the natural world.

According to the UNWTO, in 2016 **transport-related tourism emissions contributed 5% of global GHG emissions**.[5] Additional research has estimated that the tourism industry's total contribution is about 8%.[6] Tourism businesses and destinations produce GHGs through a wide range of activities, and both the sources of emissions and the relative quantities produced are unique to each situation. However, the use of carbon-based fuels for transportation and service provision, the use of carbon-intensive electricity and heating, and the consumption of foods and other inputs with a large carbon footprint are frequent drivers of GHG emissions in the tourism sector.

Nevertheless, swift, as well as deep emissions reductions, are possible. For example, **the World Travel and Tourism Council (WTTC) and UNEP have developed a "net-zero roadmap"** that provides guidance on reducing and ultimately eliminating carbon emissions over the medium-to-long term. In addition to providing practical advice, the guide illustrates the overarching process of transitioning the travel and tourism industries from current emissions levels to net zero[7].

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[5] UNWTO. (2019). Transport-related CO2 Emissions of the Tourism Sector – Modelling Results. **https://www.e-unwto.org/doi/book/10.18111/9789284416660**

[6] Lenzen, M. *et. al.* (2018). The carbon footprint of global tourism. *Nature Climate Change*. **https://www.pichimahuida.info/Pichimahuida/lago-leones_files/Tourism%20is%20responsible%20for%208%25%20 of%20greenhouse%20gas%20emissions.pdf**

[7] WTTC. (2021). A net zero roadmap for travel and tourism. Proposing a new target framework for the travel and tourism sector. **https://wttc.org/Portals/0/Documents/Reports/2021/WTTC_Net_Zero_ Roadmap.pdf**

Figure 1. Emissions-Reduction Targets for Selected Businesses in the Travel and Tourism Sector, 2019-2050
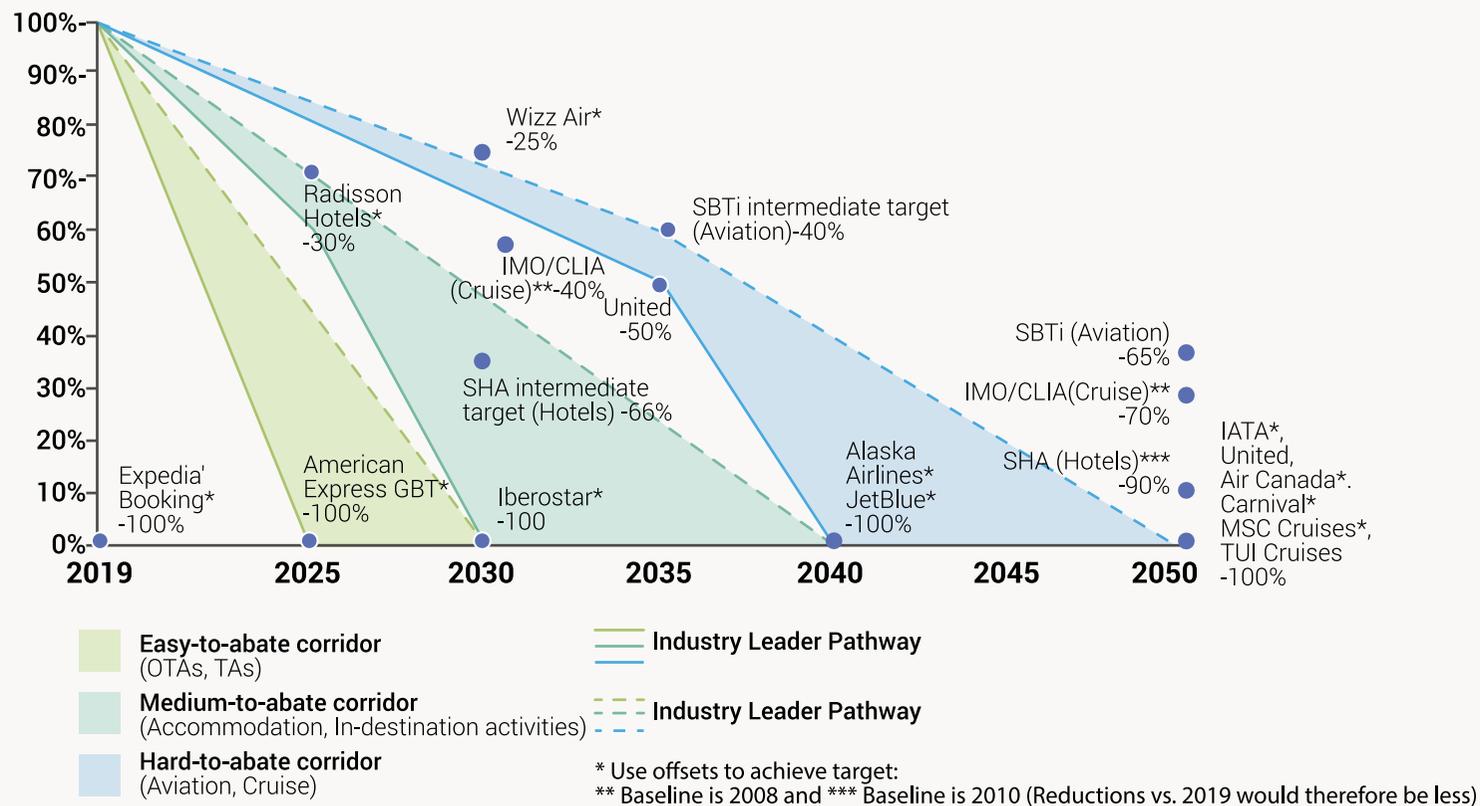
Note: IMO/CLIA carbon intensity target baselined against 2008 levels and SHA carbon intensity target baselined against 2010 levels. For developing the target corridors, existing guidance, such as SBTi, SHA (Sustainable Hospitality Alliance) as well as public company targets were reviewed. The proposed targets consider that emission reductions are prioritised up to at least the SBTi targets and only residual emissions beyond that may be offset via carbon removal.

Source: World Travel & Tourism Council (2021).

Working with tourism enterprises worldwide, **Green Initiative** has defined a sequenced approach to climate action that emphasizes the need for complementary action at the destination, business, and individual levels.

Green Initiative's Three-Level Approach to Climate Action in the Tourism Sector

Destination level: A climate action plan should be integrated into the local government's tourism strategy and mainstreamed into public expenditure policies for energy, transportation, waste management, and private investment. As much as possible, **the plan should be aligned with the country's climate policies and Nationally Determined Contributions (NDCs)**, and it should reflect the standard terms, concepts, and methodologies used by the Paris Agreement. A dedicated public agency, civil society organization or private or private-public sector organization, should be tasked with attracting investments in sustainable tourism and coordinating the emissions-reduction efforts of tourism operators. In addition to advancing local and national climate goals, a commitment to environmental sustainability can enhance a destination's strategic position in source markets. As an example, **we could mention the work that has been carried out in Machu Picchu, which can be seen in the case study section below[8]**.

Business level: Tourism businesses should introduce proactive climate mitigation into their business models. **These efforts should center on reducing GHG emissions, though they may also include efforts to support local environmental**

integrity. **Climate action must be championed at the highest levels of the organization**, and it should be understood not as a one-time effort but as an ongoing activity linked to the business's long-term competitiveness. Businesses-level action plans require a detailed estimate of GHG emissions, which are often spread across multiple value chains. It can be e a complex process at first, due to the methodologies applied and technical terminology involved, **so it may be beneficial to look for the help of specialized organizations in the beginning**. This will allow businesses to perform a better baseline-emissions assessment, and so obtain the best GHG baseline possible.

Individual level: Prospective tourists around the world are increasingly aware of the climate impact of tourism. Growing consumer preferences for environmentally responsible alternatives **offer a considerable market advantage to businesses and destinations that can demonstrate a credible commitment to sustainability**. Environmentally friendly tourism is not an isolated niche market, and recent studies have found that climate change is an increasingly important factor in consumer decisions[9].

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[8] Learn more about Machu Picchu Case Study on **https://www.greeninitiative.eco/2021/09/23/machu-picchu-the-worlds-first-carbon-neutral-certified-tourist-destination/**
[9] EY. (2021). Why net-zero supply chains are the next big opportunity for business. **https://www.ey.com/en_es/supply-chain/why-net-zero-supply-chains-are-the-next-big-opportunity-for-business**

How Climate Action Adds Value for Tourism Businesses and Destinations

Companies that invest in environmentally responsible technologies and processes can garner efficiency gains and encourage innovation, leading to the development of new products and services for which demand is often only beginning to emerge. Many tourism businesses are embedding climate action in their corporate goals and performance indicators, with executives and managers determining how best to design and implement emissions-reduction strategies. **Climate action has become a key component of Corporate Responsibility (CR) and Environmental, Social, and Governance (ESG) criteria**. A company creating sustainability policies can improve its brand image: being "environmentally friendly" enhances its competitive edge, especially in a marketplace increasingly populated by climate-conscious consumers. But it can also help the company to improve their operations processes, because, to reduce their emissions, companies will make their operations more efficient, and analyzing their actual processes, and probably upgrading their technology, leads also to reducing resources-consumption and saving money.

Embracing climate action as a core element of a tourism business model also offers key specific opportunities and advantages. These include:

> **Access to climate financing.** A wide range of national and international initiatives offer specialized financial products, favorable interest rates, tax

benefits, and other incentives for companies that set and achieve emissions-reduction goals. **Climate financing is offered by national governments, multilateral institutions, commercial banks, and regional development banks**. For example, at COP26, CAF – Development Bank of Latin America announced that it would allocate US$25 billion to support regional decarbonization efforts. These resources are being made available both to the public and private sectors, also, **enabling businesses to transition to low-carbon business models is among the stated objectives of the program**.[10]

Lower operational costs. Climate action can generate cost savings by focusing on local supply chains solution, raising energy-efficiency standards and increasing the use of low-cost alternatives to fossil fuels. For example, **in Peru, an ecotourism hotel chain operating within the borders of a national park began processing locally produced plant oils into biodiesel**, which substantially lowered the chain's energy costs while mitigating its carbon footprint.[11] Had managers not been searching for opportunities to reduce emissions, they might not have identified an important opportunity to cut costs. Local supply chains in addition reduce geopolitical and pandemic risks for businesses and destinations.

Enhanced market positioning and stronger customer relationships. As noted above, strategic brand positioning increasingly demands a commitment to environmental responsibility, particularly in the travel and tourism sector, where consumers are often especially sensitive to environmental concerns. Importantly, a reputation for environmental responsibility can be beneficial both at the businesses level and at the destination level. **For example, the recent certification of Machu Picchu as the first carbon-neutral wonder of the world has generated substantial positive publicity, benefitting all operators at the destination**[12].

Innovations in climate-smart products and services. As businesses embrace a more climate-conscious approach to travel and tourism, they catalyze the development of new products and services. Rapidly growing market segments such as ecotourism and sustainable agrotourism are driven by the mounting emphasis that businesses and consumers place on environmental responsibility.

From an overall strategic perspective, **tourism leaders should consider the introduction of climate action within their business models and products development as a fundamental aspect of long-term competitiveness**. Climate action should be understood as one of the most powerful sources of innovation for any tourism business and destination. This understanding will make tourism businesses and destinations part of the solution of the climate crisis and allow them to play a more significant role to help the world achieve net zero emissions.

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[10] CAF - Banco de Desarrollo de América Latina. (2021). CAF will Allocate USD 25 Billion to Boost Green Growth in the Next Five Years. https://www.caf.com/en/currently/news/2021/11/caf-will-allocate-usd-25-billion-to-boost-green-growth-in-the-next-five-years/
[11] **Green Initiative**. (2021). First Climate Positive Hotel Brand in The World. https://www.greeninitiative.eco/2021/12/16/inkaterra-become-the-first-ever-climate-positive-hotel-brand-in-the-world/
[12] UNWTO. (2021). Machu Picchu: The First Carbon Neutral Wonder of The World. https://www.unwto.org/covid-19-oneplanet-responsible-recovery-initiatives/machu-picchu-world-s-first-carbon-neutral-wonder

CASE STUDY | MACHU PICCHU

In 2019, Machu Picchu became the first major international tourist destination to earn the carbon-neutral certificate. The district municipality and numerous organizations have been working toward sustainability, implementing a huge number of mitigation activities that reduced the destination's carbon footprint. Key measures included discouraging the burning of organic waste to produce biochar, which prevented an estimated 8 tCO_2e in emissions, and the processing of cooking oil from restaurants in biodiesel, which avoided the the contamination of the Vilcanota River with 1,000 gallons of oil waste while further reducing emissions by 17.9 tCO_2e.

# 1. Reducing Emissions in the Tourism Sector

Establishing an Emissions Baseline

The first step in developing a climate action plan is to estimate the GHG emissions currently produced by a business, destination, event, or activity. **Establishing a credible emissions baseline is vital to effectively target emissions-reduction efforts** and communicate successes to corporate leaders, consumers, institutional partners, and other stakeholders. The process of carrying out an emissions assessment is best carried out by a specialized business or organization, but business managers should be aware of several general principles.

First, the enormous shock of the COVID-19 pandemic dramatically altered carbon emissions in 2020 and 2021. While the absolute quantity of emissions generated by travel and tourism plunged during the pandemic, emissions per unit of output sharply increased. While data for 2020 and 2021 do offer important evidence of the relation between tourism activity and GHG emissions, but they do not provide a representative baseline. **Most businesses and destinations that were already measuring their emissions before the pandemic should use 2019 as the baseline year, while those with no pre-pandemic data should use 2022 or 2023.**[13] Whether pre- or post-pandemic, the most recent year for which data are available is typically the most useful, as emissions change over time for reasons unrelated to deliberate climate action.

Second, most emissions generated by the travel and tourism sector are produced by a distinct set of activities. The WTTC has already identified the categories involved in the tourism sector, on its Net Zero Roadmap report (Figure 2), where we can highlight Accommodation, Tour Operators, Aviation and Cruises[14].

Figure 2. Categories of Travel and Tourism sector, and their contribution to the emissions of GHG.
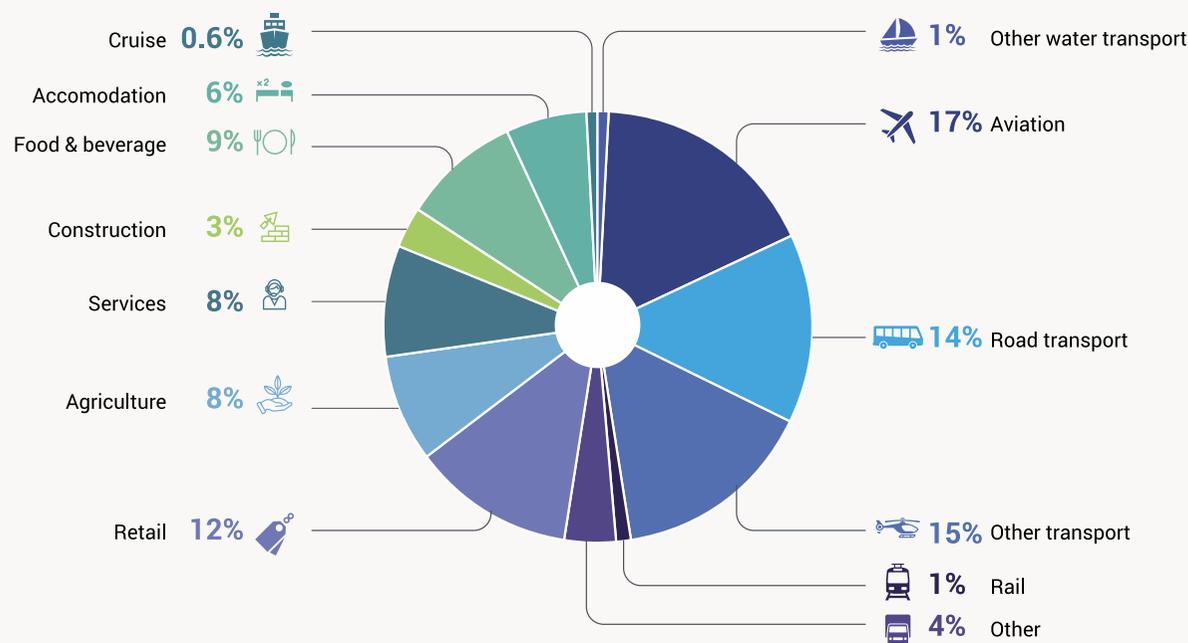
Note: The above emission share has been updated for aviation by using the latest IATA's Aviation and Climate Change Fact Sheet pre-pandemic estimates. Cruise was separated from water transport by conducting a bottom-up estimation based on sustainability reports. The chart includes shares of most contributing scope 3 emission sources (.g. agriculture).

Source: World Travel & Tourism Council (2021).

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[13] Glasgow Declaration. Climate Action in Tourism FAQ (Frequently Asked Question). **https://www.oneplanetnetwork.org/programmes/sustainable-tourism/glasgow-declaration/faq**
[14] WTTC. (2021). A net zero roadmap for travel and tourism. Proposing a new target framework for the travel and tourism sector. **https://wttc.org/Portals/0/Documents/Reports/2021/WTTC_Net_Zero_Roadmap.pdf**

While all businesses and destinations are different, these activities should generally be prioritized when conducting a baseline assessment:

Transportation

Transportation, both local and international, is the tourism sector's main source of GHG emissions. Although marginal emissions vary depending on transportation technology, local infrastructure, the energy matrix, and applicable environmental standards, the energy required to move people and goods overwhelmingly comes from high-carbon sources. As a result, **transportation companies play a key role in the decarbonization of tourism**, and while their choices are informed by local conditions, transportation companies have numerous opportunities to advance climate goals. From their side, tourism operators and travel agencies can work with transportation companies to achieve their own corporate emissions-reduction objectives while advocating for climate-smart mobility policies at the national level.

Goods

All goods purchased and consumed by tourists or used as inputs in the tourism industry have an embedded carbon content. Carbon content tends to be higher for more technologically advanced goods, and transportation increases the carbon content of all goods. For these reasons, **simple goods produced locally tend to have a much smaller carbon footprint than complex goods from distant producers**. In all cases, special consideration should be given to goods that are credibly certified as "low-carbon" or "carbon-neutral."

Food

Worldwide, food production generates considerable GHG emissions at all stages of the supply chain, but some foods and production methods are far more carbon-intensive than others. For example, producing one kilogram (kg) of beef generates almost 100 kg of carbon dioxide equivalent (CO_2eq), roughly ten times the emissions generated by 1 kg of chicken. **Food production is responsible for approximately 26% of global GHG emissions[15]**. Climate-smart technologies can mitigate the climate impact of crop and livestock production, as well as the impact of transporting, processing, packaging, and distributing food, while **altering purchasing decisions and culinary choices to favor sustainably produced low-carbon foods offers immediate opportunities to reduce business-level emissions**.
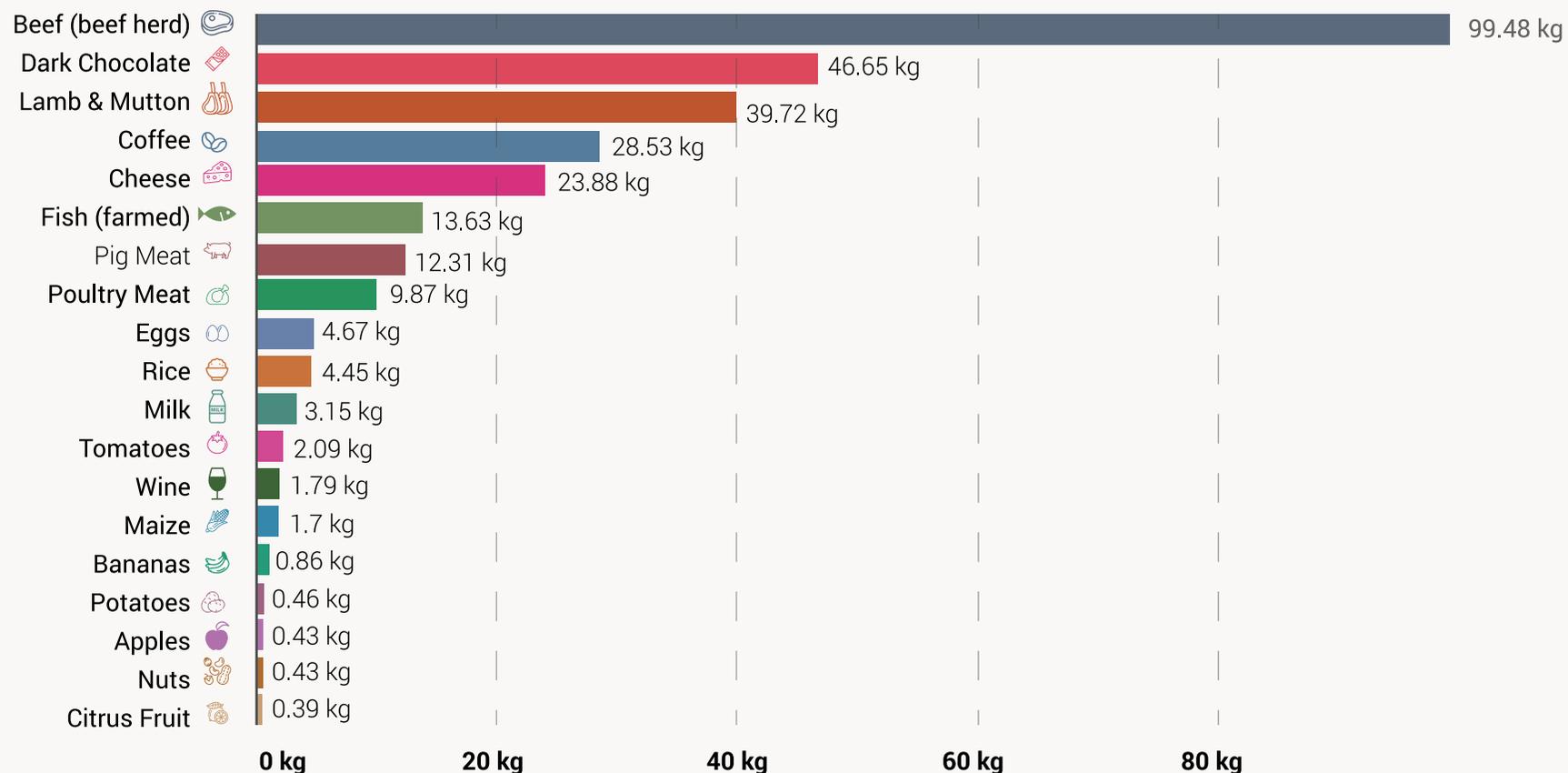
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[15] Our World in Data. (2021). Food production is responsible for one-quarter of the world's greenhouse gas emissions. **https://ourworldindata.org/food-ghg-emissions**

Figure 3. Greenhouse Gas Emissions per Kilogram of Food Product

Greenhouse gas emissions per kilogram of food product

Greenhouse gas emissions are measured in kilograms of carbon dioxide equivalents ($kgCO_2eq$) per kilogram of food product. This means non-CO_2 greenhouse gases are included and weighted by their relative warming impact.

Our World in Data

Food Product	Emissions
Beef (beef herd)	99.48 kg
Dark Chocolate	46.65 kg
Lamb & Mutton	39.72 kg
Coffee	28.53 kg
Cheese	23.88 kg
Fish (farmed)	13.63 kg
Pig Meat	12.31 kg
Poultry Meat	9.87 kg
Eggs	4.67 kg
Rice	4.45 kg
Milk	3.15 kg
Tomatoes	2.09 kg
Wine	1.79 kg
Maize	1.7 kg
Bananas	0.86 kg
Potatoes	0.46 kg
Apples	0.43 kg
Nuts	0.43 kg
Citrus Fruit	0.39 kg

0 kg   20 kg   40 kg   60 kg   80 kg

Source: Poore, J., & Nemecek, T.(2018). Reducing food's environmental impacts through producers and consumers.
Note: Data represents the global average greenhouse gas emissions from food products based on a large meta-analysis of food production covering 38,700 commercially viable farms in 119 countries.
OurWorldinData.org/environmental-impacts-of-food•CCBY

Minimizing food waste offers further opportunities to swiftly and sharply reduce GHG emissions. Food waste increases emissions in two ways: **first**, wasteful consumption requires more food to be produced than would otherwise be necessary, increasing the total emissions generated by food production; **second**, food waste that is disposed of in a landfill decomposes, producing methane, a GHG roughly 25 times as powerful as carbon dioxide. Climate-smart technologies and circular-economy business models have been developed to increase the efficiency of food consumption and minimize or repurpose food waste. For example, **initiatives in Peru and Costa Rica have succeeded in turning food waste into biochar, an organic compound that improves soil quality while serving as a long-term sink for atmospheric carbon dioxide**.

Facilities

The construction and operation of tourism facilities and related infrastructure often generates large-scale GHG emissions. **Energy-intensive building materials such as cement and steel have a large amount of embedded carbon content, and the construction process may contribute to deforestation or other forms of environmental damage**. Hotels and other forms of accommodations generate GHG emissions in a manner like that of private homes, but their climate impact is often much greater. Tourist accommodations typically produce most of their emissions from electricity consumption. Hotels often consume large amounts of electricity, and those in remote locations are more likely to rely on inefficient long-distance transmission networks or carbon-intensive local alternatives such as diesel generators. In addition, refrigeration, air conditioning, and other cooling systems directly produce hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), which are powerful GHGs.

2. Analyzing Emissions

Decarbonizing a tourism business or destination requires understanding the various sources of its GHG emissions and the types and quantities of emissions produced. Again, it is important to stress that each situation is different, and each business or destination requires its own tailored assessment. Nevertheless, the various activities involved in the tourism value chain share common characteristics with which managers should be familiar.

Table 1.GHG Emissions Produced by the Tourism Value Chain

Business Type	Emissions Sources		
	Scope 1	Scope 2	Scope 3
Travel agencies offices and DMO offices	• Hydrofluorocarbons (HFCs) produced by refrigeration and air conditioning. • Fuel consumed by own fleet of vehicles.	• Energy consumption involved in providing in-person or online services.	• Business travel
Transportation companies	• Fuel consumed during the transportation of passengers and goods, which tends to produce a large share of total tourism emissions, though marginal emissions vary widely depending on the transportation technology and infrastructure involved.	• Energy consumption at administrative offices and other facilities.	
Hotels and other accommodations	• Fuel consumption for onsite electricity generation, heating, and transportation in vehicles owned by the hotel. • HFCs produced by refrigeration and air conditioning.	• Energy consumption from the electrical system at administrative offices and accommodation buildings.	• Food consumption. • Methane (CH_4) produced by organic waste. • Water consumption, especially for laundry. • Carbon content embedded in purchased inputs.
Package-tour operators	• Fuel consumption involved in passenger transportation using vehicles owned by the tour operator.	• Electricity consumption by facilities and activities.	• Food consumption. • Methane (CH_4) produced by food waste. • Water consumption. • Carbon content embedded in purchased inputs.
Restaurants, bars, shops, and other venues	• HFCs produced by refrigeration and air conditioning.	• Energy consumption for electricity and heat.	• Food consumption. • Methane (CH_4) produced by food waste. • Water consumption. • Carbon content embedded in goods and other inputs during their production.

Source: Elaborated by **Green Initiative** (2021)

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[16] International Atomic Energy Agency. (2017). Biochar is a type of charcoal produced from plant matter and stored in the soil. For more information, see: **https://www.iaea.org/newscenter/news/costa-rica-paves-the-way-for-climate-smart-agriculture**

While some tourism operators strive to be all-inclusive, the activities involved in the tourism value chain are typically provided by multiple businesses. **Each business contributes to the carbon footprint of the value chain, and the emissions produced by different activities are affected both by assemble decisions and by government policies**. While each business requires a unique emissions assessment that reflects its specific circumstances, a large number of assemble assessments can be aggregated to establish the standard carbon footprint of specific activities. Progress on reducing GHG emissions can then be measured both against the baseline for an individual business and against the industry standard for its type of activity. UNEP's "Manual for Measuring and Monitoring Resource Efficiency and Greenhouse Gas Emissions in the Hotel and Conference Sector" provides a starting point to understand current benchmarks.

A useful emissions assessment requires clearly defined parameters. While businesses should generally strive to measure the carbon footprint of their entire operations, an individual assessment may be limited to a discrete set of business activities. **The standard period for measuring emissions is either a calendar year or fiscal year, though nonstandard periods, such as a periodic event or tourism season, could be used in certain cases**. The initial emissions assessment establishes the baseline for the emissions produced by the given activity over the given period, serving as a reference point for observing the impact of climate action.[17]

Each emissions assessment should include all GHGs recognized by the Intergovernmental Panel on Climate Change (IPCC).[18] In the tourism sector, carbon dioxide (CO_2) is the most important GHG, but tourism activities also generate methane (CH_4), nitrous oxide (N_2O), and emissions from the groups of refrigerants known as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs). **All GHGs can be expressed in CO_2eq, which standardizes their relative contributions to global warming**.

Table 2. GHGs Produced by Tourism Activities and their Climate Impact

Greenhouse gas	Sources	Climate Impact Relative to CO_2
Carbon dioxide (CO_2)	Burning of fossil fuels for transportation, electricity generation, and other activities	1:1
Methane (CH_4)	Burning of fossil fuels, organic waste decomposition, and production of food and other goods	1:28*−30**
Nitrous oxide (N_2O)	Burning of fossil fuels and production of food and other goods	1:265
Hydrofluorocarbons (HFCs)	Use of coolants for refrigeration and air conditioning	1:4−12,400

*Value considered for emissions of biogenic origin
**Value considered for anthropogenic emissions.

Source: Adapted from Fifth Assessment Report – IPCC (2014)

[17] UN Environment Programme (2021). A Manual to Measuring and Monitoring Resource Efficiency and. Greenhouse Gas Emissions in the Hotel and Conference Sector. **https://www.oneplanetnetwork.org/sites/default/files/from-crm/A%2520Manual%2520to%2520Measuring%2520and%2520Monitoring%2520Resource%2520Efficiency%2520and%2520GHG%2520emissions.pdf**
[18] Intergovernmental Panel on Climate Change (2006). IPCC Guidelines for National Greenhouse Gas Inventories. **https://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html**

A consistent methodology must be used to identify and account for direct and indirect emissions. The GHG Protocol divides emission sources into three scopes[19], the International Statistics Organization (ISO) divides emissions sources into six categories[20] based on their source:

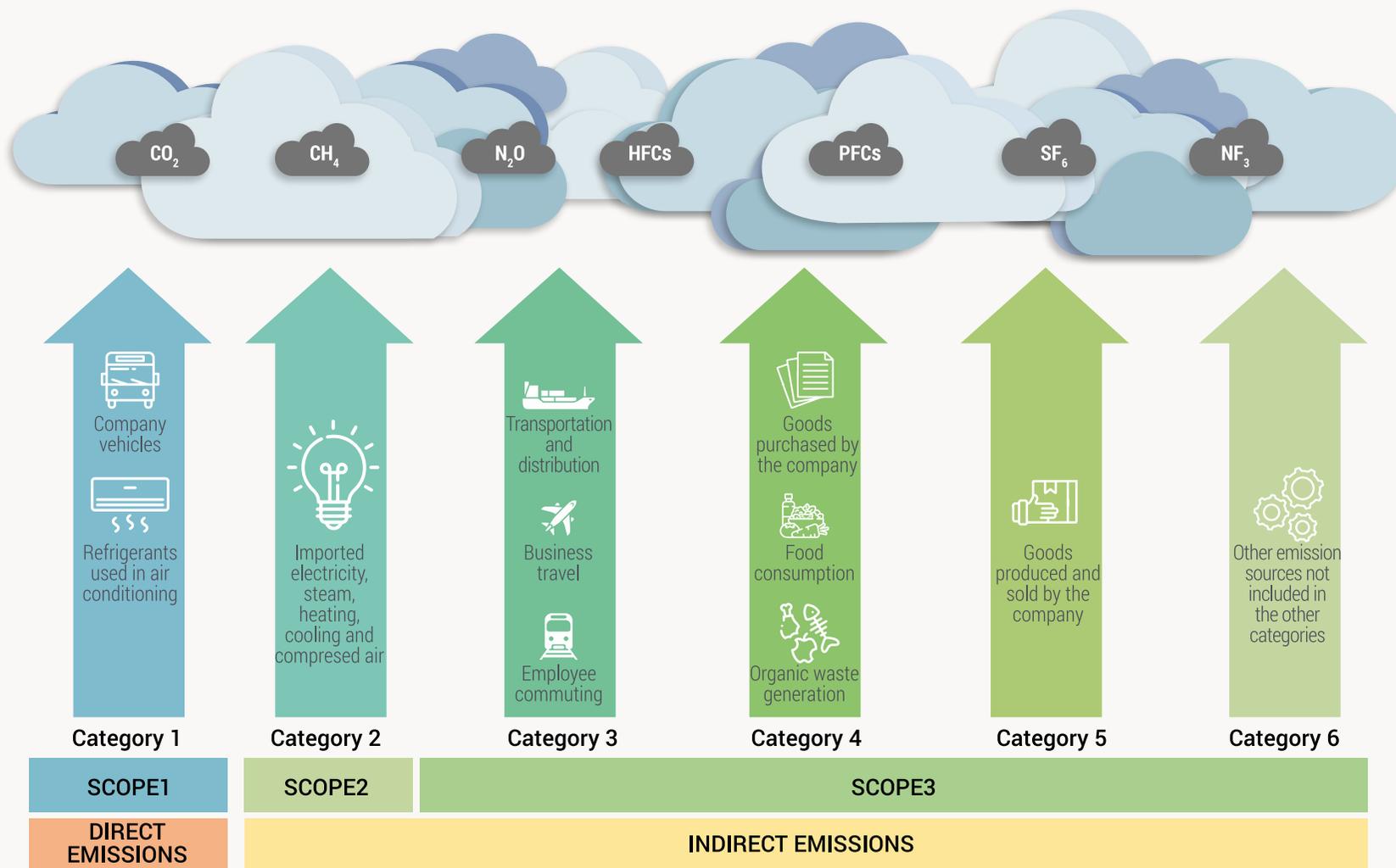| GHG Protocol Scopes	ISO 14064-1:2018 Categories
Scope 1: Direct GHG emissions. Direct emissions occur at sources owned or controlled by the business. For example, direct emissions produced by fuels used in heating or cooking food, as well as the use of company-owned vehicles.	**Category 1: Direct emissions and removals.** This category includes emissions produced by activities under the business's direct ownership or control, such as fuel consumption by a business-owned vehicle fleet. This category also considers removals or capture of GHG that are owned or controlled by the business.
Scope 2: Indirect GHG emissions associated with energy consumption. These include GHG emissions from the generation of electricity purchased and consumed by the business. For example, emissions are the indirect emissions from electricity, steam, heating, or refrigeration used in restaurant facilities.	**Category 2: Indirect emissions from imported energy.** This category includes emissions produced by public utility networks or private service providers on which the business relies, but which are outside its direct control, such as electricity consumption from a local power grid.
Scope 3: Other indirect emissions. These are emissions generated as a consequence of the company's activities but from sources that are not owned by the business through its value chain. Scope 3 emissions include fifteen categories, which are as follows: • Purchased goods and services • Capital goods • Fuel and energy related activities • Upstream transportation and distribution • Waste generated in operations • Business travel • Employee commuting • Upstream leased assets • Downstream transportation and distribution • Processing of sold products • Use of sold products • End-of-life treatment of sold products • Downstream leased assets • Franchises • Investments	**Category 3: Indirect emissions from transportation.** This category includes emissions produced by any public and private transportation services that the business uses to move its goods, personnel, and clients. **Category 4: Indirect emissions from products used by a business.** This category includes the emissions embedded in goods purchased by the business as inputs, such as the food products used by a restaurant. **Category 5: Indirect GHG emissions associated with the use of products from the business.** This category includes the emissions generated by consumers using goods that they previously purchased from the business. **Category 6: Indirect emissions from other sources.** This category includes emissions specific to the business that cannot be reported in any of the other categories listed above.

Source: Elaborated by Green Initiative (2021)

[19] Greenhouse Gas Protocol (2004) A Corporate Accounting and Reporting Standard. Revised Edition. **https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf**
[20] ISO 14064-1:2018. Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.

Figure 4. GHG emissions by type and source according to ISO 14064-1 and connected to scopes.

CO_2 CH_4 N_2O HFCs   PFCs SF_6 NF_3

Company vehicles

Refrigerants used in air conditioning

Imported electricity, steam, heating, cooling and compresed air

Transportation and distribution

Business travel

Employee commuting

Goods purchased by the company

Food consumption

Organic waste generation

Goods produced and sold by the company

Other emission sources not included in the other categories

Category 1	Category 2	Category 3	Category 4	Category 5	Category 6

SCOPE1	SCOPE2	SCOPE3			
DIRECT EMISSIONS	INDIRECT EMISSIONS				

Source: Elaborated by **Green Initiative** (2022)

3. Measuring Emissions and Identifying Changes

Once the parameters of the emissions assessment have been established, the business or destination will need to collect data on all relevant activities and determine the emissions factor associated with each. Activity data must encompass all actions by the business or destination that produce GHG emissions, whether directly or indirectly. In most cases, activity data will include the consumption of electricity, fuel, food, goods, and/or services by the business or destination. **Businesses must compile this data accurately and comprehensively, and estimates or imputations should be used only when direct measurement is impossible**.

The emissions factor is a coefficient that quantifies the net emissions generated by each activity on a marginal basis. Emissions factors are often based on a sample of activity data, which is used to develop a representative level of emissions for an activity under a given set of operating conditions. **Emissions assessments should use the most precise, up-to-date, and widely recognized emissions factors**. Many emissions factors are specific to a given country, while others, such as those included in the IPCC Guidelines, are based on worldwide industry standards.

Emissions estimates are derived from the activity data and emissions factors. For example, the emissions generated by consuming electricity from the power grid is defined as:

Activity data and emissions factors are required for all relevant segments of the tourism value chain. The emissions assessment must take care neither to omit any significant sources of GHG emissions nor to double-count the emissions embedded in the value chain. **For example, if a package-tour operator books transportation for its clients through a third-party transportation business, the emissions produced must be included in the assessment of the tour operator**. However, while these are direct emissions for the transportation business and indirect emissions for the tour operator, the transport company and tour operator should not both count them. In this case, the relevant activity data would include the number of tourists and the distance traveled, while emissions factors would include the type of vehicles, the type of fuel, and any emissions generated by fleet maintenance.

$$EC_{GHG\ emissions} = \text{Electricity consumption (MWh) x Grid emission factor (tCO}_2\text{eq/MWh)}$$

Figure 5. Sources of GHG Emissions in a Tourism Experience
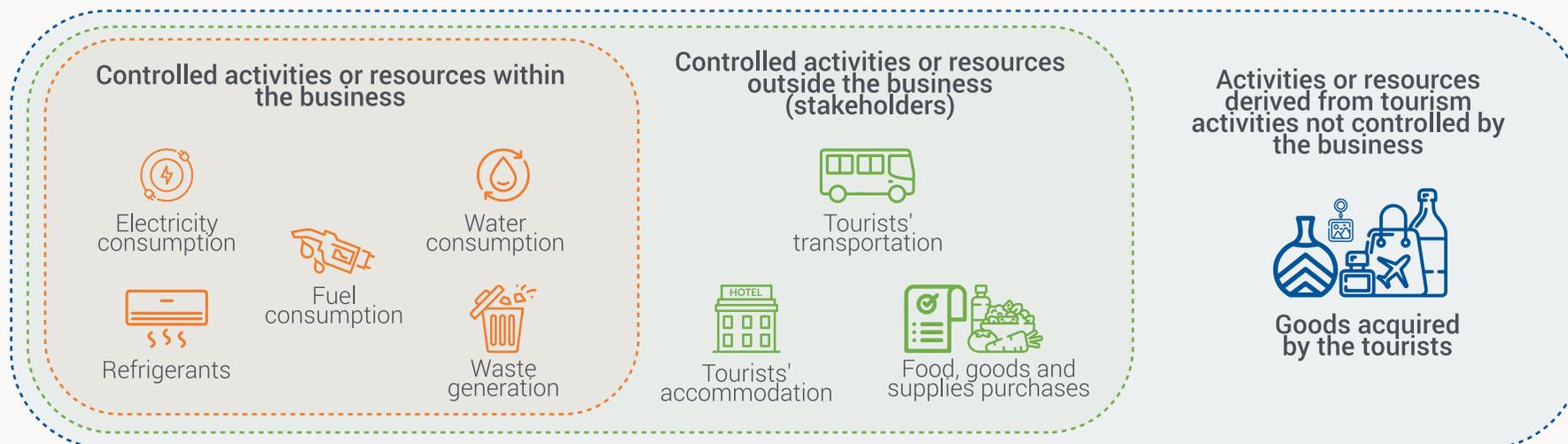
Source: Elaborated by **Green Initiative** (2022)

The following table shows the types of activity data to be collected, along with typical data sources. While gathering these data may be difficult or costly at first, over time systematic data collection and analysis will become easier, and the marginal cost will decline. Data quality is also likely to improve as the business develops its internal monitoring capabilities.

Table 3. Required information according to GHG emission sources

Emissions Sources	Information	Data Sources
Fuel consumption	• Quantity of fuel consumed • Type of fuel consumed	• Receipts for fuel purchases
Coolants	• Type and number of refrigerators, air conditioning units, or other equipment that uses coolants • Type and quantity of coolants used	• Equipment records and coolant purchase receipts
Energy consumption	• Quantity of electricity from the grid consumed	• Energy bills from utilities or other service providers
Water consumption	• Quantity of water from the grid consumed	• Water bills from utilities or other service providers
Waste generation	• Types of waste generated, these can be paper/cardboard, textiles, food waste (organic), wood, garden and park waste, plastic, general waste (inorganic).[21] • Quantity of waste generated by type.	• Sanitation-service records and waste-disposal facility receipts.
Food, goods and supplies purchases	• - Quantity and type of food/ goods/supplies purchased by the business.	• Emissions data integrated in each food/product/supplies, either actual data provided by producers or suppliers or also estimates based on industry standards.
Transportation	• Type of vehicles used • Total weight transported per kilometer, including goods and passengers • Amount and type of fuel used	• Vehicle records, fuel receipts, data collected at weigh stations
Accommodation	• Number of rooms utilized per night[22]. • Emissions produced per room from electricity, heating, cooling, water, and other sources.	• Data from accommodations providers on electricity, fuel, refrigeration, and water consumption and other relevant emissions sources (imputed values or proxy data may be used if necessary).

Source: Elaborated by **Green Initiative** (2022)

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[21] The opportunity of low-carbon diet offers to reduce emissions and climate impacts (indirect emissions, scope 3)- Food production is a significant contributor to climate change, accounting for a quarter of global greenhouse gas emissions. Learn more: **https://www.oneplanetnetwork.org/sites/default/files/from-crm/A%2520Manual%2520to%2520Measuring%2520and%2520Monitoring%2520Resource%2520Efficiency%2520and%2520GHG%2520emissions.pdf**

[22] Rooms per night only considers the number of rooms used in the accommodation and is not based on the number of people staying in the room.

Green Initiative recommends using the five core principles of the GHG Protocol[23] to conduct a robust emissions assessment. These principles include:

Relevance. The assessment must accurately reflect the expectations of the business or other stakeholders, and it must serve the decision-making needs of its audience.

Completeness. The assessment must quantify and report comprehensive information on all significant sources of GHG emissions within the established parameters, and it must disclose and justify any exceptions.

Consistency. The assessment must use a standard analytical process that yields estimates which are comparable over time. Any changes in data sources or methodology that occur between analyses must be transparently documented.

Accuracy. The assessment must strive to ensure that GHG emissions are estimated as accurately as possible to enable users to make strong decisions.

Transparency. The assessment must be presented in a clear, objective, and candid manner, with full disclosure of any factors that might adversely affect the quality or reliability of the analysis. Technical annexes should specify all relevant assumptions, statistical methods, and data sources used in the assessment.

The assessment should identify the most important sources of GHG emissions and prioritize activities in which modest changes could have a substantial impact. **For example, one hotel might be able to rapidly reduce its emissions by curbing its electricity usage, while an otherwise comparable hotel might achieve a more efficient emissions reduction by changing its food purchases**. The assessment should reflect an understanding of the costs and benefits facing the business or destination, and its findings should be presented in a manner that is user-friendly and that serves the needs of managers and other relevant stakeholders.

Finally, the assessment should reflect the standards and expectations of institutions that offer climate finance. Businesses and destinations may have limited resources to implement their emissions-reduction strategies, and numerous programs and incentives exist to close this financing gap. The assessment should be consistent with the criteria that governments, development banks, and multilateral organizations use to allocate climate finance, and the business or destination should be able to draw on the assessment when applying for external support.

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[23] The Greenhouse Gas Protocol (2004). A Corporate Accounting and Reporting Standard. Revised edition. **https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf**

4. Implementing Climate Action

Tourism businesses and destinations can reduce their carbon footprint by avoiding, reducing, or offsetting GHG emissions. Avoiding emissions involves shifting business practices so that emissions-producing activities are unnecessary. For example, a business that uses virtual meetings to obviate the need for business travel can avoid generating emissions that it would otherwise have produced. Reducing emissions involves transitioning to less carbon-intensive versions of existing activities. For example, a business that restricts business travel to low-emissions flights on the most direct routes can reduce the emissions it generates. Residual emissions, which are those emissions that a company cannot reduce after prioritizing mitigation actions, can be offset. Offsetting emissions involves supporting or engaging in activities designed to capture and store carbon or to reduce emissions produced beyond the scope of the business or destination. For example, a business that could not cut back on business travel might purchase carbon credits generated by a reforestation project[24].

Figure 6. Sources of Emissions and Emissions Reduction

NET CARBON FOOTPRINT

GHG EMISSIONS

GHG REDUCED OR CAPTURED

Source: Elaborated by Green Initiative (2022)

Each business or destination produces emissions from a different mix of sources, and each faces a unique cost structure for reducing those emissions. However, a review of the international experience highlights several areas that are frequent targets of climate action. These include:

Waste management. Recycling food waste creates opportunities to cut emissions by avoiding methane-producing decomposition. Rather than being sent to a landfill, food waste can be transformed into biochar through the pyrolysis process. **Organic waste can also be used in compost production or as animal feed**. In some cases, multiple tourism businesses may need to develop a collaborative waste-management solution. For example, a group of restaurants could jointly petition their municipal government to establish composting infrastructure at the local waste dump.

Electricity consumption. Electricity is often a major expenditure item for hostels, restaurants, and other tourism facilities, and improving energy efficiency can reduce emissions while also cutting operational costs. **For example, switching to LED lighting and/or installing motion-sensor lighting systems can immediately reduce electricity consumption with only a modest upfront outlay**. Transitioning to renewable energy, for example by installing rooftop solar panels, is a more expensive and complex process, but for many businesses renewable energy offers an opportunity to slash emissions while lowering electricity costs. In areas where grid energy is unreliable, self-generated renewable energy may also help stabilize the electricity supply.

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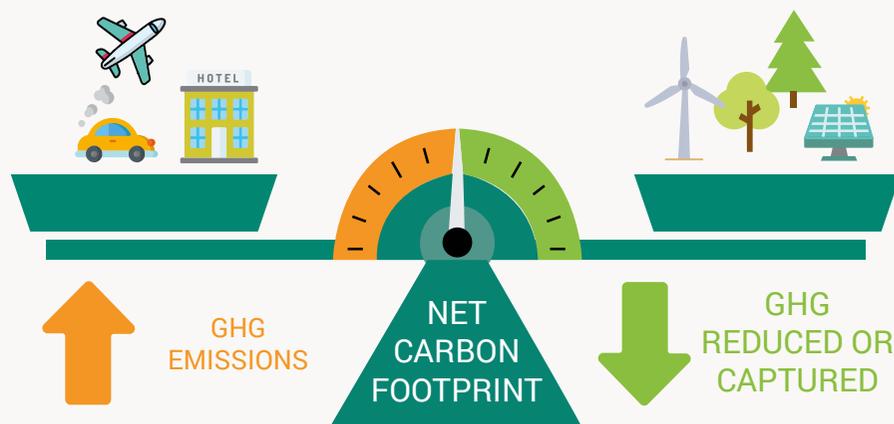
[24] Carbon credits are traded in local, national, and international markets. Businesses that purchase carbon credits must ensure that they are properly certified and represent real emissions reduced or avoided.

Water consumption. Water consumption often contributes substantially to the emissions produced by hotels and restaurants. **Adopting water-saving technologies such as motion-sensor faucets and low-flow toilets can increase the efficiency of water consumption**, avoiding some of the emissions that would otherwise be produced.

Fuel consumption. Fuel consumption is a key source of direct emissions for many tourism businesses. Many restaurants use carbon-intensive cooking fuels, and the vehicles that hotels and other operators use to transport tourists are typically powered by fossil fuels. In both cases, emissions can be reduced by adopting new technologies. **Businesses can cut their direct emissions by transitioning to lower-carbon fuel sources**, such as natural gas, or by using electric appliances or electric vehicles. While electrification tends to yield the greatest net reduction in GHG emissions, the carbon content of the local electricity supply must be accounted for, and each business must determine whether electrification is a feasible option. Businesses that contract transportation services from third-party providers can favor providers that use low-carbon technologies or work with existing providers to reduce their carbon footprint.

Food choices. The global livestock industry generates large amounts of GHGs, with cattle being an especially important contributor to methane emissions. Moderating the consumption of beef by offering more environmentally responsible **food choices can enable hotels, restaurants, and other food-service providers to sharply reduce their indirect emissions.** Vegetarian and vegan foods tend to have the lowest carbon content, but even meats such as chicken, pork, and fish produce far fewer GHG emissions than beef. In addition, culinary innovations such as plant-based alternatives to meat, can greatly reduce the emissions generated by food consumption.[25] Buying locally produced food can cut emissions even further by reducing the need for transportation.
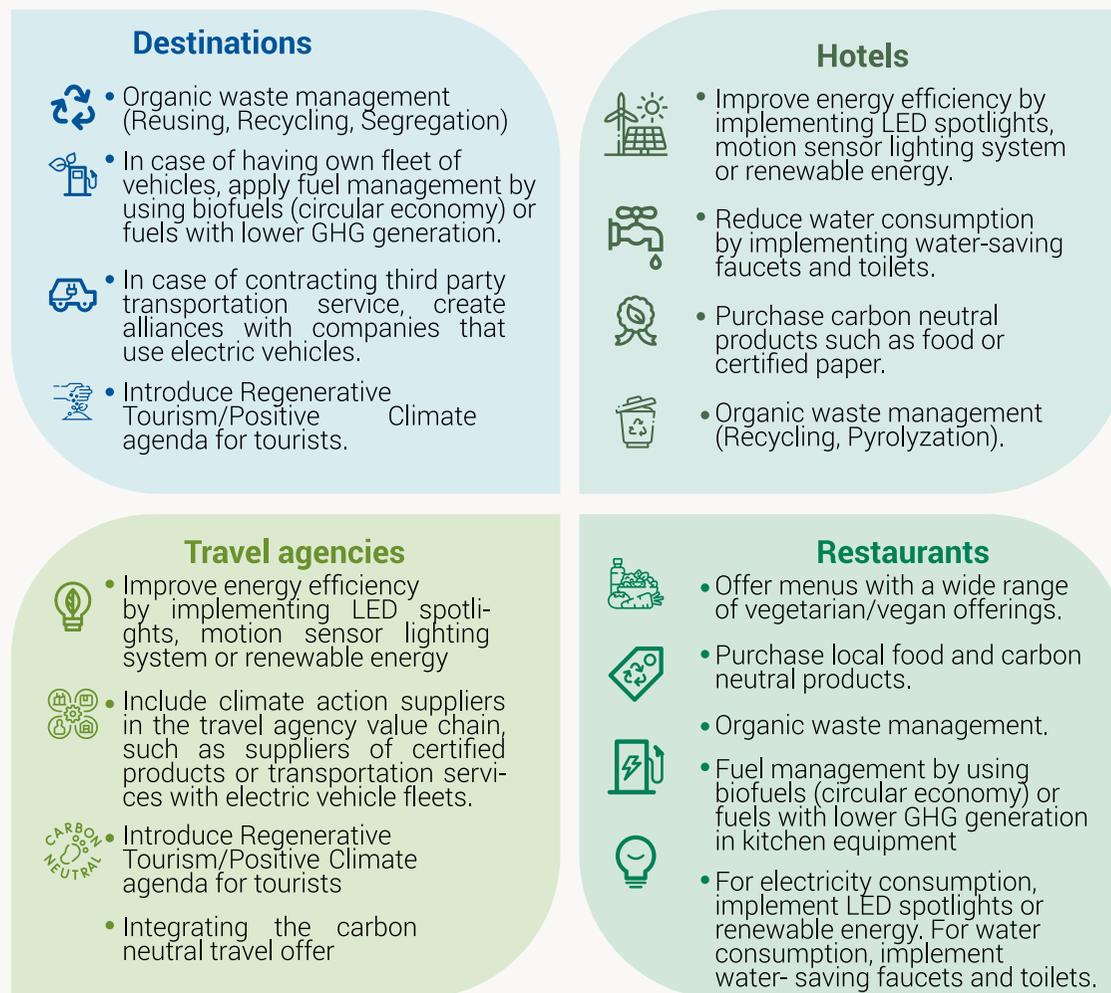
Input purchasing. Tourism businesses can cut emissions and enhance their brand image by providing their clients with certified low-carbon or carbon-neutral products. **Businesses can also encourage tourists to purchase carbon-neutral products** and utilize environmentally responsible services offered by third-party providers, which will further burnish the business's reputation for environmental responsibility but will not necessarily reduce its carbon footprint. As with food, local sourcing can reduce the carbon content of the inputs used by tourism businesses.

Regenerative tourism. While purchasing carbon credits is typically the most efficient way to offset emissions, in some cases tourism businesses may be able to directly invest in nature-based carbon capture and storage projects. By financing natural climate solutions such as ecosystems restoration, tourism businesses can lower their net GHG emissions while improving the environmental quality, desirability, and climate resilience of their destination. **Tourism businesses around the world are engaging in regenerative tourism providing its clients with the opportunity to offset and engage in ecosystems restoration efforts**. Since 2019 CEPA Study Abroad, a German-based company, has been supporting the ecosystem restoration of one of the most biodiverse hotspots in Costa Rica – Peninsula de Osa. **Customized Educational Programs Abroad (CEPA) has integrated carbon emissions offsetting and tree planting in all its educational travel solutions**. CEPA's goal is to o plant 50,000 trees from 13 different native species by 2030. The reforested areas will serve as forested corridors for wandering animals seeking new habitats.

[25] UN Environment Programme (2021). A Manual to Measuring and Monitoring Resource Efficiency and Greenhouse Gas Emissions in the Hotel and Conference Sector. **https://www.oneplanetnetwork.org/sites/default/files/from-crm/A%2520Manual%2520to%2520Measuring%2520and%2520Monitoring%2520Resource%2520Efficiency%2520and%2520GHG%2520emissions.pdf**

Figure 7. Common Priorities for Climate Action by Type of Actor

Destinations
- Organic waste management (Reusing, Recycling, Segregation)
- In case of having own fleet of vehicles, apply fuel management by using biofuels (circular economy) or fuels with lower GHG generation.
- In case of contracting third party transportation service, create alliances with companies that use electric vehicles.
- Introduce Regenerative Tourism/Positive Climate agenda for tourists.

Hotels
- Improve energy efficiency by implementing LED spotlights, motion sensor lighting system or renewable energy.
- Reduce water consumption by implementing water-saving faucets and toilets.
- Purchase carbon neutral products such as food or certified paper.
- Organic waste management (Recycling, Pyrolyzation).

Travel agencies
- Improve energy efficiency by implementing LED spotlights, motion sensor lighting system or renewable energy
- Include climate action suppliers in the travel agency value chain, such as suppliers of certified products or transportation services with electric vehicle fleets.
- Introduce Regenerative Tourism/Positive Climate agenda for tourists
- Integrating the carbon neutral travel offer

Restaurants
- Offer menus with a wide range of vegetarian/vegan offerings.
- Purchase local food and carbon neutral products.
- Organic waste management.
- Fuel management by using biofuels (circular economy) or fuels with lower GHG generation in kitchen equipment
- For electricity consumption, implement LED spotlights or renewable energy. For water consumption, implement water-saving faucets and toilets.

Source: Elaborated by Green Initiative (2022).

Businesses and destinations that implement bold and creative climate action plans may ultimately become climate positive. Going climate positive means that a business or destination's climate mitigation efforts have gone beyond neutrality to create a net environmental benefit by removing more GHGs from the atmosphere than it contributes. Achieving climate positivity typically requires steep reductions in emissions, and it always involves offsetting emissions by engaging in ecosystems restoration efforts. While offsetting plays an important subsidiary role in climate action, it should be regarded a complement to emissions reductions, not a substitute.[26] Recognizing the need to balance efforts to reduce and offset emissions, Green Initiative utilizes a market-based approach to emissions offsetting that provides value to all stakeholders. For more information, please visit: **https://www.greeninitiative. eco/engage-in-ecosystems-restoration-2/**

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[26] WTTC. (2021). A net zero roadmap for travel and tourism. Proposing a new target framework for the travel and tourism sector. **https://wttc.org/Portals/0/Documents/Reports/2021/WTTC_Net_Zero_ Roadmap.pdf**

5. Reporting Progress and Sharing Best Practices

Once a business or destination begins to implement a climate action plan, progress toward its climate goals must be accurately observed and transparently reported. Progress monitoring and reporting serves multiple purposes: it enables managers to identify effective approaches to reducing GHG emissions; it allows businesses to demonstrate a credible commitment to environmental responsibility, enhancing their attractiveness to key consumer segments; and it offers opportunities for businesses to learn from the successes of their peers, allowing them to develop more efficient action plans in the future. Monitoring reports should be produced on a regular basis, the frequency of which should be determined by the needs and resources of the business or destination, but annual reporting is appropriate in most cases. To the extent possible, the monitoring methodology and reporting format should be aligned with the standards used by the Paris Agreement and the **Glasgow Declaration** on Climate Action in Tourism.

To ensure transparency, all data used in the initial assessment and subsequent monitoring reports must be properly identified, and the methodology must be clearly indicated so that the calculations can be externally verified. Because emissions assessments and reports require strict quality controls, in most cases dedicated businesses are best suited to prepare them. In the case of MSMEs (Micro, Small and Medium Enterprises) that lack the resources to contract an external emissions assessment, , these businesses can begin performing their own assessments by utilizing this guide and complementary tools, such as the UNEP's GHG Emissions and Resource Efficiency Data and Performance Monitoring Excel Tool[27].The reports should describe progress toward climate goals in a clear and reader-friendly manner, and their conclusions should be designed to inform decision-making among business managers and other stakeholders. Monitoring reports should also include information on the financial costs and benefits of the climate action undertaken by the business or destination, as well as an analysis of any changes in market position or market share resulting from the adoption of more environmentally responsible practices.

[27] UNEP. (2022). Resource Efficiency and GHG Emissions Data and Performance Monitoring Tool. **https://www.oneplanetnetwork.org/knowledge-centre/resources/resource-efficiency-data-and-performance-monitoring-tool-0**

GLOSSARY

Carbon credits: Certified reductions in GHG emissions that are traded on carbon-credit markets. Purchasing carbon credits enables businesses to offset emissions that cannot be reduced or avoided.

Carbon dioxide equivalent (CO$_2$eq): A universal measurement used to standardize the climate impact of each GHG. Amounts of CO2e are usually expressed in tons.

Carbon emissions and GHG emissions are used interchangeably in this report. Emission calculations are shown in form of CO$_2$ equivalents (CO$_2$e) and include scope 1, 2, 3 emissions, unless otherwise indicated.

Carbon footprint: The total direct and indirect GHGs emissions produced by an individual, organization, business, location, event, or activity over a given period, which is typically one fiscal or calendar year.

Carbon neutral: The status where the GHG emissions associated to an organization, company, product, or service are estimated, plans are developed and implemented to reduce or avoid them, and finally any non-avoided emissions are compensated or "offset" with carbon credits. (*)

It also refers to the balance between emitting, and the voluntary compensation (offsetting) of emissions, to achieve a neutral emission equilibrium.

Climate action: Concrete, measurable efforts to reduce GHG emissions over time, often as part of a national public policy, an international agreement, or a corporate initiative.

Climate change: Variations in the statistical distribution of weather patterns over a long period, including the process of anthropogenic global warming caused by GHG emissions.

Climate neutral: Refers to zero interference with the climate from human activities. It includes not only greenhouse gas emissions, but also aspects such as changes in the albedo of surfaces, placing aerosols in the atmosphere and others. (*)

Climate positive: Indicates that a business, destination, event, or activity achieves a net decrease in atmospheric GHGs. Carbon capture and storage projects, including reforestation and other forms of environmental restauration, are designed to be climate positive. However, any organization or activity can become climate positive if it obtains enough carbon credits to more than offset its emissions.

Decarbonization: The process of stopping or reducing carbon dioxide emissions being released into the atmosphere, using low carbon power sources, and achieving a lower output of greenhouse gasses into the atmosphere. In this case, it can also be extended to other emissions that can be calculated into a CO$_2$ equivalent, especially when measuring a carbon footprint.

Destination Management Organizations (DMO): A destination management organization is responsible for coordinating the holistic management of all the elements that make up a tourism destination.

Greenhouse effect: An increase in average atmospheric temperatures caused by the increasing concentration of GHGs, especially carbon dioxide.

Greenhouse gases (GHGs): Gases whose presence in the atmosphere contributes to the greenhouse effect, including water vapor (H$_2$O), carbon dioxide (CO$_2$), methane (CH$_4$), nitrogen oxides (NOx), ozone (O$_3$), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).

Net zero: The status where the greenhouse gas emissions associated to an organization, company, product, or service are estimated, plans are developed and implemented to reduce or avoid them, and finally any non-avoided emissions are "neutralized" through carbon capture or removal technologies. (*)

* Lexicon aligned to the United Nations Framework Convention on Climate Change UNFCCC

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