



RETHINKING SINGLE- USE PLASTIC PRODUCTS IN TRAVEL & TOURISM

**IMPACTS, MANAGEMENT PRACTICES
AND RECOMMENDATIONS**



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FOREWORD

The convenience, functionality and low prices of plastic products, including single-use plastic products (SUPPs), have made them an essential part of the global economy. However, the prevailing linear plastic economic system has made SUPPs one of the most pressing environmental challenges of our days. Every year, between 5 and 13 million tonnes of plastic end up in the world's oceans. Storms, rain and human activity have carried plastic pollution to every corner of our planet, including remote wilderness areas and natural parks, harming animals and affecting human health. Travel & Tourism too can be negatively affected, as the most essential element of a destination, namely its attractiveness, is undermined by SUPP pollution, which in turn can affect visitor numbers and the jobs and livelihoods that depend on the sector.

The advent of COVID-19 and consequent proliferation of SUPPs have added urgency to this issue. Yet, the pandemic has also provided us with a unique opportunity to reflect on the changes required to build back greener and secure a sustainable future.

Travel & Tourism has a key role to play in addressing the triple planetary crises of climate change, biodiversity loss and pollution, and making circularity in the use of plastics a reality. This entails reducing demand for SUPPs, discouraging non-essential use and promoting reusable alternatives. However, making such a transition will require a shift in mindset and extensive collaboration across the Travel & Tourism value chain. Operational changes and innovations implemented by the private sector must take place in tandem with appropriate public investment in innovation at all stages of the value chain and waste infrastructure, a conducive policy environment and awareness raising among consumers.

To advance this important issue, UNEP and WTTC joined forces to investigate how Travel & Tourism stakeholders can enhance their collaboration to fight pollution from SUPPs. In this context, this report is a first step to mapping SUPPs across the Travel & Tourism value chain, identifying hotspots for environmental leakages and providing practical and strategic recommendations for businesses, policy makers and other Travel & Tourism value chain actors. This report is intended to help them take collective steps towards coordinated actions and policies that drive a shift towards reduce and reuse models, in line with circularity principles as well as current and future waste infrastructures.

Ultimately, the urgency and need for a reduction in the use of problematic and unnecessary SUPPs is widely recognised; but even the best of intentions can be thwarted by the sheer complexity of the challenge and a lack of coordination. As such, we are calling for all Travel & Tourism stakeholders, from businesses and experts to governments and local communities, to come together to address this multifaceted challenge. Only by doing so can we ensure meaningful and durable change on this issue along the Travel & Tourism value chain.



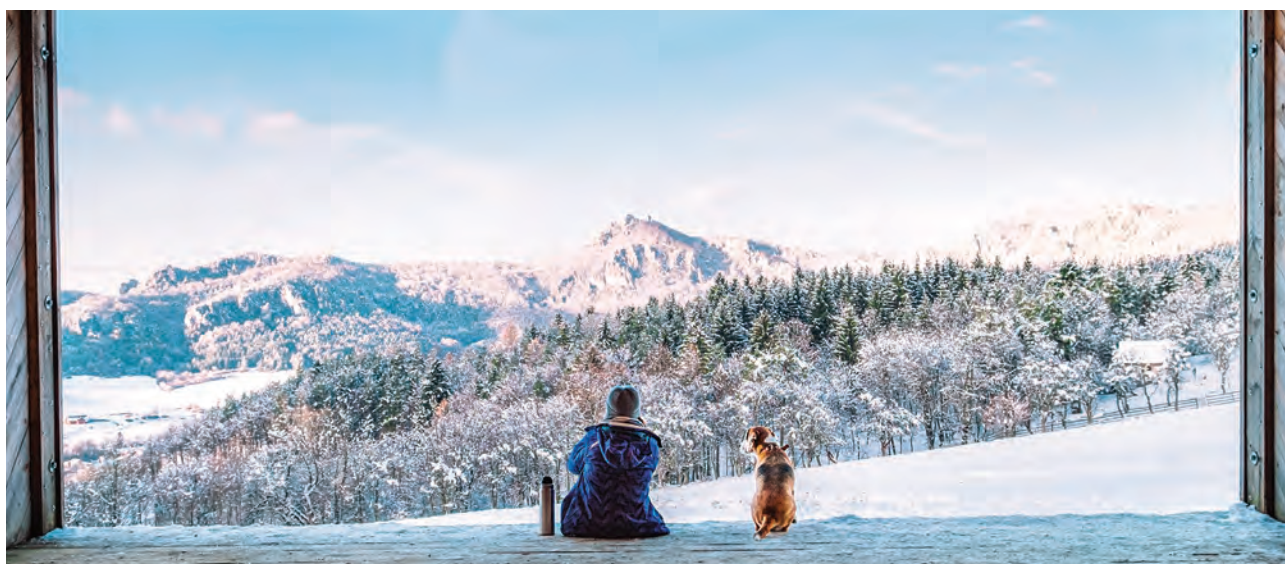
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EXECUTIVE SUMMARY

The Travel & Tourism sector undoubtedly plays a key role in global prosperity: it supported 1 in 10 jobs and contributed US\$8.8 trillion to global GDP in 2019. Its role in job creation and lasting positive social impact is immense. However, without a healthy and thriving environment the sector and our planet cannot survive.

With increased understanding of the damage that plastic pollution inflicts upon the environment, the sector is pivoting and increasingly creating awareness of the impact of SUPPs, promoting the use of reusables, providing more sustainable solutions and creating SUPP elimination strategies with the aim of moving towards a more circular approach based on a strong collaboration with local governments and waste facilities to ensure the recycling loop is closed.

In this context, the United Nations Environment Programme (UNEP) and the World Travel & Tourism Council (WTTC) undertook research to better understand Travel & Tourism's specific contribution to SUPPs and how sector actors can and are decreasing Travel & Tourism's environmental impact caused by SUPPs. This report highlights some of the key challenges that still need to be addressed to contribute to a more sustainable future, including the impact of COVID-19 prevention measures on sustainability goals. It also features selected practical case studies where SUPPs have been successfully phased out.

PLASTICS IN THE TRAVEL & TOURISM VALUE CHAIN & ITS HOTSPOTS

With around 90% of ocean plastic derived from land-based sources (WasteAid 2020) and the annual damage of plastics to marine ecosystems amounting to US\$13 billion per year (UNEP 2014), proactively addressing the challenge of plastics within the Travel & Tourism ecosystem is key. Through an examination of SUPP hotspots specific to the Travel & Tourism sector, this report identified that water bottles, disposable toiletries, plastic bags and bin liners, food packaging and cups are the five most frequently polluting SUPPs. These are items directly procured by tourism businesses and offered to their guests and consumers. Other sources of plastic pollution which create significant impacts at the destination level, even if not directly procured by tourism businesses, were also identified, notably cigarette butts, wet wipes, sanitary products, fishing nets, agricultural plastics and tyre abrasion. From a destination perspective, leakages were found to most likely occur as a result of mismanaged waste facilities.

TRADE-OFFS

Balancing trade-offs is a complex challenge for Travel & Tourism businesses, requiring a robust procurement approach to consider the issues, trade-offs and potential burden shifting, when selecting approaches to reducing SUPPs. This report highlights the need to account for the geographical context, including waste management infrastructure and the informal economy, the end-of-life treatment, consumer behaviour and social impact, as well as confusion caused by marketing terminology which is so far unregulated and the lack of instructions for responsible disposal of plastic packaging. Given the lack of information on trade-offs, as well as the pressure to comply with legislation and customer expectations, many businesses procure alternatives that are more costly and non-compatible with local waste infrastructures. This report notes that extreme caution must be taken when replacing SUPPs with single-use products of alternative materials, as these do not always generate the best environmental and social outcomes. Decision trees are used to showcase decision-making strategies with the objective of improving circularity in the use of plastics, reducing the use of SUPPs and eliminating or minimising waste wherever possible, while accounting for operational, economic and sustainability factors.

POLICY LANDSCAPE AND INITIATIVES ON PLASTIC

Countries including Canada, Denmark, the Republic of Korea, New Zealand and Tunisia have all implemented legislation for the private sector and the general public to minimise the use of unnecessary SUPPs. In fact, UNEP (2018) found that 127 countries have adopted SUPP-related policies, with the most wide-reaching legislation to date being the EU Single-Use Plastic Directive. Voluntary initiatives within the Travel & Tourism private sector have tended to focus on the prohibition of single-use plastic straws and miniature amenities (e.g. shampoo bottles). Still, it is clear that consumer behaviour is a key driver of changes in

business strategy and has helped stimulate a swifter move to more sustainable practices, while waste management and tax regulation are key tools of the public sector to further drive action and change. It is through a combination of public policy and private sector initiatives that plastic pollution from SUPPs can be effectively eliminated or significantly reduced.

RECOMMENDATIONS FOR TOURISM BUSINESSES AND POLICYMAKERS

Given the Travel & Tourism sector’s contribution to plastic pollution, albeit to varying degrees, it is essential for the sector to become aware of the leakages, impacts, hotspots and hidden hotspots so that it may address them. Public-private cooperation and prioritisation to manage and capture unavoidable SUPP consumption and waste management will be essential, particularly as certain regions and countries will have a higher likelihood of being impacted by SUPPs. Research urges private sector leaders to eliminate and reduce unnecessary SUPP consumption rather than replace these with single-use alternatives wherever possible. At the same time, governments will need to improve waste management infrastructure and introduce incentives to change the habits of consumers, retailers and manufacturers. Governments will also need to enact strong policies that push for a more circular model of design, production and use of plastic products. Businesses and governments alike should finance more research and development of alternative materials, raise awareness among consumers, fund innovation, ensure plastic products are properly labelled and carefully weigh possible solutions bearing in mind the current crisis.

Rethinking SUPPs and eliminating their use cannot be done in isolation by one industry or one individual business. It requires every Travel & Tourism sector stakeholder, from consumer to decision makers, to make more informed choices and act. Eliminating unnecessary SUPPs is not only the right thing to do, but it is also environmentally, socially and economically beneficial.



1

INTRODUCTION

Over the last decade, the Travel & Tourism sector has undergone substantial development and diversification, becoming one of the fastest-growing economic sectors globally and the world's third largest export category after chemicals and fuels (UNWTO 2019, p.8). In 2019, the sector accounted for 10.4% to global GDP and 1 in 10 jobs (WTTC 2020). Travel & Tourism is not only critical as a driver of growth and job creation, but can have a lasting impact on the communities it touches. The sector can foster closer ties between visitors and host communities (One Planet Blog on Sustainable Tourism 2019), while instilling a sense of belonging that nurtures community pride.

Whilst the COVID-19 pandemic has been devastating for Travel & Tourism (UNWTO 2021), the sector is working to turn this crisis into an opportunity as it strives to move towards an even more inclusive and sustainable future. In fact, enhancing the sector's resilience will require the safeguarding of natural environments, livelihoods and wellbeing (UN 2020). The sector will not only need to accelerate decarbonisation (Association of British Travel Agents [ABTA] 2020), but will also need to involve local communities to ensure all needs are met, and place a renewed emphasis on equality and human rights, as it empowers women and vulnerable communities working in the tourism value chain (UNWTO 2020).

The Travel & Tourism sector relies on healthy and thriving ecosystems, with many tourist activities being based on the use of natural resources. Despite generating funds for conservation and raising awareness about the value of biodiversity (International Union for Conservation of Nature [IUCN] n.d.), the sector is aware of the impact it can have in terms of water consumption, general waste and air pollution (Lemma 2014). An increasing and particularly visible area of concern is the pollution caused by SUPPs, namely products that are designed to be used only once before being thrown away or recycled. SUPPs are for the most part problematic or unnecessary when they are not reusable, recyclable or compostable; contain chemicals that pose a significant risk to human health or the environment; can be avoided while maintaining utility; hinder or disrupt the recyclability or compostability of other items; and/or have a high likelihood of ending up in the natural environment as litter.

Many players have recognised the urgency of the SUPPs problem and have started to take action. Nevertheless, the sheer number and diversity of value chain actors in the Travel & Tourism sector further enhance the complexity of collaboration. Still, much remains to be done to unite stakeholders around collective actions that are based on a deeper scientific understanding of the impacts of SUPP pollution but also the impacts associated with alternative products and services.

This report aims to better understand SUPPs within Travel & Tourism, document the relationship between the two, as well as provide recommendations for impactful actions to reduce the overall consumption of SUPPs and promote circularity.

1.1 SINGLE-USE PLASTIC PRODUCTS & THEIR IMPACT ON TOURISM DESTINATIONS

Historically, SUPPs have been popular within the Travel & Tourism sector. Operationally, they facilitate compliance with health, safety and hygiene expectations, they are lightweight, cheap, readily available and are convenient for both employees and customers. Moreover, in certain cases, SUPPs can be mandated in standard operating procedures, to comply with ratings classification requirements or even in response to illness outbreaks.

Whilst limited and often anecdotal, research has shown a potential link between tourism arrivals and plastic pollution. Workers in the waste sector in Zanzibar, for instance, reported collecting larger amounts of waste during peak tourism times and observed that the largest contribution to waste was from plastics that are generated from tourism activities (Maione 2019). A WWF (2019) report also highlighted that plastic waste produced in the Mediterranean increased by up to 30% in the summer months, correlating with tourism seasonality.

Today, around 90% of ocean plastic is derived from land-based sources (WasteAid 2020). This is the result of high use of single-use products and plastic packaging, inadequate waste management systems, unregulated landfills and insufficient recycling rates. According to a UNEP report (2014), the annual damage of plastics to marine ecosystems amounts to US\$13 billion per year. The impact is also evident on natural systems such as forests and waterways upon which tourism depends (World Economic Forum, Ellen MacArthur Foundation, McKinsey & Company 2016, p.29). For instance, following a period of heavy rainfall in July 2011 in Geoje Island, South Korea, a significant amount of marine debris was deposited on the island's beaches. As a consequence, visitor numbers subsequently fell by 63%, resulting in a loss of revenue ranging between US\$29-37 million (Jang *et al.* 2014, pp.49-54).

The EU Urban Waste Project (Urban Waste, 2021), also assesses the impacts and challenges around plastic pollution in popular urban destinations. In Dubrovnik, for instance, municipal waste increases by up to 400% in summer months, due to the city's popularity. Another example is Florence, which has adequate waste collection for the number of tourists but struggles with waste separation. An additional example can be found in the box below. According to a report by the Travel Foundation published in 2019, the 'invisible burden' of solid waste management is likely to accelerate in the next 10 years as a result of tourism demand, yet municipalities rarely factor in the associated operational costs, which need to be accounted for when rebuilding for the COVID-19 recovery.

Measures need to be implemented to better manage waste, such as increasing frequency of waste collection and availability of equipment where needed. Ultimately, preparing robust strategies to eliminate or significantly reduce SUPP consumption at all stages of the tourism value chain, is vital to minimising these impacts.

Although downstream plastic pollution is the most visible form of pollution, environmental impacts also occur upstream. In fact, as conventional plastics are made from fossil fuels, greenhouse gas (GHG) emissions are created at fossil fuel extraction stage and also later in the production and processing of plastics, which requires energy. While the contribution of plastic production and burning to climate change is currently relatively small compared to other fossil fuel use, if plastic use and production continues to increase on the current trajectory, by 2050 plastic pollution alone could be responsible for 13% (WWF 2019) of the total global carbon budget.

The solutions to reducing plastic pollution and reducing climate impact of plastics are the same; eliminating use of unnecessary plastics to reduce the total volume of plastic produced and increasing recycling rates.

According to the World Bank report 'Marine Pollution in the Caribbean: Not a Minute to Waste' (2019), there are as many as 200,000 pieces of plastic per square kilometre in the north-eastern Caribbean, which eventually break down into microplastics. In addition, an average of 2,014 items of litter per kilometre were discovered on beaches and coastal areas, compared to a global average of 573 items. This poses a threat for the local population as well as for future Travel & Tourism in the region. As the most tourism intensive region, with over 30 million overnight tourist visits in 2018, Caribbean coastal areas are vital to the region's tourism development: accounting for US\$5.7 billion in gross revenue from marine and coastal tourism in 2017.

The Tourism & Food service industries have been identified as major contributors to plastic waste. The increase in food and beverage outlets serving both visitors and the local community resulted in the proliferation of plastic and expanded foam products. A 2010 study by Kinnaman noted that 10% of daily refuse in the eastern Caribbean is generated by tourism activities, with 25 to 30% of landfills in the region dedicated to plastics (Tsakona and Rucevska 2020). This imposes a significant burden on disposal sites and waste management capabilities.

Challenges associated with waste management in the Caribbean are further amplified by the high cost of small-scale waste collection and disposal, as recycling requires infrastructure and poor waste management can result in health and pollution problems.

Source: The Plastics Landscape, risks and opportunities along the plastics value chain, 2019, and UNEP, Addressing marine plastics: A systemic approach - Recommendations for action, 2019

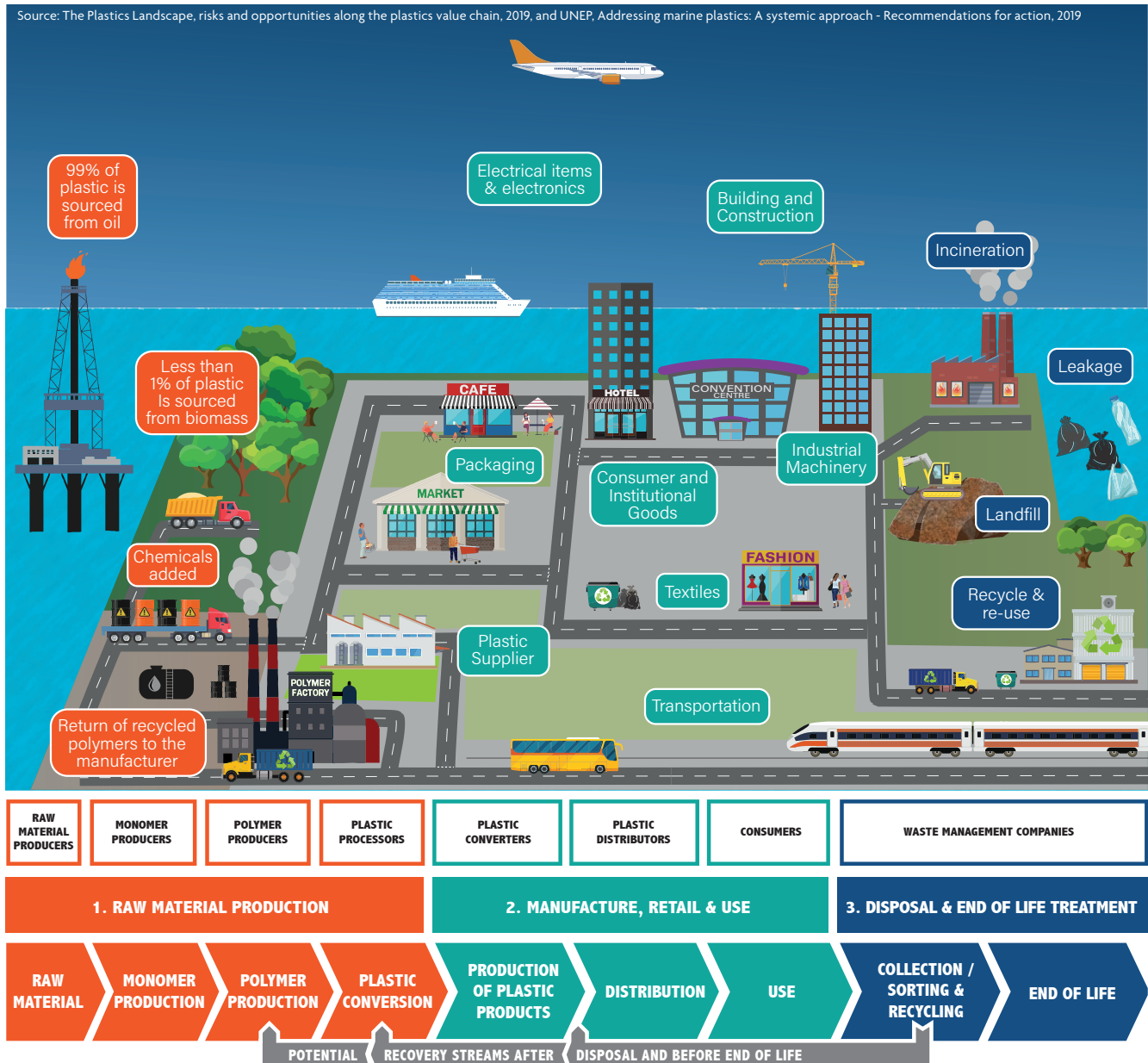


Figure 1: Linkages of plastics within the Travel & Tourism value chains, adapted from Principles for Responsible Investment (2019) and UNEP (2019).

1.2 METHODOLOGY

This report, which uses a novel desk-based analysis of procurement data submitted by various actors in the Travel & Tourism sector, including WTTTC members, enabled the provision of a preliminary overview of hotspots in the Travel & Tourism value chains. A hotspot is regarded as a component of the system, that directly or indirectly contributes to plastic leakage and its associated impacts, and that can be acted upon to mitigate this leakage. A hotspot can either be a geographic location or an element of the plastic value chain.

For this research, an analysis of products was based on data submitted by 69 hotels in destinations across Europe, the Caribbean, the Americas, the Middle East and South-East Asia, predominantly operating on an all-inclusive model and appealing to a broad range of guest demographics, from family groups to the adults only and luxury markets. The data was self-reported, either extracted from purchasing accounts or based on waste composition analyses commissioned by the hotels. Some items were missing from many business data submissions, such as food packaging and cling film, potentially suggesting that the awareness of these items as SUPPs is lower. The average use was calculated only based on hotels that did include them. For these reasons, this data may not be fully representative, but remains a good foundation on which to build a better understanding over time.

In addition, an estimate was produced of all plastic waste, not just SUPPs, generated by a few key Travel & Tourism sub-sectors¹, by combining various existing data at the global level, such as guest numbers and reported waste per guest. Given that data reliability varied significantly across sub-sectors, sufficient data for an initial estimate was only available for the accommodation, aviation, cruises and meeting & events (MICE) sub-sectors. It is important to note that the contribution to pollution is assessed as a function of the quantity of plastic waste and the risk of its leakage. It does not consider toxicity and specific environmental and health effects caused by different types of plastics.

The data that was collected, together with a review of a wide array of existing reports and interviews, as well as practical experience of working with Travel & Tourism businesses, form the basis for subsequent recommendations for private and public sector actors to address the known and hidden hotspots highlighted in this report. While the recommendations are universal, they also aim to capture the nuances associated with geographical regions, brand standards and cultures. Still, their interpretation should be adapted to the local context.



2

PLASTICS IN THE TRAVEL & TOURISM VALUE CHAIN & ITS HOTSPOTS

The Travel & Tourism value chain is the entire sequence of activities or parties that provide or receive value in the form of tourism products or services, such as suppliers, outsourced workers and contractors, and their relationships and dynamics. In the context of plastic pollution, this implies the inclusion of products used by tourism businesses directly, but also products used throughout the value chain by all stakeholders. For instance, to grow fruits and vegetables served by tourism businesses, horticulture growers may use plastic materials for crop covering, soil mulching, packaging, containers, pots, irrigation and drainage pipes, some of which may leak into the environment.

Figure 2² maps where SUPPs occur in the Travel & Tourism value chain, building on UNEP's Travel & Tourism value chain map and a map of global plastics value chain and losses to the environment.

1 Sub-sectors are identified as: accommodation, aviation, cruises, meetings & events, attractions, restaurants, tours and other transport.
 2 Whereas tourism industries are referred to in the value chain map, the report refers to the industries as 'sub-sectors'.

TOURISM VALUE CHAIN MAP WITH KEY PLASTIC PRODUCTS AND USES

Adapted from UNEP (2019)

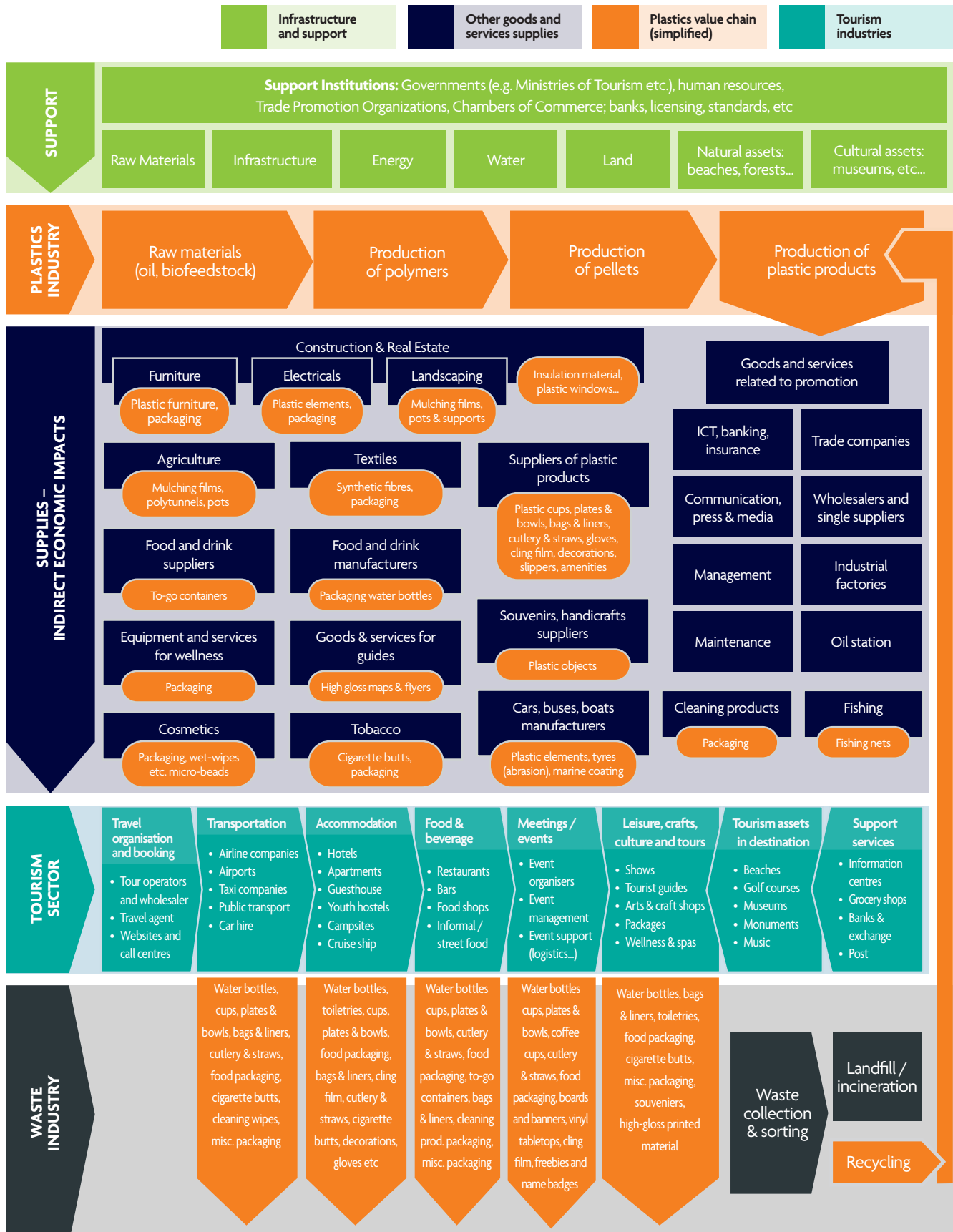


Figure 2: Travel & Tourism value chain: where SUPPs occur

2.1 HOTSPOTS ALONG THE TOURISM VALUE CHAIN

A hotspot is regarded as a component of the system that, directly or indirectly, significantly contributes to plastic leakage and its associated impacts which can be acted upon to mitigate this leakage. A hotspot can be a geographic location in a country or an element of the plastic value chain.

In this analysis, hotspots are considered through four lenses: an analysis of high-level sub-sector data on plastics; the quantity of SUPPs that are purchased and used by Travel & Tourism businesses; the means by which they leak into the environment through different pathways and waste management systems; and the geographies or destinations where this is most likely to happen.

2.2 SUB-SECTOR LENS

Travel & Tourism consists of several sub-sectors, such as accommodation, MICE, aviation and cruises. Each sub-sector has its own characteristics when it comes to the use of plastic products and their disposal.

Based on available data³, all sub-sectors are equally relevant when trying to tackle plastic pollution in the sector. The accommodation, MICE and aviation sub-sectors appear to generate similar volumes of waste each year based on number of guests (Table 1) and estimated waste per guest (International Tourism Partnership 2014; International Air Transport Association [IATA] 2014; Meet Green 2017; Powerful Thinking 2015). While cruises generate lower volumes, as they have fewer guests compared to other sectors, they are still a similarly significant source of pollution due to high waste generated per guest (Butt 2007) as well as proximity to the marine environment and risk of littering. The reason the risk of leakage in the aviation sub-sector is considered to be lowest, at least in high and high-medium income countries, is the strict cabin waste regulations in those countries. There are in fact additional bio-security measures in place to ensure that cabin waste, especially from international flights, does not escape into the environment. For the accommodation and MICE sub-sectors, the availability of waste services will significantly influence the leakage risk and impacts.

Sub-sector	Global guest numbers per year ⁴	Risk of leakage ⁵
Accommodation	4,000 million guest nights (UNWTO 2019)	Medium
Aviation	4,500 million travellers (World Bank 2019)	Low
Cruises	210 million traveller days (Cruise Lines International Association [CLIA] 2018)	High/Medium
MICE	1,650 million attendee days (Allied Market Research 2019; American Express 2019)	Medium

Table 1: Potential contribution to pollution as a function of industry size and the risk of leakage

2.3 PRODUCT LENS

The types of products that are used and disposed of across the Travel & Tourism value chain were also explored, to assess which items stand out in terms of risk of leakage. An analysis of direct SUPP use was undertaken on the basis of product data extracted from purchasing accounts or waste composition analyses commissioned by 69 hotels⁶.

³ Additional information regarding estimates and/or data is available upon request.

⁴ The original document referenced states number of guests, however, it is assumed that these statistics reference guest nights.

⁵ Estimated based on available statistics and information.

⁶ Ideally a similar analysis would be done for other sub-sectors (aviation, cruises, events) and their value chains, but due to lack of data it was not possible at this point in time.

To validate the findings and refine the hotspots, the analysis was supplemented with a review of existing literature. The risk of littering, which depends on the product (e.g. it is higher for a water bottle than a shampoo bottle), was also taken into consideration, in addition to the total weight calculated from the submitted data. The risk of pollution from other pathways is considered to be similar for all products.

Based on this analysis, the SUPPs used in accommodation which are likely to cause the most plastic pollutions are water bottles, followed by disposable toiletries, plastic bags and liners, food packaging and plastic cups. For bottles, disposable toiletries and cups, the awareness amongst the accommodation business is high. In fact, some have already successfully removed them, particularly disposable toiletries (see Case Studies Section 7). On the other hand, the awareness around food packaging also being a significant SUPP is much lower.

According to reported data from the 69 hotels' own operations, 32% of SUPPs by weight was linked to water bottles, 31% to toiletries, 15% to bags and liners, 9% to food packaging, 3% to cups, 4% to cling film, 3% to other miscellaneous packaging, 1% to cutlery, stirrers and straws and 1% to small food products.

#	SUPPs	Risk of littering	Awareness among tourism businesses	Additional evidence
1	Water bottles and other drinks bottles, including caps	High	High	One of the most common items found on the beaches (WWF 2019; Ocean Conservancy 2019), and amongst common items (cigarette butts, wrappers), also one of the heaviest.
2	Disposable toiletries	Low	High	High volume used in hotels.
3	Plastic bags and bin liners	Medium/Low	Medium	Sixth most common item found on the beaches in Europe.
4	Food packaging	High	Low	Consistently one of the most common items found on the beaches (WWF 2019; Ocean Conservancy 2019); 30-40% of all plastic supply is used to produce food packaging.
5	Cups	High/Medium	High	Eighth most common item found on the beaches in Europe.

Table 2: SUPP Hotspots for Travel & Tourism sector

Data was not available, at the time of publication, to enable a similar analysis for all tourism sub-sectors other than accommodation. However, for cruises the types and quantities of plastic products used, per traveller per day, are likely to be similar to hotels. Within the MICE sub-sector, research (Event Manager Blog 2019) suggests that the items of most concern are food packaging and service-ware, water bottles, vinyl banners and polystyrene-core boards, vinyl tabletops, cling film, plastic sheeting to protect carpets before events, giveaways and name badges. For airlines, bottles are probably the most significant item, accounting for 2% of all airline waste (WRAP 2017), followed by cutlery, cups, plastic bags and cleaning wipes.

In addition to the abovementioned products, other relevant products have been documented as contributors to plastic pollution but that are not commonly recognised by tourism value chain actors. These are categorised in this report as hidden hotspots and include items such as cigarette butts, wet wipes, sanitary products, fishing nets, agricultural plastics and tyre abrasion.

Hidden hotspot	Tourism value chain
Cigarette butts: Six trillion cigarettes are smoked every year, of which ¾ are littered and end up in the environment (Novotny and Slaughter 2014).	Customers & staff
Wet wipes, wet toilet paper and sanitary pads are the fifth most common item found on EU beaches (WWF 2019). Many people do not realise they should not be flushed, as they cause problems in sewage systems and end up in the sea.	
Fishing nets make up 46% of plastic debris in the Great Pacific Garbage Patch due to unsustainable fishing and seafood (Lebreton <i>et al.</i> 2018).	Food value chains
Mulching films, poly-tunnels and other agriculture plastics are a growing US\$10 billion industry. As this is a relatively new use of plastic, collection systems are not well developed, and plastic films are hard to recycle.	
Tyre abrasion from road transport is the biggest source of microplastics in the ocean (UNEP 2018).	Transport
Textile washing: Wearing and washing synthetic textiles and fibres sheds microplastics. A lack of filtration systems has made this a significant source of microplastics in the ocean (UNEP 2018).	Operations

Table 3: Hidden Hotspots for Travel & Tourism sector

2.4 GEOGRAPHIC LENS

On the basis of all the leakage pathways considered, including littering, sewage and insufficient waste management, the waste management leakage pathway had the strongest geographical component. This is because the risk of pollution from waste management systems largely depends on the availability of appropriate facilities, infrastructure, regulation, societal norms and their enforcement. Regional differences also play a small role in littering and sewage pathways, such as the strength of societal norms, sewage treatment infrastructure capacity and the prevalence of products such as wet-wipes and small-packaged food items.

Additional geographically dependent risk factors that can lead to high leakage are:

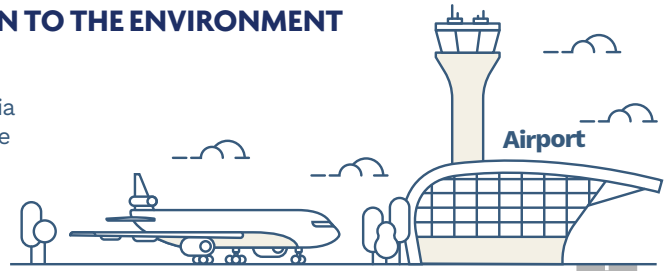
- High cost of waste disposal, creating incentives for waste to be dumped illegally
- Low market price for recycled materials, reducing incentives for recyclers to capture and recycle as much as possible
- Weak regulation and/or regulation enforcement, such as the lack of sanctions for illegal dumping
- Low waste management capacity
- Proximity to coastal areas and waterways

A useful rule of thumb is that about 10% of waste not collected or disposed of in an open dump or non-sanitary landfill will leak into the environment (WWF 2019). The below graph (World Bank 2018, pp.231-257) highlights the global geographical distribution of risks of plastic leakages from waste management systems. At present, more than half of collected waste globally is openly dumped in Sub-Saharan Africa, the Middle East, North Africa and South Asia, putting pressure on waste treatment systems on these regions. An analysis based on the size of the Travel & Tourism sector at the country level and the proportion of mismanaged waste can be used by multinational businesses to prioritise their waste reduction efforts. Based on the proportion of mismanaged waste sites (World Bank 2018), the report has also identified 10 countries where Travel & Tourism

KEY LEAKAGE PATHWAYS OF PLASTICS GETTING IN TO THE ENVIRONMENT FROM TOURISM SUPPLY CHAINS

Source: UNEP/WTTC

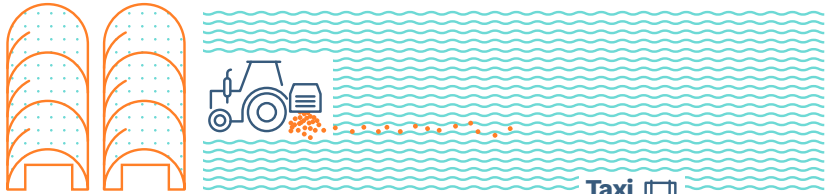
Single use plastic products (SUPPs) leak into the environment via three main pathways: littering, sewage system and inappropriate solid waste management. Solid waste management pathway generally is the largest leak (UNEP 2008). However, SUPPs are more likely to be littered compared to other types of plastics. In high income countries with strongly regulated waste management systems, littering, along with disposal of plastic products such as wet wipes through sewage, are likely the main pathways of plastics getting in the environment.



● = plastic

Poor Solid Waste Management

Leaks can occur in transport (e.g. open trucks), by dumping (on land or in waterways) or from unsanitary landfills and other facilities. High risk in many lower-income countries due to lack of infrastructure, regulation and enforcement.



Farm/food supply



Taxi



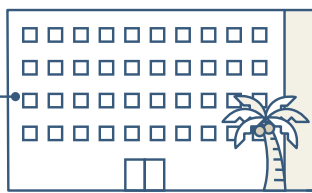
Delivery



Landfill

Sewage system
Items such as wet-wipes, sanitary pads and cotton buds contain plastics and may end up in the environment if flushed down the toilet (e.g. in over-flowing storm events, through sewage sludge applied on fields).

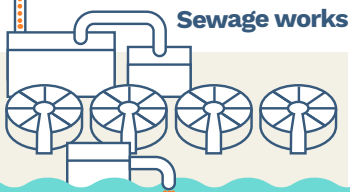
Conference centre



Hotel



Sewage works



Littering

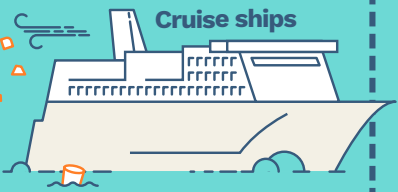
Littering occurs in all countries and regions (UNEP 2008). Most at risk are 'out and about' items such as cigarette butts, food packaging and plastic bottles.



Excursions



Cruise ships



Fishing net



Figure 3: Key leakage pathways of plastics

businesses are encouraged to prioritise their efforts to reduce or eliminate SUPPs: 8 out of 92 countries have established bans of microbeads through national laws, mostly covering personal care products. It is worth noting that 80% of plastic pollution is attributable to about 25 countries. This information can be used by multinational Travel & Tourism businesses, in combination with their own data, to prioritise their efforts.

MISMANAGED WASTE BY REGION
AND ASSOCIATED RISK OF PLASTICS LEAKING INTO THE ENVIRONMENT

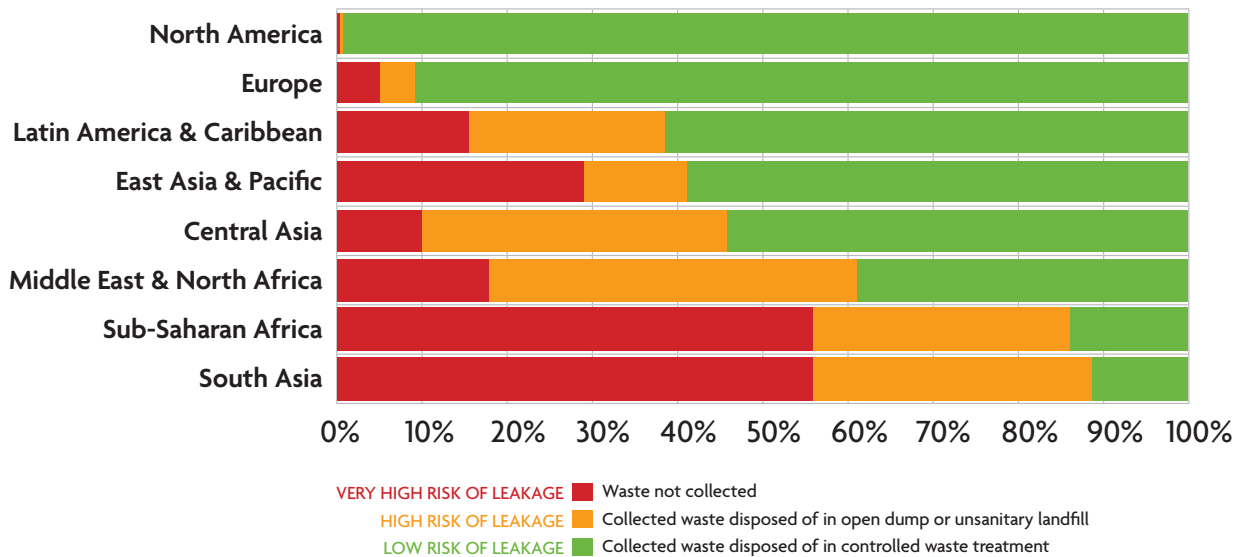


Figure 4: Mismanaged waste by region and associated risk of plastics leaking into the environment, World Bank (2018)

3

TRADE-OFFS

Due to the significant and widespread impact of plastic pollution, global solutions are required. In response to rising consumer concerns around the use of plastic (The Grocer 2018), increasing corporate concerns around losing the social license to operate, as well as the rise of collective commitments like the New Plastics Economy, many organisations have made public commitments to making their products and packaging more sustainable (Packaging digest 2020).

Some organisations have already switched to other innovative products, such as commercially compostable plant-based plastics, single material products that facilitate recycling, and reusable alternatives to everyday single-use products, such as coffee cups. Others are adopting process innovations including reverse vending machines, take back programmes and refill initiatives. At face value, alternatives such as plant-based plastics, bamboo and paper can appear to reduce negative environmental impacts, however, there are still barriers to be considered from decarbonisation to environmental and social standpoints across the product life cycle. In fact, life cycle impacts of products vary significantly from raw material extraction to distribution, use and end-of-life disposal, as demonstrated in Figure 5 below. Decisions around products and packaging need to be considerate of trade-offs, with trade-offs being considered as a consequence, or a series of consequences, of choosing one particular option over another.

To best understand these impacts and increase the visibility of trade-offs, tools such as life cycle assessments (LCAs), which assess the environmental impact of products and services across their full life cycle, can be used to assist decision-making. To date, however, very few LCA methodologies include the impacts associated with littering or marine litter, although there is effort being made to address this limitation through a holistic approach among researchers such as UNEP’s Life Cycle Initiative.

Whilst it is unrealistic to expect businesses and policymakers to undertake LCAs on all consumable products, they must be able to make informed decisions on the basis of the potential impacts of trade-offs and of unintended burden-shifting when considering the transition to alternative processes, products and policies. This is not a straightforward task given the variety of factors which need to be considered.

CHARACTERISTICS OF SINGLE-USE PLASTIC BAGS (SUPB) THAT INFLUENCE THEIR ENVIRONMENTAL IMPACTS

Source: UNEP 2020a

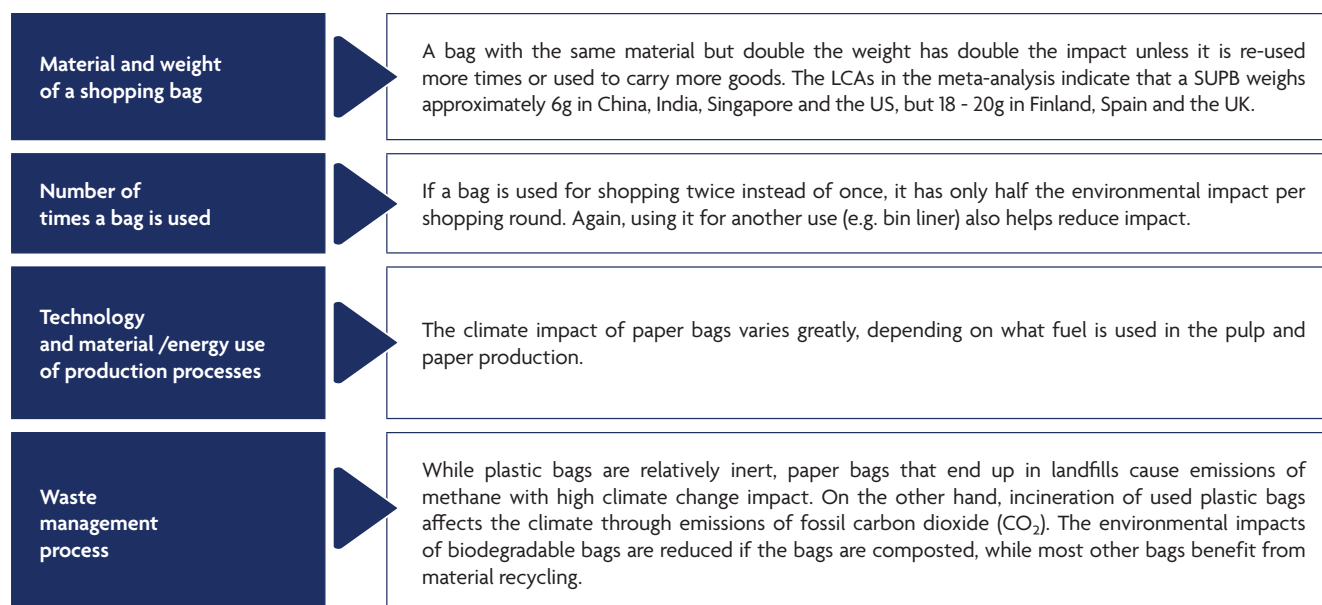


Figure 5: Characteristics of Single-Use Plastic Bags (SUPB) that influence their environmental impacts

Whilst switching to reusable alternatives is always preferred, not all businesses can make a swift transition. It is therefore important to highlight the impact of other single-use materials to enable businesses to make a more informed choice when sourcing replacement products. For example, a single-use paper bag has a higher climate change impact than a single-use plastic bag due to its use of wood, while the plastic bag would create more negative consequences for the ecosystem if littered. As such, the trade-off of choosing something that is better for the climate could lead to an increase in litter (UNEP 2020). This example could be made even more complex, should the plastic bag be disposed of in a controlled landfill site with environmental protections in place, and the paper bag transported thousands of miles for recycling, creating additional negative impacts during transport and possibly during the recycling process, if there are lower environmental standards at that facility. Balancing trade-offs is a complex challenge for Travel & Tourism businesses. In the aviation industry, weight is a critical factor in the assessment of new or alternative in-flight products, to avoid increased fuel burn from transporting heavier items. For instance, replacing all catering products with reusable alternatives would create a considerable weight difference and an increase in CO₂, leading to a range of additional operational issues to be considered. Single-use catering waste is subject to strict disposal rules in aviation. Whilst this is positive in that single-use waste is very unlikely to become litter, these products will be incinerated or buried in deep landfills even if they are recyclable or compostable, in turn causing other environmental impacts. As such, there is a need for a robust procurement approach to consider the issues and trade-offs when selecting approaches to reducing SUPPs.

This report presents useful guidance on which products to focus on, especially for smaller businesses who are unable to commission tailored analyses. It also offers suggestions for solutions through decision trees that incorporate life cycle thinking.

3.1 FACTORS INFLUENCING LIFE CYCLE ASSESSMENTS

Trade-offs are dependent on the context and the situation in specific countries. They will need to account for factors such as geographical context, waste treatment infrastructure, consumer behaviour and social impacts when assessing the life cycle of a product using the LCA methodology or other life cycle thinking approaches.

Geographical Context

Regions where waste management infrastructure is under-developed are far more likely to experience negative environmental impacts from the littering of SUPPs. This is often compounded by the fact that poorer communities need to purchase the more affordable single-serve sachets which are neither recyclable nor covered by Extended Producer Responsibility or other responsible recycling systems.

Furthermore, these regions often depend on an informal sector for collection, separation and processing of plastic waste, which relies on more marginalised members of the community working in poor conditions. Poor environmental management, such as the evacuation of water used to wash contaminated plastics directly into rivers and estuaries, not only impacts the natural environment and its ecosystems, but the health of those dependent on the river as a water source for washing and bathing. These issues are further exacerbated by climate change, as water scarcity becomes an increasingly pressing global concern.

The increasing pressure exerted by climate change on tourism businesses, particularly those in vulnerable destinations with a reliance on the sector, echoes the importance of taking a wider sustainability approach. According to an Intergovernmental Panel on Climate Change Report on Extreme Weather (2019), islands in the Pacific and Indian Oceans as well as coastal cities and resorts in the Caribbean are among those destinations grappling with the potentially disastrous impacts of climate change. In addition to the impact of SUPP waste on the tourism experience, disposing of it often relies on incineration or landfill, which further exacerbates climate concerns given the release of CO₂ from incineration or from the methane produced in landfill.

More needs to be done to enable businesses to make informed procurement decisions that consider the environmental and social impacts of their actions, therefore enhancing the safeguards and protecting the destinations, environment and ecosystems upon which tourism depends.

End-of-Life Treatment

End-of-life treatment needs to be considered when assessing the life cycle impacts of SUPPs and potential alternative products. Generally, LCAs indicate that landfilling is the least preferred option for any material compared to other end-of-life options. In fact, it is estimated that around 79% of plastic waste ends up in landfill or in the natural environment (Schmidt, Krauth and Wagner 2017). In both cases, plastic products break down into microplastics or shed microfibres which can pollute the environment by leaching into soils and waterways. In comparison, cotton, paper and biodegradable materials break down naturally however in doing so, they release methane gas which is known for its high global warming potential. This can be mitigated somewhat if landfill gas is collected for subsequent energy provision.

As landfill space is increasingly limited, incineration is a key waste treatment tool, with approximately 12% of plastic being incinerated. Whether at a facility or via open burning, incinerating plastic creates the most CO₂ emissions amongst plastic waste management methods (Center of International Environmental Law [CIEL] 2019), in addition to releasing harmful gases. This is particularly problematic in destinations where advanced technology to capture gases is not available, or where there is a lack of environmental law or enforcement on emissions. Incinerators also tend to be sited in low-income areas, creating additional health impacts for inhabitants (National Geographic 2019). Yet, advances in incineration technology that can mitigate health impacts are not widely available.

To date, plastic recycling only accounts for 9% of plastic products produced (UNEP 2019); this is because not all polymers are easy or cost effective to recycle. Additional complexities occur when plastic is so tightly bonded to another material. This is the case with paper coffee cups or juice cartons, where separating the layers in order to recycle the plastic is a technical challenge. The correct identification of plastic products and subsequent correct disposal, where a recycling infrastructure is available, is a significant challenge for businesses and waste management facilities. Additionally, many small items such as straws and condiment sachets are not captured in separation facilities, ending up in landfill or incineration.

In many destinations, home compostable and commercially compostable bio-based plastic, which requires adequate separation and a suitable infrastructure for processing, is not available. Differentiating these materials can be a challenge not only because they look and feel the same as traditional fossil fuel-based plastics, but also due to the lack of consistency of product labelling. The mixing of these materials contaminates traditional plastic recycling processes, which may result in everything being sent for landfill or incineration.

Understanding how waste is disposed of in destinations may help businesses to make a more informed choice when procuring consumable products. Equally, understanding the operational requirements of businesses in the Travel & Tourism value chain may influence changes to destination infrastructure and waste management services. The case study provided by Air New Zealand (see section 4.2.) demonstrates the challenges for businesses when waste collection infrastructures are changed.

Consumer Behaviour

The frequency and duration of materials influence the environmental footprint of a product. Therefore the behaviour of the end consumer of the product needs to be considered when assessing its life cycle. For instance, due to the energy and water resources required for production processes of wood and cotton, it is important to encourage consumers to reuse paper bags and cotton bags. In this context, campaigns and gender-responsive educational programmes to incentivise reuse and reduce littering are key to reducing negative impacts, as consumer behaviour plays a pivotal role in reducing plastic consumption and associated pollution.

Social Impacts

The capture of plastic should account for the impact on gender and vulnerable populations. To date, the exposure of the tourism workforce to plastics, hazardous chemicals and resulting health effects during the specific processes of plastic waste management remains unknown. Yet, it is clear that plastic pollution can also result in significant loss of income for tourism businesses and could have a disproportionate economic effect on women given that the majority of the global tourism workforce is female, (World Tourism Organisation 2019).

Social and socio-economic life cycle assessments (SLCAs) add extra dimensions of impact analysis and provide valuable information to traditional environmental life cycle assessments, highlighting which phases of the life cycle of a product are at high risk of impacting on social injustice, including those linked to human rights, working conditions and health and safety (UNEP 2012). While a tourism business may have difficulties in undertaking this analysis across all of its consumable products, it is recommended that it should prioritise suppliers and products which have been certified to certain standards. There is a variety of standards, including Fair Trade products or B-Corporations. A limitation with this approach is that certifications are often costly to smaller, independent suppliers, who may meet social standards but are unable to afford certification, although the B Impact Assessment does enable companies to take the first steps at no cost. Unfortunately, there are not many methodologies that consider both environmental and socio-economic impacts, hence there is a need for simpler tools and information to be made available to support decision-making. The trade-off for businesses should balance both environmental and social considerations when sourcing alternative products to SUPPs. Despite the challenges, it is recommended that companies do take steps to measure impacts to be able to set long term targets and effectively measure progress against them.

Product Packaging

Although plastic packaging is often considered necessary to prevent food waste, the rapid growth in single-use plastic packaging has not demonstrably reduced food waste in Europe (Schweitzer *et al.* 2018). Most plastic packaging remains difficult to recycle or reuse, presenting a barrier to circular economy objectives. The management of food and packaging waste should not be viewed as a solution. Instead, policymakers should look for and implement solutions to reduce packaging as part of a holistic approach to the food system.

3.2 SWITCHING SUPPs FOR ALTERNATIVE SINGLE-USE PRODUCTS

The increasing number of SUPP alternatives available on the market, combined with unregulated use of terminology such as ‘biodegradable, compostable, natural, bio-based and plastic free’, make it challenging for businesses and consumers to procure responsibly and for destinations to effectively and responsibly manage the variety of waste material produced.

A report by UNEP and Consumers International (2020) highlights the lack of consistency in definitions and terminology as a key driver of confusion. It recommends a requirement for standards, labels and claims to better reflect actual conditions rather than theoretical application. For instance, for a product to be labelled recyclable, ‘recyclability’ must be proven to work in practice and at scale. Standards and labels will also need to take the informal recycling sector into account when producing regional guidance on responsible disposal.

In fact, the direct replacement of SUPPs with single-use products of alternative materials does not always generate the best environmental and social outcomes, due to associated trade-offs. However, this research identified direct replacement to be a trend across the accommodation and aviation industries. Given the lack of information on trade-offs coupled with the pressure to comply with legislation and customer expectations, many businesses have procured alternatives that are more costly and non-compatible with local waste infrastructures.

Save the Med, an organisation in the Balearic Islands, designed a rating system for products that considers local legislation and waste infrastructure to help businesses on the islands make conscious decisions. The index allows companies to compare ratings of SUPPs they currently use to a range of alternatives to ensure they choose an option that performs better against a range of criteria. First, the index rates the SUPP with a result out of 10, with products that will be prohibited under the new Balearic Waste Legislation being automatically assigned a score of ten. Then, alternatives are rated based on four key categories, one of which does consider end-of-life scenarios, notably, reusability/circularity; type of material(s) making up the product; capacity of local waste infrastructure to recycle the material(s); and likelihood of the alternative material being prohibited by legislation.

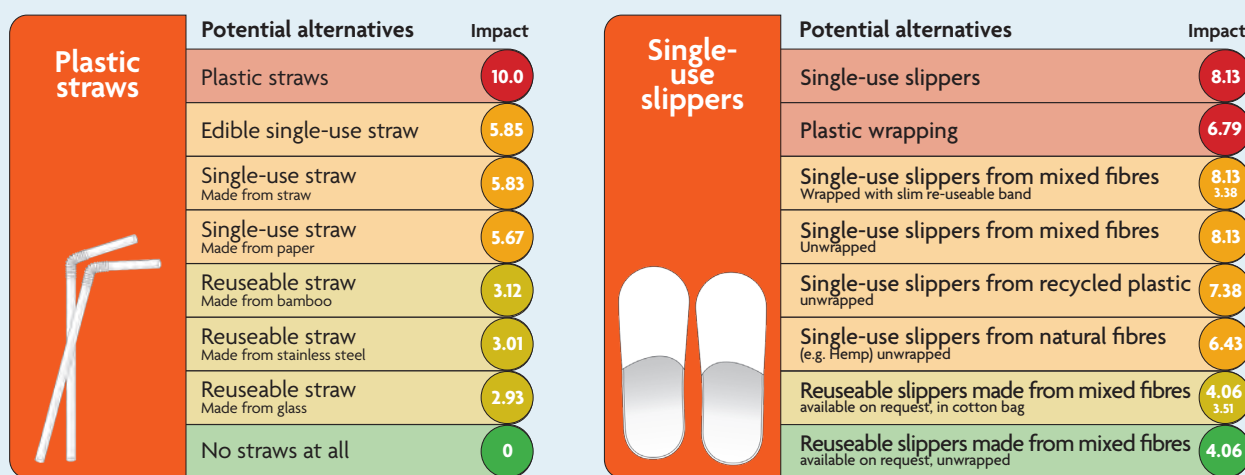


Figure 6: Save the Med SUPP Alternative Index, Futouris (2021)

Environmental impacts have, more recently, been compounded by the impacts of COVID-19. Whilst health, safety and hygiene have long been important considerations for tourism value chain actors, the increased concern around preventing the spread of infection during COVID-19 has resulted in a temporary return to certain SUPPs, such as water bottles and plastic bags as well as the introduction of new SUPPs, including facemasks, containers for hand sanitisers and gloves. This puts additional pressure on waste management systems, many of which were already under stress before this crisis. Together with the environmental impacts associated with incorrect disposal or uncontrolled dumping of potentially infected plastic waste, this could also lead to public health risks. Another concern relates to the surge in use of disinfectant wipes and their disposal in sewage systems. Environmental authorities around the world are urging the public not to flush these items or discard them irresponsibly because they do not readily decompose and can pollute waterways, coastlines and natural environments, and can cause blockages along the entire wastewater disposal system.

While calls to delay the EU Single-Use Plastic Directive as a result of COVID-19 have been rejected by the European Commission, this is not the case with legislation everywhere. In India, for instance, plastic bags are creeping back into use in markets despite a ban implemented in January 2019; meanwhile, in the UK, charges for plastic bags for online grocery shopping implemented in March 2020 are no longer obligatory on a temporary basis as a result of COVID-19 (Government of the United Kingdom 2020).

This pandemic has showcased the vulnerability of global value chains and illustrated the immediate relevance of circular business models in the use of plastics. Travel & Tourism leaders are particularly keen to find solutions that enable them to meet hygiene expectations without creating unnecessary single-use waste. Yet, the sudden proliferation of ‘clean certifications’ and procedures designed to prevent the spread of infection do not encourage businesses to address the issue holistically, with many championing single-use as the answer. It is important to highlight that all products can be contaminated and it is sanitisation and procedures, rather than products, that will prevent the spread of infection.

In addition to the above considerations, Travel & Tourism businesses must also assess operational and economic trade-offs, including price, availability, quality, health and safety, social impacts, usability and customer acceptance of changes to processes or of alternative products, and then plan accordingly.



Considerations for trade-offs	Details	Recommendation
<p>Define Unnecessary SUPPs</p>	<p>The first step should be to eliminate unnecessary SUPPs, which may require changing habits and Standard Operating Procedures (SOPs).</p> <p>GTPI (2020) defines unnecessary and problematic plastic as plastic that is not reusable, recyclable or compostable; that contains, or is manufactured with hazardous chemicals; that can be avoided; that disrupts the recyclability or compostability of other items; that has a high likelihood of becoming litter.</p>	<p>Re-think SOPs with waste reduction in mind</p>
<p>Financial Impact</p>	<p>Many SUPP replacements are more expensive and may require a change in budget allocation, particularly since the COVID-19 outbreak has driven oil prices down, making plastic particularly cheap.</p> <p>Still, as more consumers are willing to pay extra for environmentally friendly products, the need for companies to increase their commitments to responsible business practices is reinforced.</p> <p>Companies across industries have started to lead with purpose, including embracing the circular economy as a greater opportunity to drive growth and competitive agility (Accenture 2019).</p>	<p>Earmark any savings gained by eliminating unnecessary SUPP for replacements.</p> <p>For branded items such as reusable cups, bags, etc. - consider funding these from a marketing budget rather than an operational budget and support this approach with value driven messages.</p>
<p>Usability of Alternatives</p>	<p>Process changes must be accepted by staff if they are to be successful.</p> <p>This may take time to achieve and require changes to physical structures such as kitchen design, dishwashing equipment, storage areas.</p>	<p>Involve staff in decision-making workshops for alternatives or changes to SOPs.</p>
<p>Customer Expectations</p>	<p>Customer expectations vary significantly by demographic.</p> <p>A proactive, benefits-focused communications approach may be required to obtain customer buy-in.</p>	<p>Gauge customers' appetite for change.</p> <p>Whilst health concerns may drive an increase in the use of SUPPs such as masks, it is also possible that these same concerns may favour a reduction in the provision of items such as miniature amenities.</p>

Considerations for trade-offs	Details	Recommendation
Customer Requirements	<p>Some customers may require the use of single-use items.</p> <p>For instance, disability may mean that some customers do need straws when alternatives are suitable, and lids may be necessary for hot drinks if carried by guests.</p>	<p>Determine if your customer demographic is likely to need any specific items, including consulting customer groups and local disability groups, and be clear that these are available so as not to cause embarrassment or issues.</p>
Availability of Alternatives	<p>Not all SUPP alternatives are readily available in all destinations, and not all of them are suitable for local waste infrastructures.</p>	<p>Rather than replacing products, consider changing procedures that may eliminate or reduce the requirement for products.</p> <p>Where alternatives are necessary but unavailable locally, take time to consider the range of trade-offs summarised within this section to support a more informed decision.</p>
Travel Restrictions	<p>Airport operators are bound by the International Civil Aviation Organisation (ICAO) and, more often than not, by law, to place certain items (mostly liquids over 100ml) in sealed, durable, tamper evident bags which subsequently need to be exempt from any prohibition.</p> <p>In other instances, liquor sold in airports is placed in sealed bags to prevent customers from consuming it and becoming disruptive, in other cases glass bottles are placed in bags to help prevent breakages.</p>	<p>Where plastic bags are not necessary, encourage airport vendors to ask customers if they need a bag or if they could instead place the item directly into hand-luggage, particularly for items of clothing or gifts.</p> <p>Offer guests the opportunity to purchase a reusable bag, to choose paper bags or gift wrap.</p>
Health & Safety	<p>Operational changes should consider health, safety, and hygiene requirements.</p> <p>For instance, glass is not recommended around poolsides or on beaches, and refillable amenities require robust SOPs to meet hygiene expectations.</p> <p>Be aware of perceptions - many individually packaged condiments are used to keep buffets tidy or to maximise efficiency of staff time, rather than being a requirement for food safety.</p>	<p>Consult health and safety management companies where relevant for specific advice on meeting legislation whilst minimising unnecessary waste.</p>

Considerations for trade-offs	Details	Recommendation
<p>Hygiene in the context of COVID-19</p>	<p>COVID-19 has encouraged a temporary switch back to some SUPPs as they are often perceived as safer.</p> <p>In some cases, this transition is voluntary on the part of businesses while in other cases is mandated by local authority recommendations.</p>	<p>Complement national and local regulations with five actions recommended by the GTPI (2020):</p> <ul style="list-style-type: none"> • remove unnecessary plastic packaging to reduce cross-contamination touch points • develop cleaning and sanitation procedures that encourage reuse models • evaluate the use of unavoidable plastic packaging and enquiring about their recyclability • engage suppliers, waste management providers and local governments to improve the effectiveness of actions, coordination and resilience • and ensure open communication with staff and clients.
<p>Sustainability Benefits and Burdens</p>	<p>Businesses are unlikely to have access to full and/or easily digestible LCAs or SLCA's when considering the pros and cons of alternatives.</p>	<p>In addition to the information provided in the decision tree (Section 3.3), consider the following potential benefits and burdens:</p> <p>Benefits</p> <ul style="list-style-type: none"> • Product is completely eliminated and not replaced (no waste produced), product sourced is a reusable item • raw materials for product are sourced locally and its subsequent production takes place locally, which can benefit local economies and jobs • product is lightweight therefore reducing associated transport emissions • product is made from fast growing renewable materials, such as wheat and bamboo straws. <p>Burdens</p> <ul style="list-style-type: none"> • Product is not available locally and may result in emissions from transport • product is not accepted by local waste management companies or recycling facilities meaning it is likely to be landfilled, incinerated or become litter • locally sourced raw materials do not guarantee a better environmental impact • product may be associated with poor working conditions during its production phase • production of the product uses significant natural resources and/or chemicals.

Table 4: Considerations on trade-offs when switching from SUPPs to other alternatives

3.3 PRIORITY PRODUCT DECISION TREES

On the basis of the analysis of data provided by the accommodation sub-sector, the five most frequently polluting SUPPs⁷ are water bottles, disposable toiletries, plastic bags and bin liners, food packaging, and cups. To facilitate decision-making processes that consider the environmental and operational trade-offs, simplified decision trees were created for these five key product types. Each decision tree seeks to prioritise elimination of waste first and foremost, but also provides a logical path through the waste hierarchy, highlighting some key pros and cons of each step. Where steps to eliminate or reduce waste are not possible, the minimum desired outcome is to prevent SUPPs from becoming litter. The information provided in the decision trees is designed to inspire thinking and is not exhaustive. In fact, businesses would benefit from carrying out a similar exercise relevant to their own specific situations.



⁷ See section 2.2.2 for full statistics

PLASTIC BOTTLE DECISION TREE



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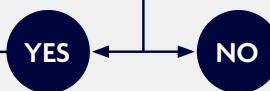
Is safe tap water available?



Eliminate bottled water

+ Benefits	- Disadvantages
Reduced: waste & costs, transport & emissions, storage & refrigeration.	Lost revenue.

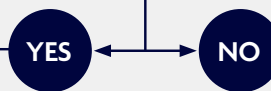
Is the water quality suitable for a water filtration system?



Install water filtration systems and bottle on site in reusable bottles for sale or for self refill

+	-
Reduced: waste & likelihood of litter, long-term cost savings, transport & emissions, storage & refrigeration, maintain revenue stream.	Initial investment, structural & procedure change, customer trust, water wasted by osmosis processes.

Do suppliers of returnable & reusable bottles exist?



Large plastic bottles (for return to supplier & refill)

Glass bottles (for return to supplier & refill)

+	-
Enhanced circularity, reduced waste, cost & likelihood of litter.	Lost revenue if customers refill for free, transport & emissions, storage, heavy to handle, hygiene procedures for guests refilling own bottles.

+	-
Enhanced circularity, premium image, reduced waste & likelihood of litter.	Increased emissions as heavier to transport, increased cost, unsuitable for use at pool and beach, heavy to handle.

Does the country have a good recycling system?



Consider switching to different materials, based on life cycle comparison (sourcing of materials, production methods, waste management infrastructure available, etc.). Consider for instance plastic with high recycled content or aluminium.

Lobby for changes in water quality, engage with supply chain to encourage implementation of any of the above and lobby for improved waste management. Catch waste to prevent it from leaking into the environment.

Continuously re-assess your situation in line with changes e.g. availability of alternatives, legislation and changes to local infrastructure.

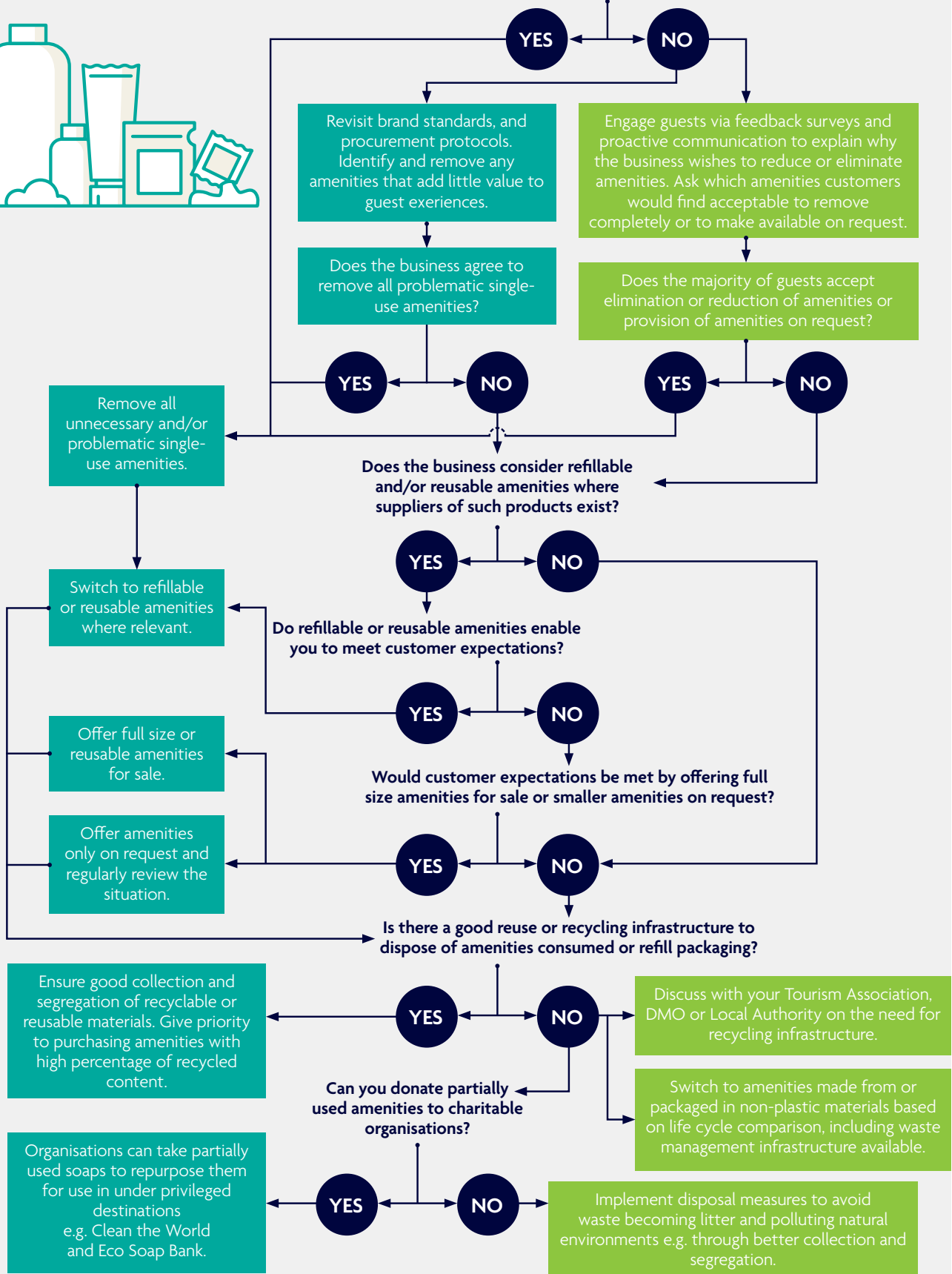
Source: UNEP / WTTC

AMENITY DECISION TREE



START HERE

Can single-use amenities or those that are unnecessary or problematic be removed without compromising existing brand standards and customer satisfaction?



Continuously re-assess your situation in line with changes e.g. availability of alternatives, legislation and changes to local infrastructure.

Source: UNEP / WTTTC

PACKAGING DECISION TREE



START HERE

Is single-use plastic packaging used anywhere within your business (e.g. food and drink delivery, consumable materials, retail items, laundry delivery, cereal boxes, individually wrapped fruit)?



Excellent. Share your success to inspire others.

Can any single-use packaging be replaced with new procedures (e.g. fruits, vegetables delivered in returnable crates, frozen items delivered in returnable cool boxes, laundry delivered in reusable garment covers)?



Eliminate packaging where possible and replace with new procedures.

Train staff on new procedures, ensure health and hygiene standards are met if choosing reusable alternatives and create guest communications to make sure changes are accepted and fully understood.

Can you engage with suppliers to remove or minimise packaging from within the supply chain?



Do public or private sector services exist to collect problematic packaging (e.g. snack wrappings, plastic film)?

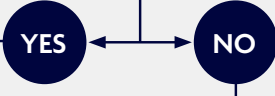


Prioritise suppliers that:

1. Deliver products or services in reusable or returnable packaging.
2. Commit to design alternatives packaging that does not create unintended trade-offs.
3. Provide clear and reliable information on the characteristics of the packaging being used (e.g. recyclability, percentage of recycled material, etc.).

Provide effective means for staff to collect and prepare segregated waste collection.

Are there any livelihood projects that would benefit from problematic used packaging (e.g. crafts people or organisations that create eco-bricks and paving tiles)?



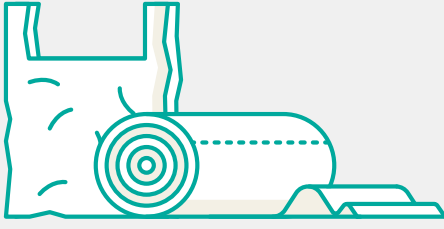
Assist guests and staff in accepting new packaging by explaining why packaging has changed and the associated positive impacts.

Provide customers and staff with clear instructions to dispose of packaging responsibly to avoid waste becoming litter and polluting natural environments.

Continuously re-assess your situation in line with changes e.g. availability of alternatives, legislation and changes to local infrastructure.

Source: UNEP / WTTTC

BAGS & LINERS DECISION TREE



Eliminate bags and liners where possible and replace with new procedures (e.g. waste bins with a removable inner cylinder that can be washed).

START HERE

Are single-use plastic bags or liners used anywhere within your business (e.g. waste collection, guest laundry, glass covers, take-away bags, retail bags)?



Can any bags or liners be eliminated completely and replaced with new procedures (e.g. laundry returned in a basket, ceramic tray for glasses in bathrooms)?



Excellent. Share your success to inspire others.

Can you switch to bin liners made from 100% recycled plastic, home compostable material or line bins with leaves or used newspapers?



Only provide bin liners where necessary and only change bin liners when soiled (may not always be possible in times of illness outbreak).
Ensure criteria for replacing a bag liner are established and clearly communicated to staff.

Do you offer your customers any plastic bags?



Are suppliers of reusable bags available and/or a feasible option?



Provide customers with reusable shopping bags on loan with clear communications on long-term use.

Can you engage with suppliers to remove or minimise use of plastic bags and liners from within the supply chain?



Prioritise suppliers that:

1. Commit to remove bags and liners from their service (e.g. food delivery, laundry).
2. Commit to deliver products and services in reusable or returnable packaging.
3. Offer non-plastic alternatives, based on life cycle comparison, e.g. with high percentage of recycled content.

Priority Option: Encourage customers to bring their own bag or provide non-plastic bags on request and at cost.
Secondary Option: Reduce use of virgin plastic by purchasing bags with highest possible percentage content of recycled plastic or bags that are certified as home or commercially compostable and offer only on request.

Ensure that you provide customers and staff with clear instructions to dispose of bags, liners and their contents responsibly to avoid waste becoming litter and polluting natural environments.

Continuously re-assess your situation in line with changes e.g. availability of alternatives, legislation and changes to local infrastructure.

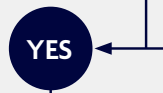
Source: UNEP / WTTTC

PLASTIC CUPS DECISION TREE



START HERE

Are single-use plastic cups (SUPC) used anywhere within your business?



Excellent. Share your success to inspire others.

Do customers consume drinks off site?



Implement a reusable cup lending scheme across business sites or in collaboration with other similar businesses in your area.

+ Benefits

Reduced use of SUPC, innovation factor, unique value proposition or reputation, opportunity for collaboration with other businesses or authorities.

- Considerations

Requires business or local infrastructure, requires sufficient cooperating businesses to be successful, requires strict hygiene standards and initial investment costs may be high.

Incentivise customers to bring their own reusable cups or levy a charge on single-use cups.

+ Benefits

Reduced use of SUPC, reduced costs, quick and easy to implement, discounts are already popular, good communication increases awareness and sustainability reputation.

- Considerations

Requires changes to serving processes to meet hygiene standards, staff training and levies may drive customers elsewhere.

Choose non-plastic alternatives based on life cycle comparison (sourcing of materials, production methods, waste management infrastructure available, etc.)

+ Benefits

Improved reputation, reduced reliance on virgin plastic.

- Considerations

Does not reduce single-use waste, risk of 'greenwashing' and burden shifting, lack of waste management infrastructure for appropriate disposal.

SUPC are used to minimise emissions associated with weight (airlines/cruises):

Switch to other single-use materials with lower climate impact (e.g. paper outer with home compostable liner, commercially compostable materials or alternatives made from recycled content).

+ Benefits

Reduced use of SUPC, does not negatively impact emissions and creates good perceptions.

- Considerations

Disposal infrastructure may not exist, source materials may not be more sustainable so LCA comparison may be needed and cost may increase per unit.

SUPC are used for cost reasons:
Re-distribute budgets to implement returnable cup scheme (e.g. reusable branded cups covered by marketing department, not by food and beverage).

+ Benefits

Reduced waste, improved reputation and perception, reduced costs over time.

- Considerations

Investment in stock, changes to operational processes and infrastructure, staff training and possible theft or loss of stock.

SUPC are used for health, safety or operational reasons*:
Implement processes that facilitate the use of alternative reusable products and that meet health and safety standards.

+ Benefits

Reduced waste, improved reputation and perception, reduced costs over time.

- Considerations

Investment in stock, shelf life of alternative materials, changes to operational processes and infrastructures, staff training and possible theft or loss of stock.

None of the above are possible at the current time. Are single-use cups disposed of on site by staff or customers?

Implement clear instructions and disposal measures to avoid waste becoming litter and polluting natural environments.



Ensure that customers are fully aware of responsible disposal practices in line with single-use materials and relevant waste disposal infrastructure to avoid waste becoming litter and polluting natural environments.

Continuously re-assess your situation in line with changes e.g. availability of alternatives, legislation and changes to local infrastructure.

*Whilst we acknowledge that single-use plastic items can prevent injury, they are often used to allay concerns around hygiene. It is important to highlight that single-use plastic items and packaging are not sanitization measures in themselves. See Global Tourism Plastics Initiative (2020) - Recommendations for the tourism sector to continue taking action on plastic pollution during COVID-19 recovery. www.oneplanetnetwork.org/get-involved-call-case-studies

4

POLICY LANDSCAPE AND INITIATIVES ON PLASTIC

Governments, sectors and individual organisations around the world have different ways to minimise the use of problematic and unnecessary SUPPs. Examples range from the implementation of bans on specific items, such as plastic bags, to taxation, including consumer levies on plastic bags, environmental taxes on the production of materials based on their environmental impact and waste disposal fees. Waste management policies are also an important tool, including increasing costs associated to incineration and landfill and incentivising recycling and material recovery.

Currently, the majority of public measures focus on plastic bags, followed by other single-use plastic items such as those included in the EU Single-Use Plastics Directive. Most recently, there has been an increased focus on microplastics, such as microbeads contained in personal hygiene products and microfibrils that are shed from synthetic clothing materials. In fact, according to a UNEP review (2018) on legislation relevant to the context of SUPPs, policies are in place in 192 countries. Specifically:

- Plastic bags: 127 out of 192 countries (66%) have adopted some form of legislation to regulate plastic bags. The first regulatory measures targeting plastic bags were enacted in the 2000s and the most common form of regulation is the ban of free retail distribution.
- Other single-use items: 27 countries have enacted some type of ban legislation on single-use plastics, such as plates, cups or straws. None of them are “total”, with some exceptions existing for certain products or materials, such as ‘biodegradable plastics’.
- Microbeads: 8 out of 192 countries, including Canada, France, Italy, the Republic of Korea, New Zealand, Sweden and the UK have established bans on microbeads through national laws, mostly covering personal care products.

Small island states, which face specific social, economic, and environmental vulnerabilities in relation to plastics pollution, are more likely to enact bans on SUPPs. This is likely due to a reliance on and connection to marine ecosystems and tourism impacted by plastic pollution.

Tax regulation is also common, with 29 countries enforcing some type of financial levy on plastic products. For example, Tunisia has implemented an ecotax on any plastic product manufactured or imported into the country (UNEP 2018), while Denmark implements a levy on packaging depending upon the environmental load of the material, including beverage packaging and disposable tableware (National Geographic 2018).

4.1 PUBLIC POLICY INITIATIVES IMPACTING THE USE OF SUPPs IN TRAVEL & TOURISM

A number of public policy initiatives go further than plastic bag bans, in turn having a direct impact on the Travel & Tourism sector, particularly the sub-sectors that provide food and beverage services.

In certain contexts, local authorities are also encouraging the removal of miniature toiletries and amenities from guest bathrooms to reduce the potential for transmission of COVID-19. Whilst being tackled voluntarily by many Travel & Tourism businesses, these items were not previously on the agenda of many destination policies. Although recommendations point to changes being temporary, it is hoped that many businesses will maintain the new policies and adapt brand standards accordingly.

Destination-based bans tend to suggest a switch to biodegradable and compostable alternatives, without assurances that the required waste management infrastructure is in place or that clear product labelling to indicate correct disposal is enforced. According to the International Chamber of Commerce (ICC), end-of-life claims should only be used if waste management facilities are available in those places where the product is sold and those facilities can be accessed by a “reasonable proportion of consumers” (European Bioplastics 2018). As such, businesses should exercise caution when sourcing such alternatives, as the use of environmental claims on packaging is not currently regulated; although there is increasing pressure to see governments take these steps.

Looking ahead, additional research is needed on the impacts of microplastics from biobased polymers as well as on the specific impacts of these measures on the Travel & Tourism sector, given that these policies are generally of a cross-cutting nature and target several industries.

4.2 PRIVATE SECTOR INITIATIVES TO REDUCE OR ELIMINATE SUPPS

The Travel & Tourism private sector, including airlines, accommodation providers, cruises, MICE, and excursion providers are increasingly prioritising plastic reduction initiatives. Many organisations have created their own strategies relevant to their operations, customer demographic and geographies, supported by staff engagement and communication to raise awareness with customers. While for some organisations, plastic reduction has been embedded as a value, many have been stimulated by consumer demand and pressure from operators in addition to preparedness for impending local and regional legislation. Initiatives vary from plastic straw bans to commitments to go completely plastic free. A non-exhaustive list of such initiatives is provided in Table 5:

Sector	Initiative
Hotels	<p>IHG Hotels & Resorts and Marriott International are reducing or eliminating the consumption of SUPPs by banning plastic straws, switching from miniature toiletries to residential-sized amenities, and replacing bottled water with refillables.</p> <p>Accor Group will eliminate all guest-related single-use plastic items in their nearly 5,000 hotels in 110 countries by the end of 2022.</p>
Tour Operators	<p>Intrepid Travel works directly with suppliers and hotel partners to promote single-use plastic-free alternatives to bottled water and food packaging. In 2018, TUI Group introduced a group-wide plastic reduction strategy with a pre-COVID-19 target of reducing SUPPs by 250 million by the end of 2020. It also created guidance manuals for accommodation suppliers, launched a WASTELESS programme on its cruise ships and removed 26 million single-use plastic items from airlines in the same year.</p>
Airlines	<p>Air New Zealand far exceeded its 2018 target to transition 24 million SUPPs to lower impact alternatives within 12 months. This was aided by increased staff awareness as a result of participation in the global Plastic-Free July campaign. In June 2019, Emirates committed to reducing plastic consumption and waste on flights, an action that is expected to remove over 80 million single-use plastic items from landfills every year.</p>
Cruise Lines	<p>In 2019, Royal Caribbean Cruises implemented a paper straw on request policy, extending initiatives to include switching from plastic coffee stirrers and garnish picks to wood and bamboo respectively. Other SUPPs, such as condiment packets, cups and bags, are the focus for 2020. In 2018, Hurtigruten implemented a plan to eliminate all unnecessary SUPPs from its operations, with a clear focus on waste reduction and not one-to-one replacement. Since then, initial activities have achieved a reduction of 32 tonnes of SUPPs. The company has also implemented stricter sustainability demands on suppliers, challenging them to reduce or stop their use of SUPPs.</p>
Meetings, Incentives, Conferences and Events (MICE)	<p>In 2018, Radisson Hotel Group changed brand standards to enable the elimination of SUPPs at events and meetings globally. Prior to this, one hotel was consuming 39,000 water bottles per year on average; a transition to an in-house water filter system implemented across 162 hotels will significantly reduce SUPPs consumption.</p>

Table 5: A non-exhaustive list of initiatives to reduce or eliminate SUPPs

4.3 SECTOR WIDE INITIATIVES AND THE ROLE OF CERTIFICATIONS & QUALITY LABELS

Sector wide initiatives can provide effective platforms to align and enhance international and cross-sectoral efforts to address plastic pollution. For instance, the Global Tourism Plastics Initiative (GTPI) is a sector wide initiative tackling plastic pollution by requiring tourism organisations to make a set of six concrete and actionable commitments by 2025. Commitments include the elimination of problematic or unnecessary plastic packaging, the move towards reuse models or reusable alternatives, the increase in the amount of recycled content, as well as the public and annual reporting on progress. In this context, GTPI acts as the tourism sector interface of the New Plastics Economy Global Commitment, which already unites more than 500 businesses and governments. It is also aligned with the New Plastics Economy vision, framework and definitions to mobilise the global tourism sector towards concerted action against plastic pollution.

Beyond sector wide initiatives, certificates and seals of quality for tourism destinations and businesses are a common method to approach sustainability, with interest in certification systems intensifying considerably in recent years as their value is increasingly recognised within the sector.

Whilst not all systems are explicit about SUPPs avoidance (WWF 2019), requirements do often include general waste reduction, recycling and associated employee training programmes. Examples of such schemes include: the Austrian Ecolabel, EU Ecolabel, GSTC-Industry Criteria, Green Key, Certified, Biosphere, Nordic Swan, Green Globe, Fair Trade Tourism, Viabono, EarthCheck, Travelife, Rainforest Alliance, Blue Flag (Beaches), Blue Flag (Marinas) and Ecotourism Kenya.

The Austrian Eco-Label

A study conducted by the Austrian Ecolabel (2018) demonstrates that certifications can have positive impact on plastic reduction: companies that have been certified under the ecolabel have reduced their residual waste on average by more than 15% and plastic waste by almost 22%. The Austrian Ecolabel also certifies events. Events score higher points if the organisers and/or exhibitors and sponsors completely avoid SUPPs for merchandising and give-aways and the tasting of exhibited products. Where single-use products are required for the service of food and beverages, they are required to comply with EU Standard EN13432 for compostability or to be served in edible waffle cups.

Despite vastly differing opinions on the efficacy of certification schemes and micro-certifications (Hospitalitynet 2020), there is increasing recognition of sustainability labels amongst consumers. The 2018 Edelman Earned Brand study revealed that nearly two-thirds of consumers globally now buy on belief. These consumers will avoid, switch or even boycott brands that do not align with their values, an increase of 13 on the previous year. In terms of sustainable tourism certifications, consumers tend to be driven by those that measure environmental impacts (Lacher 2012, p.149), with the exception of carbon certifications which have the least appeal, as they are associated with limiting personal choices (UNEP 2019, p.44). Under this umbrella, a small range of micro-certifications focus solely on products or brands that are plastic free, although none have full transparency on the criteria, making it difficult to measure their level of reach or success.

4.4 THE ROLE OF CONSUMER BEHAVIOUR

Consumer behaviour is extremely difficult to quantify in LCAs. Yet, it plays an imperative role in the environmental and social impacts of trade-offs. For instance, a cotton shopping bag that is used once and subsequently stored in a drawer has a much bigger environmental impact than a plastic bag which is used once and deposited for recycling.

Communication, education, awareness raising and call to action campaigns by both the public and private sectors are central to creating change at the societal level. Gender and minority responsible messages that resonate with primary audiences are key to driving change and encouraging personal responsibility. For Travel & Tourism businesses, knowing the demographics and values of their target audiences will be of the utmost importance to ensure relevant messaging.

The behaviour of tourists is influenced by the available opportunities and information, hence the need for clear communication. As such, destinations and businesses can influence tourist behaviour to avoid the consumption of SUPPs, for instance by providing drinking water dispensers and informing tourists of local refill apps that they can download and use during their stay. Given that tourists will likely be unaware of how to properly dispose of recyclable materials, destinations should have clearly identifiable recycling bins and images depicting which products can be deposited in them to enable tourism businesses to easily communicate these to their consumers. To positively influence traveller behaviour, Travel & Tourism businesses can:

- Avoid unnecessary merchandise, including reusable bottles and bags that often go unused.
- Inform tourists of plastic reduction measures to which they can contribute, for example encouraging them to travel with a reusable bottle because businesses offer water dispensers.
- Build awareness amongst customer-facing staff to enable them to speak confidently with customers about the measures in place so they can trigger supporting action.

Ultimately, all of the recommendations should be underpinned by communications outreach to all stakeholders.



5

RECOMMENDATIONS FOR TOURISM BUSINESSES & POLICYMAKERS

Given the Travel & Tourism sector's contribution to single-use plastic pollution, albeit to varying degrees, it is essential for the sector to become aware of leakages, impacts, hotspots and hidden hotspots so that it may address them. The identified five frequently polluting SUPPs of this sector are water bottles, disposable toiletries, plastic bags and bin liners, food packaging, and plastic cups. Extending the analysis to identify a 'Top 10' revealed that straws, cling film, gloves, cutlery and crockery make up the remaining hotspot items. Hidden hotspots indirectly linked to Travel & Tourism were also identified, notably, cigarette butts, wet wipes and sanitary items, textile washing, fishing nets, mulching and agricultural films and tyre abrasion.

In light of COVID-19, concerns were raised that new necessary health and safety protocols may lead to more single-use plastic waste both in terms of current hotspot products including gloves, bottles and cleaning wipes, but also new products such as masks, gowns and other disposable protective equipment. These are specifically addressed by GTPI (2020) in the "Recommendations for the tourism sector to continue taking action on plastic pollution during COVID-19 recovery".

As certain regions and countries will have a higher likelihood of being impacted by SUPPs, public and private sector organisations must collaborate in order to prioritise their efforts. In fact, regional and international public-private sector collaboration is key, given the Travel & Tourism sector's ability to transport waste around the globe.

Based on the key findings of this report and drawing upon previous research on SUPP leakage throughout the Travel & Tourism value chain, a range of practical and strategic recommendations is presented for both private and public sector actors. These practical recommendations, which are geared to individual businesses and local policymakers, are included in the decision trees and aim to: reduce and eliminate the most frequently polluting SUPPs, prioritise processes and reusable alternatives, inform procurement decisions and engage customers to support this transition.

The recommendations are structured to follow a hierarchy that prioritises waste reduction and material recovery by reducing the quantity of unnecessary SUPPs in circulation, improving the capture of those that are in circulation to ensure they arrive at suitable waste management facilities and, once there, that they are managed properly and/or recycled accordingly. This approach mirrors that of the GTPI and the New Plastics Economy Global Commitment, with the three intervention areas proposed below being interlinked, and a strong focus on upstream solutions and innovation being required to enable a systematic change towards a greater circularity in the sector. For instance, for Extended Producer Responsibility (EPR) schemes to succeed in collecting legacy plastic, upstream interventions incentivising recycled content are indispensable.

The public sector is encouraged to implement policies that prioritise waste reduction, incentivise product design and innovation for circularity and make material separation and recovery for recycling the easiest and most financially attractive options. Additionally, the public sector is urged to implement public awareness and action campaigns that drive messages around reduced consumption, reuse, litter prevention and responsible disposal of SUPP waste. Given that destinations are heterogeneous in nature, from tourism flows and activities to waste management infrastructure and vulnerability of the ecosystems, there is a need for recommendations to be further developed into specific actions in each of the policy fields and scaled accordingly.

Furthermore, to help multinational players in the sector establish a consistent global strategy and action plan to tackle the issue of SUPPs, international standards that will guide governments in the implementation of appropriate guidelines are required to overcome the disparities between existing national policies. These standards will also help governments to establish clear policies on the elimination or reduction of SUPPs so that suppliers can more easily comply, which will ultimately influence the whole value chain.

Above all, there is a need for coordination between national and local authorities and enhanced coordination across the Travel & Tourism sector and value chain actors, including working in partnership with suppliers of consumable products to identify the best possible alternative approaches.

5.1 REDUCING UNNECESSARY SUPPs CONSUMPTION

The current trend across most businesses is to simply replace SUPPs with single-use alternatives made from different materials, though such replacement may exacerbate negative environmental impacts and do nothing to contribute to an overall reduction of unnecessary waste. These are often the easiest options, as implementing reusable alternatives can require a change in standard operating procedures, brand guidelines, budgets and infrastructures. As Travel & Tourism businesses often cannot conduct LCAs for all SUPPs they consume and their potential alternatives, they rely instead on the information provided by suppliers and retailers. This information can be confusing and advice around responsible disposal is limited and/or not context specific.

In their haste to comply with legislation and/or increased customer expectations around SUPPs reduction, some businesses have adopted perceived greener alternatives, even for items that could be eliminated completely without compromising the customer experience. For instance, instead of replacing plastic combs and toothbrushes with bamboo alternatives and plastic shower caps with bioplastic shower caps, these can be eliminated or made available on request. The costs associated with waste disposal can also play a key role, as many tourism businesses operate on extremely tight margins. Whilst the appetite to reduce SUPPs may be high, it will be a significant challenge in terms of cost both for the purchase and subsequent disposal. The emergence of hidden hotspots in this research also reveals that while the sector cannot eliminate these directly, it can play an important role in terms of education and raising awareness.

Sustainable procurement can play a key role in better managing resources and improving resource efficiency throughout the tourism value chain. By buying more sustainable products and services, incentivising alternative services or products that are designed in a way that favours reuse and decreases impacts across the life cycle, corporate buyers can convey a strong market signal. The establishment of purchasing criteria, such as avoidance of harmful materials and increased use of reusable products or products with recycled content, can help scale the market for these products and services and hence drive markets towards greater sustainability.

To date, policies lack explicit guidance to reduce consumption. While they do advocate for reusable alternatives, new legislation allows the use of 'biodegradable or compostable' alternatives, without the caveat of considering the responsible disposal of these materials relevant to the waste infrastructure in the destination.

Recommendations

Elimination and reduction opportunities mostly occur at the private sector level and will be best achieved through a combination of operational changes that are supported by communications that positively engage customers. However, for these actions to be truly impactful, it is important that processes are given priority over products, so as to drive a reduction in overall consumption rather than a switch in material use.

Businesses are encouraged to review standard operating procedures and brand standards to identify common practices that currently drive the use of SUPPs and address these through the lens of waste reduction, prioritising the reduction of unnecessary consumption. Precedence should thus be given to items that can be completely eliminated without the need for replacement. To be successful, such changes will need to be underpinned by staff training and customer communication.

Changes in policies and infrastructure at the local, regional and global levels, in addition to cross sectoral and public-private collaboration, will be key to success. Reuse models must become the easiest and more affordable options, particularly as many tourism businesses operate within extremely tight margins. Moreover, in order to make such models effective at scale, investment in infrastructure, both regionally and internationally, will be needed. Governments will also need to deliver educational campaigns to raise awareness of environmental and public health issues associated with plastic pollution to encourage action and behavioural change. Industry associations have a role to play in leading by example, conducting research, compiling and disseminating information and providing guidance and best practice examples.

Policymakers must also consider trade-offs and burden shifting when promoting alternative materials to SUPPs, particularly where these recommendations are directly linked to legislation around SUPPs reduction. Recommendations should prioritise reuse models. Policymakers also have an important role to play in incentivising innovation and supporting entrepreneurship around design of reusable products or services that can fully replace SUPPs. Where single-use alternatives are still required, environmental impacts should be mitigated, for instance by requiring the use of sustainably operated forest products and agriculture. Suitable end-of-life infrastructures should also be in place to support the processing of any alternative materials.

Key business recommendations

- Redefine 'unnecessary' SUPPs in the context of own business
- Review operating procedures with waste reduction and circularity in mind
- Avoid replacing SUPPs with other single-use materials
- Give contractual preference to suppliers of reusable products
- Lead by example and report transparently on goals and achievements

Key policy recommendations

- Revise policies and quality standards with waste reduction, and circularity in mind
- Proactively plan procedures that avoid a return to SUPP in the event of illness outbreaks
- Create citizen awareness and action campaigns
- Support research and innovation in product design and service models that decrease the use of single-use products

5.2 INTERVENTIONS TO BETTER CAPTURE SUPPS IN CIRCULATION

Where SUPPs cannot be avoided and continue to circulate, capturing these products to ensure they do not become litter is key for both the private and public sectors throughout the Travel & Tourism value chain. Separating waste for recycling in private sector business premises is undermined if recycling facilities in the destination are not adequate. Whilst separation can help sensitise staff and guests, it can cause demotivation if it becomes evident that the stated recycling targets cannot be met. Additional complexities occur where biodegradable/compostable plastics are difficult to differentiate from fossil fuel plastics, resulting in recyclable waste being sent to landfills or for incineration to avoid the risk of contaminating waste streams.

Currently, there is no regulation of environmental claims and consumer information on packaging and products. A report by UNEP and Consumers International (2020) echoes this challenge, highlighting a discrepancy between what claims say will happen to plastic packaging and what is likely to happen to that packaging in real life, particularly regarding compostability and biodegradability. Guidance on proper disposal is only relevant if consumers and businesses have access to the facilities and infrastructure necessary to properly carry out these processes.

Recommendations

Collaborative actions and policies that dovetail across the public and private sectors are required to better capture plastic leakage/pollution along the tourism value chain. Both have the potential to influence change through awareness-raising and communications to drive action with relevant audiences as well as the harmonisation of approaches to waste separation. Whilst Travel & Tourism businesses can make significant efforts to reduce SUPP consumption, the public sector still needs to ensure SUPPs in circulation are collected and disposed of properly and that increased waste collection capacity considers seasonal tourism flows. Supporting behavioural change around waste separation and increasing recycling rates amongst tourism businesses may require the implementation of fiscal incentives or disincentives in order to be most effective.

Extending the line of sight of businesses and governments to identify and assess hidden hotspots is key to capturing some of the most important polluting SUPPs and addressing them, either directly or in partnership with value chain actors.

It is important to acknowledge the value of the informal waste sector in terms of the capture of SUPPs and its wider positive impacts on society. For instance, relationships between waste pickers and customers in India are helping to transcend social class and build tolerance and understanding amongst communities (beWasteWise 2020). Strengthening the role of the informal sector, by formalising opportunities that create improved livelihoods and protect social welfare rights, will contribute to the Sustainable Development Goals, beyond pollution and the circular economy.

The capture of SUPPs should also consider the impact on the workforce and specifically women and vulnerable populations. For instance, in December 2017, Bali temporarily closed some of its most popular tourist beaches due to an influx of mostly plastic waste on its coastline, leading to economic losses in both the formal and informal Travel & Tourism sectors. Given the high proportion of women employed and employers in the sector, pollution to tourism sites can have a disproportionate economic effect on women and vulnerable populations.

Key business recommendations

- Provide sufficient, lidded bins and ensure regular collection
- Train staff and engage customers with material separation
- Work with reputable waste collectors

Key policy recommendations

- Ensure waste collection infrastructure and management has the capacity for seasonal increases
- Analyse the vulnerable groups impacts of policies related to plastic waste collection, including gender impacts of failure of implementation (e.g. increase in litter)
- Implement tourism education campaigns for capture and correct disposal of SUPPs after use
- Proactively communicate with business and waste collection organisations
- Upgrade voluntary standards to legislation

5.3 INTERVENTIONS TO IMPROVE WASTE MANAGEMENT RECOVERY

Several key factors influence the end-of-life outcome of SUPPs once they are within a waste management facility, namely, capacity, technology, site location and site management. Still, citizens and the private sector have a role to play, which can fundamentally impact the type of waste that ends up at waste management facilities in the first place. For recovery and recycling to be truly successful, businesses and individuals need to take all possible steps to correctly segregate recyclable and recoverable waste correctly. Yet, this requires policymakers' engagement to ensure a much clearer, consistent and enforced labelling of products.

Given that new legislation in many destinations allows the use of 'biodegradable or compostable' alternatives without the caveat of a relevant waste infrastructure, recovery and recycling are considerably hindered as neither technology nor waste pickers are equipped to differentiate between these materials and traditional SUPPs. Similarly, very few destinations have the facilities and technology to capture and process products such as single-use coffee cups due to the tightly bonded plastic lining, or chemically treated plastics often used to extend the shelf life of packaged 'to-go style' foods. What is more, SUPPs such as straws, bottle caps and small format sachets are often too small to be captured and separated by site machinery. The lack of appropriate systems to manage these materials means there is a high likelihood that they will be sent to landfills for incineration or become litter.

Responsible site management at waste facilities also plays a key role in preventing SUPPs from becoming litter. Since plastic waste is often lightweight, particularly plastic bags, it is prone to being blown into and contaminating natural environments and potentially harming birds and other animals that may mistakenly ingest plastic as they forage for food.

Recommendations

To improve waste management and resource recovery, governmental policies and waste management infrastructure need to catch up and keep up with private sector innovation or be developed in tandem, rather than in isolation. Collaboration between destinations is also important, particularly at regional and international transport hubs, to enable better recovery of common materials used by travellers and transport providers. A gap analysis and stakeholder consultations should be undertaken to identify the disparities between waste generated through the tourism value chain and capabilities of local waste infrastructure.

To achieve the long-term goal of waste management facilities becoming resource recovery facilities rather than disposal facilities, there is a need for significant public-private collaboration and investment. EPR schemes can be a key funding source for short and long-term transitions. For instance, one option is to place an obligation on suppliers of SUPPs to contribute financially to technologies and training that enable better capture of SUPPs once at facilities and to solutions that prevent SUPPs from unintentionally becoming litter. This is particularly important in regions where waste is currently poorly managed. Upstream interventions at design stage to increase the demand for and technical feasibility of products with recycled content are an important enabler.

Improvements to waste management and recovery rely heavily on innovation and a considerable mindset change within society. This is already starting to happen in countries such as Sweden, which built the world's first recycling mall, Retuna. Indeed, refill and zero-waste shopping are on the rise globally, with large brands starting to invest in loop systems that enable the reuse of packaging. However, since these approaches are still in their infancy they rely upon voluntary participation, with models geared more towards B2C than B2B, although this is also slowly changing.

In the meantime, financial incentives and disincentives can play an important role to encourage a reduction in overall volumes of waste, implement correct segregation and increase the value associated with recyclable and recycled products. The intent is to drive a more considered approach to waste disposal, which will in turn facilitate the work of the waste management site. Increasing taxation on landfill waste, introducing taxes on virgin plastics and reducing costs for material recovery and recycling are imperative to accelerating the accomplishment of circular economy principles.

Key business recommendations

- Drive demand for products with recycled content through procurement practices
- Collaborate with businesses innovating in the collection of problematic SUPPs
- Leverage finance and public-private partnerships to fund required solid waste and wastewater management infrastructure

Key policy recommendations

- Design legislation with trade-offs and burden shifting in mind
- Ringfence funding for facilities and technologies that maximize material recovery
- Enhance coordination across governmental departments
- Prioritise a unified approach to destination/national requirements and/or legislation
- Create policies that encourage and support hotels, resorts and other tourism service providers to report on volumes of SUPPs, and adhere to standards and/or achieve certifications, ensuring that standards/certifications include criteria on eliminating consumption of SUPPs and non-recyclable plastic

6

CONCLUSION

Addressing SUPP pollution within Travel & Tourism requires a mindset shift of consumers and Travel & Tourism companies alike and significant collaborative action within the entire sector, as well as actors across the value chain. In fact, a transition away from SUPPs will need to be supported by investment in public-private infrastructures, operational changes, policies sensitive to operational conditions, awareness-raising and behaviour change amongst consumers that translates to sustainable booking choices, and innovation by suppliers. It is essential that value chain actors rethink processes that need to be implemented to support sustainable changes rather than having a reliance on SUPPs, a challenge which became much more apparent during COVID-19 with the introduction or reintroduction of SUPPs for hygiene reasons. The perception that SUPPs are more hygienic may inadvertently lead to an even wider spread of infection as 'processes' such as handwashing are replaced with 'products' such as single-use gloves, which, if incorrectly disposed of, can end up as contaminated waste or single-use plastic pollution (World Health Organization [WHO] 2009). COVID-19 provides the opportunity to review and reflect on the changes that are required to build back better.

Businesses should seize this opportunity to break away from brand standards and operating procedures that may previously have paved the way for single-use consumption and to look at these through a new lens that considers waste reduction, hygiene expectations and the customer experience. Previously unthinkable strategies, such as the elimination of customer amenities in certain hotel types and regions, are now proving to be much more acceptable. The very success of Travel & Tourism depends on the integrity of destination environments, requiring sustainability to be a key consideration to ensure long-term success.

The appetite and ability to implement change are not always easy to balance. For changes in Travel & Tourism to be widely implemented, the business case for sustainability needs to be clear, including the customers' expression of willingness to pay for sustainable choices, which is clearly reflected in their booking choices, with the sustainable option being the easiest and most affordable choice for the majority. The current convenience, availability and cost of SUPPs have made them the preferred choice in many situations. As stakeholders increase pressure to tackle global warming and shift investment decisions accordingly, the sector will also need to adapt its approach to dealing with environmental impacts, including SUPPs, aided by clear government policies that create a level playing field in destinations.

To date, the level of effort required to switch from SUPPs in Travel & Tourism to reuse models goes beyond what most individuals and businesses can reasonably invest, leading to a tendency to replace SUPPs with other single-use products. However, this does little to reduce overall waste nor does it address linear consumption habits, instead the burden is shifted and new issues are created. Considerable planning is required by businesses and tourists to switch to reuse-refill models.

Although well-intentioned, SUPP legislation makes it easy for the linear economy to maintain the status quo. While recommendations for compliance include single-use bio-based materials and other single-use products as acceptable 'compostable or recyclable' alternatives, the public infrastructure necessary for their segregation and recovery is not widely available. The issue is compounded by a lack of regulation around marketing terminology and the absence of consistent labelling to enable end users to understand how to dispose of products responsibly and correctly. This requires global harmonisation to ensure widespread clarity, reflecting real-world conditions, for both consumption and disposal. Such action would facilitate purchasing decisions as most businesses and individuals do not have the capacity neither to conduct nor understand complicated life cycle assessments.

Efforts to achieve such changes need to be collaborative, coordinated and streamlined. All stakeholders, including suppliers and producers of SUPPs, must also acknowledge their responsibility to being part of the solution. While innovation is key, it should not be so far ahead that infrastructure cannot keep up. This requires the public sector to find mechanisms to respond more swiftly to ever-changing situations, while being mindful of unintended negative environmental and social consequences, taking into account the informal sector and taking all necessary steps to protect the livelihoods and dignity of those employed in the sector.

While changing mindsets and behaviours is challenging, it is imperative if change is to be meaningful. Training, public awareness campaigns and calls to action need to be considerate of local contexts and audiences. In fact, despite being well-intentioned, generic messages around the importance of reducing SUPPs do little to motivate change unless there is a clear link to why it is important to that specific audience and how people can play their part.

Travel & Tourism businesses and Destination Management/Promotion entities have an opportunity to educate and inform tourists about actions they can take to minimise SUPP use during their travels, ranging from packing decisions to the responsible disposal of single-use waste. This, however, requires tourism businesses to be familiar and up to date with destination legislation and infrastructures. In this context, tourism businesses can also share their own strategies and activities to address SUPP waste amongst peers.

Ultimately, meaningful change cannot be achieved in isolation; it requires all Travel & Tourism stakeholders to come together to address this complex challenge and jointly transform the global approach and mindset relating to SUPPs. WTTC and UNEP remain committed to collaborating to bring a more cohesive approach of the Travel & Tourism sector to effectively address the reduction and elimination of SUPPs by engaging key actors across the value chain, such as businesses including WTTC Members, governments, leading experts, academia, as well as civil society organisations working in this field.



7

CASE STUDIES

7.1 CASE STUDY 1: PLASTICS REDUCTION IN CYPRUS HOTELS (THE TRAVEL FOUNDATION 2011)

Background

Cyprus saw almost 2.5 million tourist arrivals in 2010, with each typical hotel guest producing 1 kilogram of waste every day. Despite its size, the island produces 640 kilograms of waste per capita, 158 kilograms higher than the European average. As such, the Travel Foundation and the Cyprus Sustainable Tourism Initiative ran a pilot project in Paphos, Ayia Napa and Protaras to reduce the use of plastic items within tour operator contracted hotels and self-catering properties.

Strategy

The 28 participating hotels were given training plans, customer engagement tools and a set of guidelines on ways to reduce plastic usage. These guidelines included replacing single-use plastic cups with multi-use durable cups; replacing bottled water with water dispensers and durable cups; limiting bin liner use to bathrooms; installing refillable soap and shampoo dispensers; only providing straws on request; collecting garden waste in trolleys instead of plastic liners; and purchasing cleaning materials in bulk. Over 1,250 staff members from the participating hotels, across housekeeping, maintenance, food and beverage and front office departments, were trained on reducing plastic usage including when to use varying sizes and thickness of plastic liners.

Impact

Among other quantifiable benefits, participating hotels reduced plastic usage by 19% and 27.5 tonnes, with each guest using, on average, 31% less plastic by weight and 1.33 fewer plastic water bottles. The initiative also had a positive effect on the customer experience with over half of respondents saying they felt more positive towards the tour operator, 50% feeling the initiative had a positive impact on their holiday and 93% wanting to see similar projects completed in other destinations. Hotel staff also implemented what they learned in their personal lives.

Challenges

Some of these project challenges were around data collection and data accuracy: the project ran in an extremely busy season, only 21 out of a total of 28 participating hotels submitted data that could be used in the final analysis and it was difficult to persuade guests to complete questionnaires. It also proved difficult to obtain support from hotel managers.

Lessons learned

The reduction of plastic items with hotels achieved good results, was relatively easy to implement and was well received by hotel guests. One hotel in particular achieved excellent results by replacing single-use plastic cups with multi-use durable cups. Given its success, it was decided to extend it to further hotels in 2011 in the resorts of Paphos and Ayia Napa/Protaras to reduce single-use plastic waste by 10% in comparison to the previous year.

The success of the project was, in large part, due to the presence of dedicated project coordinators in each region and strong relationships between resort staff and participating hotels making it easier to implement reduction initiatives. The project successfully demonstrated that significant reductions can be made in the use of plastic in hotels with very little financial expense. Not only did the project generate considerable financial savings for the businesses involved, it resulted in a significant reduction in solid waste sent to landfills.

7.2 CASE STUDY 2: SIX SENSES

Background

Since its inception in 1995, the Six Senses brand, a signatory of the GTPI, has actively reduced its plastic usage. It never offered single-use shampoo or amenity bottles in any of its hotels and over 12 years it completely eliminated the use of plastic straws and successfully installed water bottling systems. As awareness of the impacts of plastics and microplastics on natural environments and health increased, the company took a science-based approach to establish its revised strategy: Plastic Free 2022 (Six Senses 2020). This revised strategy sets the ambitious goal of eliminating all plastic from its 18 resorts and 29 spas in 20 countries by 2022 through waste avoidance instead of waste disposal. Fossil fuel extraction, processing and transportation phases of product life cycles are key considerations in this strategy.

Strategy

The implementation of Plastic Free 2022 started with a pilot program, beginning in 2016, at Six Senses Laamu in the Maldives that sought to identify the remaining challenges and opportunities to further reduce plastic usage. Following the creation of an inventory of all plastic items, each item was systematically removed from use in the resort. This was then scaled up, using metrics and targeted plans, to reduce plastic usage across the entire group. Listed items were categorised under three headings, namely single-use, multiple-use, and long-term use. As a result of this approach, all waste produced, including plastic, is still monitored and recorded in kilograms and this information is used to calculate the total number of plastics eliminated or avoided each year and continues to inform Six Senses strategies.

Plastic Free 2022 is supported by robust staff training, life cycle assessments for each purchasing decision and the involvement of suppliers in targets through suppliers' own commitments to reduce waste. Six Senses suppliers have shown significant support for its purchasing policies, providing solutions to tackle plastic reduction issues, and the hotels have partnered with community organisations to raise awareness of and empower actions towards plastic-free lifestyles. Similar awareness activities are available for interested hotel guests.

Impact

As of July 2019, Six Senses has seen the annual elimination or avoidance of around 5.15 million pieces of across all 18 hotels, accounting for over 1.69 million water bottles, 1.12 million coffee capsules, 26,000 toothbrushes, 460,000 packaging items, 52,000 single-use bags and over 320,000 plastic straws. The brand saw a return on investment in two years and its relationships with suppliers improved. These benefits are complemented by reduced handling and disposal of eliminated items and a reduction of plastic bottle waste and carbon transmissions from transporting water across distances. In addition, food is shipped in FSC-certified, Biobiene wood fibre containers which create healthy compost, eliminating the need for chemical fertilisers and supporting vegetable production in hotel gardens.

Challenges

A significant challenge is that plastic-free products do not always exist, like plastic-free air conditioning units or large-scale alternatives to cling film, slowing down the rate at which plastic elimination can take place. Packaging also continues to represent a major source of waste. The outbreak of COVID-19 also caused an increase in SUPPs for health and hygiene purposes such as Personal Protective Equipment.

Lessons Learned

A truly effective plastic elimination strategy is, in fact, a strategy that actively avoids plastic use from the onset. This begins with awareness of plastic usage across the hotel system and is accelerated by effective, data-driven monitoring of plastic elimination and avoidance, and the active revision of strategies. Partnerships with suppliers, businesses in local supply chains, consumers and the public sector are also integral to success. Elimination of plastic usage requires the cooperation and collaboration of all actors in the value chain. The COVID-19 pandemic highlighted the need for additional research and strategic planning to balance health and hygiene goals with plastic elimination goals. Finally, innovation is also required as organisations can only eliminate plastic where more sustainable options are available.

7.3 CASE STUDY 3: REDUCING PLASTIC USE ACROSS THE TUI GROUP

Background

The TUI Group operates across the tourism value chain and includes accommodation, transport and destination services. At the end of the 2019 financial year, TUI employed 71,500 global colleagues and had 411 hotels, five airlines and 18 cruise ships. While the group has prioritised sustainable development for over a decade, in 2018 it identified resource efficiency and waste management as two priority areas in line with the Sustainable Development Goals. Furthermore, the group's commitment to reducing SUPPs is reinforced in its sustainability strategy for 2020 and beyond.

Strategy

TUI's primary focus is preventing waste by reducing SUPPs. In 2018, TUI introduced a plastic waste reduction workstream, with a pre-COVID target of reducing SUPPs by 250 million by the end of 2020 across the group. Having identified problematic SUPPs across the group portfolio, processes and support materials were developed to implement reduction initiatives and track progress. Guidelines tailored to each Travel & Tourism sub-section were created and training was provided for all staff.

TUI (2019) has made its Plastic Reduction Guidelines for Hotels available on its website in English, Turkish, Spanish and Greek to inspire others and assist in the reduction of SUPP consumption.

Impact

By the end of the 2019 financial year, 197 million single-use plastic items were removed across the group hotel operations with the most common items being straws, cups and single-use plastic cutlery. On cruises, this figure was 31 million plastic products including plastic straws, plastic bags, butter packets, and plastic aprons and on airlines, 27 million SUPPs were removed including cutlery packs, amenity kits and children's activity kits, and replaced with more sustainable alternatives. In destinations, TUI's dedication to eliminating SUPPs expanded into local communities. In Curaçao, an interactive Plastics and Waste curriculum was rolled out to primary students in Grades 5 to 8, encouraging children to care for and act responsibly towards the natural environment.

Challenges

Removing SUPPs on airlines remains a significant challenge as heavier alternatives increase fuel burn and strict requirements complicate waste disposal. In hotels, guest support withers as SUPPs alternatives do not always match guest expectations of service and luxury and are not readily accepted, this is particularly noticeable when it comes to addressing bottled water. Often there are concerns from guests around the safety of filtered water; other challenges are the provision of water for guests to take away on excursions, as glass bottles would not be acceptable for this. The sourcing of suitable alternatives is also a key challenge; individually wrapped tea, coffee and sugar sachets at self-service stations and pre-portioned food items, such as meal boxes and single-use cutlery and plates, are particularly difficult to replace. Added to this is the time-consuming nature of assessing replacements on a product-by-product basis and the difficulty in identifying reliable information due to greenwashing.

Adhering to health and safety standards while eliminating SUPP has been one of the most difficult challenges to overcome and is further compounded by the outbreak of COVID-19.

Lessons Learned

The Travel & Tourism sector can make a real difference by working together and sharing best practices. Buy-in from the entire organisation and establishing a network of colleagues to champion and help implement initiatives are both essential. Finally, commitment to sustainability is a long-term commitment that requires ongoing strategic support.

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