WORLD TRAVEL & TOURISM COUNCIL

A Net Zero Roadmap for Travel & Tourism

Proposing a new Target Framework for the Travel & Tourism Sector

Second Edition

November 2024

United Nations Climate Change

State Tourism Agency of the Republic of Azerbaijan

Foreword

Climate change is here - and it's getting worse fast. The COVID-19 pandemic was a powerful reminder of how deeply connected nature is to the health of our people and our planet and provided an opportunity to rethink how we do business. But now, we need urgent action to shield our economy, businesses and way of life from potentially devastating harm.

We know climate change threatens our survival. A warmer planet means more natural disasters, rising sea levels, water and food shortages, and damage to cultural and natural heritage. It means greater erosion to our coastlines and the loss of ecosystems like coral reefs, which are so vital to the health and competitiveness of our sector. This is a warning we must take seriously.

By working together, we can create healthier, safer, and greener destinations and communities, backed by sustainable industries. A climate-conscious and inclusive Travel & Tourism sector can play a central role in this transition, providing good jobs, stable incomes and protecting our cultural and natural heritage. While climate change itself threatens many destinations, our sector has both a responsibility and an opportunity, to catalyse positive change, especially in high-risk areas.

Because the choices we make today will define the world tomorrow. By raising our ambitions and accelerating our actions, we can have the ability to protect tourism's most vulnerable populations and places. Now is the time for everyone in our sector to step up and help preserve our most valuable assets: our people and our planet.

Together we can meet the Paris Agreement and prevent global temperatures from rising above 1.5 Celsius this century.

As part of this effort, WTTC, UNEP and Accenture launched the 1st edition of the Net Zero Roadmap for Travel & Tourism at COP26 in Glasgow in 2021. The report was endorsed by UNFCCC and is positioned as a key supporting document with the Glasgow Declaration on Climate Action in Tourism.

Crafted in close collaboration with key representatives of the global Travel & Tourism sector, the Roadmap outlines our current status and establishes bold industry milestones for real climate action and emission reduction. It provides a realistic view of the challenges ahead and the ways we can decarbonise to achieve a net zero future.

Ultimately, the Roadmap aims to help protect the beautiful world we share and help address the most urgent global challenge of our time.

This second edition – with support from the Azerbaijan Tourism Board – provides an update on the sector's net zero status quo analysis (including climate targets, carbon intensities and emissions profiles), proposed target corridors, and a decarbonisation action framework. Further, it includes new content on SAF (Sustainable Aviation Fuel) trends, the strategic benefits of sustainability certifications, green financing for SMEs, and the role of tourism boards in decarbonising the Travel & Tourism sector.

Julia Simpson,
President and CEO,
World Travel & Tourism Council

Dr. Jesko Neuenburg,
Managing Director & Global Travel
Sustainability Lead, Accenture

A letter from the chairman of Tourism Agency of the Republic of Azerbaijan

Climate change is one of the greatest challenges of our time. Over the last decade, important progress has been made, including the historic 2015 Paris Agreement, which set a global target to limit global warming to 1.5°C above pre-industrial levels. By 2023, more than 90 countries had communicated net zero emission goals. However, while much has been discussed and agreed upon, the actions required to effectively address this global issue remain insufficient.

The Travel & Tourism sector is a key engine of global economic growth and job creation. Tourism not only carries the responsibility to address climate change but due to its interconnectedness with other industries, also holds the potential to drive transformative change towards sustainability. Important sector-wide initiatives, such as the Glasgow Declaration on Climate Action in Tourism, offer an opportunity to accelerate climate action across the sector, with the aim of halving the sector's global greenhouse gas emissions by 2030 and achieving net zero by 2050.

Azerbaijan has committed to signing this Declaration and, holding the COP29 Presidency, actively advocated for the inclusion of Travel & Tourism within the COP29 Thematic Program. We are convinced that responsible actions by both Travel & Tourism businesses and governments will play a pivotal role in tackling climate change.

Today, tourism policy faces the critical task of developing a sustainable and resilient model that balances the needs of people, planet, and economic prosperity, while aligning with global net zero commitments. The publication of the updated Net Zero Roadmap for Travel and Tourism by the World Travel & Tourism Council (WTTC) represents a pivotal moment for the sector. This updated report offers invaluable insights into the climate challenges facing the Travel & Tourism sector, with a focus on key industries such as accommodation, tour operators, aviation, cruises, OTAs, and travel agencies. Readers of the report will gain a clear understanding of the sector's emission footprint and targets, emission profiles of each subsector, and the challenges levers faced by these industries in their decarbonisation journeys.

Importantly, this report also provides practical, actionable guidance for both businesses and governments on how to achieve net zero targets. It is a phased and balanced approach, highlighting the transition from carbon neutrality to net zero. While vision-building is vital for Travel & Tourism leaders, this report also offers a concrete decarbonisation framework, complete with policy guidelines and actionable steps for those responsible for implementing climate action, whether within government or the Travel & Tourism private sector.

Azerbaijan is eager to build upon the legacy of the COP29 Enhanced Climate Action in Tourism Initiative and to integrate climate action more deeply into our national tourism policy. This report's findings will inform us as we continue to strengthen our own climate action efforts in the Travel & Tourism sector. We invite those operating in or guiding the sector to explore the report's findings to support the development and refinement of their climate action strategies.

Mr. Fuad Naghiyev,
Chairman,
Tourism Agency of The Republic of Azerbaijan

Since the first edition of this report was published three years ago, the world has experienced a continued out-of-control climate change with new heat records set across the entire planet.

The impact has been enormous, not least in the tourism industry where many destinations have not only been negatively impacted, but in some cases devastated. In a world where business-as-usual for Travel & Tourism is no longer an option, acting on the pathways and target corridors presented in this report, is the only way it can maintain its License to Operate.

Niclas Svenningsen
Manager, Programmes Coordination

UNFCCC

Content

In collaboration with

accenture

Executive Summary

The urgency of climate change is clearer than ever, as emphasised by the 2023 Intergovernmental Panel on Climate Change (IPCC) report. Travel & Tourism is both heavily affected by its effects and a significant emitter of greenhouse gases (GHG), meaning the sector itself contributes to the problem. Decarbonising the sector rapidly is therefore critical to reaching net zero by 2050. Businesses are central to this effort, as their investments can drive positive change across entire value chains. Consequently, this report targets private sector leaders, with special focus on selected industries, namely accommodations, tour operators, aviation, cruise, and travel agencies – both online (OTAs), and traditional (TAs).

With a growing urgency to decarbonise across the entire sector, efforts have ramped up in recent years, shifting focus from carbon neutrality towards a true net zero future. This means reducing GHG emissions to zero, avoiding them where possible, or balancing any remaining emissions by removing them from the atmosphere. This report offers an overview of where Travel & Tourism businesses in specific industries currently stand on climate action, highlighting the challenges, opportunities and needs they face. It also presents a 'decarbonisation corridor framework' to illustrate potential net zero journeys for various business types, along with guidance and recommendations for effective climate action.

Highlights of the research include:

- Different industries within Travel & Tourism have varying environmental footprints due to their distinct business models and emission profiles. Even within the selected industries, there are notable differences, underscoring the need for tailored decarbonisation strategies.
- Across the sector, our analysis reveals that while progress has been made, there remains significant room for expanding climate action efforts.
- Of the 250 businesses analysed, 53% have defined a climate target. Of those, 33% are aligned with the Science-Based Target initiative (SBTi) guidance.
- There exists a diverse range of targets across and within the focus industries, differing in metrics, timelines, baselines, and levels of emission reduction commitment, making direct comparisons challenging.
- The entire sector, and individual businesses, need greater alignment, transparency, and consistency in emission monitoring. Currently, the quality and reliability of available data are insufficient, which limits informed decision-making. Regular, comparable insights on Travel & Tourism's emissions are needed for monitoring progress over time, identifying needs, and setting action priorities.

- Continuous monitoring of climate commitments and actions is crucial to improve understanding about the current status quo, measure progress, and assess the potential impact of various efforts to transform the sector.

- All industries face common challenges, including difficulties in measuring emissions - especially Scope 3 emissions, along with a fragmented regulatory landscape, limited government support, inconsistent reporting standards, and insufficient budgets (both internal and external) to support a net zero transition.

- Small and medium-sized enterprises (SMEs) have a harder time defining and following strategic decarbonisation plans, highlighting the need for an inclusive approach in the sector's fight against climate change.

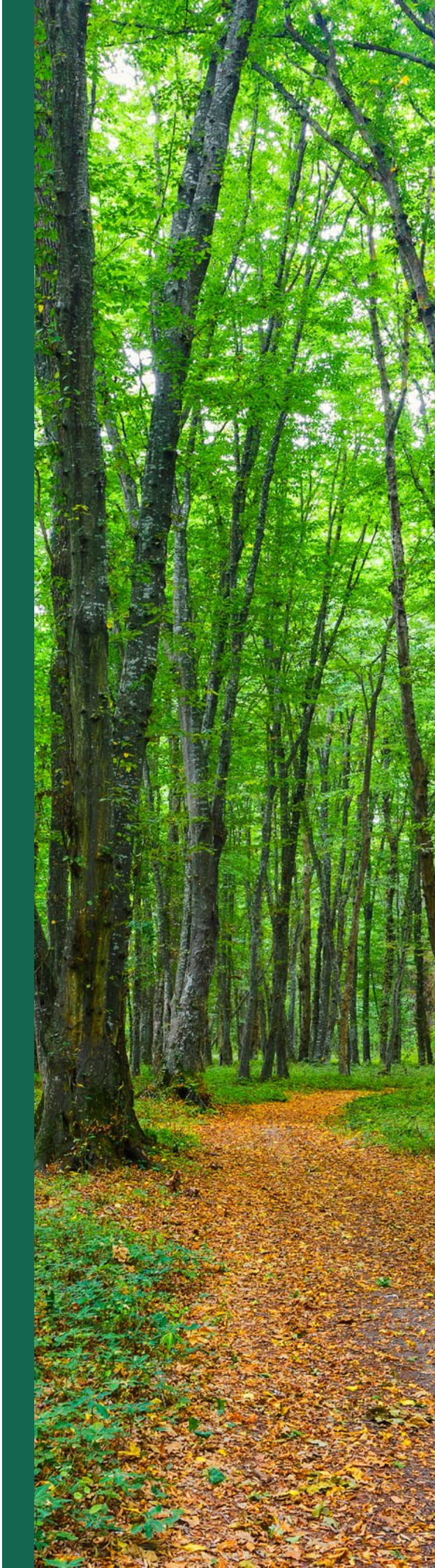
Proposed Target Corridor Framework

To cater to the identified need for further guidance and accelerate existing climate action, a new decarbonisation target corridor framework is presented in this study, comprising three corridors. The short-term corridor (2020-2030), focuses on achieving carbon neutrality through a combination of emissions reductions and removal. The medium-term corridor (2030-2040) aims for net zero emissions across Scope 1 and 2. The long-term corridor (2040-2050) targets net zero across Scope 1, 2, and 3, covering the entire value chain from direct to indirect emissions. Travel & Tourism businesses should ideally set targets across all three timeframes to ensure a balanced and phased approach. To support the achievement of these targets, the roadmap provides an overview of key decarbonisation levers and corresponding action items for each industry in scope.

Call to Action

The target corridors demonstrate that ambitious, tailored decarbonisation strategies could enable some Travel & Tourism industries to reach net zero even before 2050. To heighten ambitions, businesses should:

1. **Set appropriate baselines and emission targets to achieve individual and sector goals for 2030 and 2050**
2. **Monitor and report progress regularly**
3. **Collaborate within and across industries**
4. **Secure the required finance and investment for the transition**
5. **Raise awareness and strengthen climate-related skills and capacities**
6. **Move from planning to implementing net zero actions**



CONTEXT

The Urgency Of Climate Change

Significant milestones have been reached in addressing climate change, including the historic 2015 Paris Agreement to limit global warming to 1.5°C, the adoption of the 2030 Agenda for Sustainable Development with its 17 Sustainable Development Goals (SDGs), and the 2019 UN Climate Action Summit. Most powerfully, an ever-growing global movement led by younger generations is demanding stronger and more targeted actions from governments and businesses. This momentum grew in 2020, with public and private sectors stepping up their carbon reduction and net zero commitments - a trend that COVID-19 accelerated, rather than slowed[1]. By 2024, progress has continued as companies set climate targets with greater urgency, driven by the fast-approaching 2030 deadline and increasing external pressure to meet net zero for many climate goals[2].

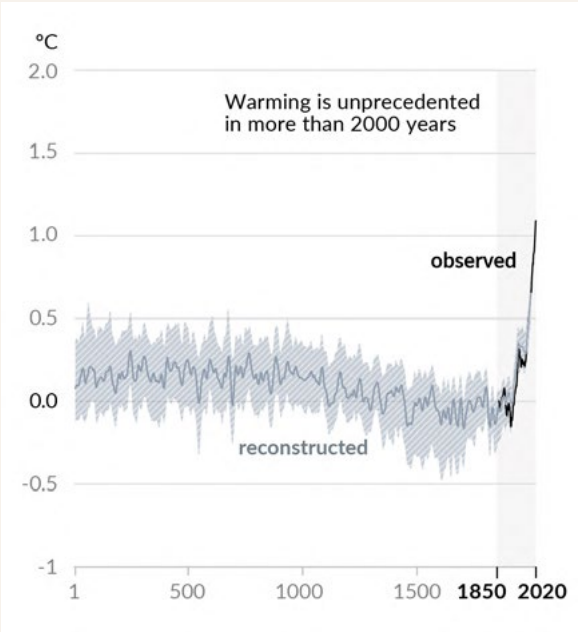
As of 2023, over 90 countries, including top emitters like China, the United States, and India, have communicated net zero emission targets[3]. In the private sector, as of June 2024, around 26% of listed companies have committed to decarbonising in line with net zero[4]. The UNFCCC-backed Race to Zero Campaign, a coalition for net zero efforts, included 9,000 companies, 50 regions and 1,100 cities across 146 countries as of August 2024[5]. Additionally, the Race to Zero's SME Climate Hub has over 6,800 members who have pledged to halve emissions by 2030 and achieve net zero by 2050. Over 2,700 companies have also joined the Science Based Targets initiative (SBTi), committing to specific emission reduction targets (see Exhibit 1)[6].

Exhibit 1: 2021 vs 2024 progress on key indicators

Key Indicators	2021	2024
No. of countries with communicated net zero targets	**59 countries**	**90+ countries**
% of listed companies have made a commitment to decarbonise for achieving net zero	**21%**	**26%**
No. of companies in the coalition of UNFCCC-backed Race to Zero Campaign	**4,470 Companies**	**9,000 Companies**
Members in the Race to Zero's SME Climate Hub	**1,000 companies**	**6,800+ companies**
No. of companies signed up to SBTi, committing to specific emission reduction targets	**1,000 companies**	**2,700 companies**

Changes In Global Surface Temperatures

Global warming is driving major social and environmental changes worldwide. Extreme weather and natural disasters are becoming more frequent affecting - and, sometimes threatening - people's daily lives in nearly all regions. Scientists warn that to avoid severe climate impacts, we must limit the global surface temperature rise to a maximum of 1.5°C compared to pre-industrial levels. Achieving this requires a 45% reduction in global emissions from 2010 levels by 2030 and reaching net zero by 2050. Although this target would still impact health, livelihoods, food security, water supply, human security, and economic growth, it would provide time and opportunity for the environment to adapt to the changing circumstances.



While the rise in climate pledges shows growing global commitment, much work remains for all sectors to adapt to and mitigate climate change. It is crucial to turn ambition into action to minimise impacts.

With climate change affecting sectors and regions differently, it's especially important to protect those most vulnerable to climate risks. Supporting a just transition is equally essential, ensuring that the benefits of a green economy are shared fairly. Both governments and non-state actors must actively commit and contribute to this shared journey towards a low-carbon, healthy, and climate-resilient world.

Climate Change In Travel & Tourism

In recent years, climate efforts in the Travel & Tourism sector have reached a turning point. Governments, businesses, civil society organisations, and destinations are making clear, concrete and increasingly ambitious commitments while working to drive the sector towards a net zero future. This shift is important for several reasons:

- Contributing to 9.1% of global GDP (direct, indirect and induced) and expected to support nearly 348 million jobs worldwide in 2024[7]. The Travel & Tourism sector has long been a key global driver of economic prosperity and employment opportunities. In many countries around the world, tourism presents one of the most important sources of economic income. Furthermore, given the extent and complexity of the Travel & Tourism value chain and its strong interlinkages with other industries, the sector has both a responsibility and significant potential to be a catalyst for profound system change[8].

- While the growth of the sector in the aftermath of COVID-19 has recovered to 2019 levels in almost all regions around the world, requiring an even greater acceleration of decarbonisation and other mitigation efforts, Travel & Tourism will also have to adapt to and prepare for the unavoidable, negative effects of climate change that have already been impacting the sector worldwide. These impacts include extreme weather events, coastal erosion, biodiversity loss, destruction of infrastructure and property, disruption to cultural and natural heritage, as well as increasing stress on basic natural resources among others – all of which are essential to safeguard the health of both hosts and guests, and thus the competitiveness of tourism overall.

- Tourism demand is sensitive to negative economic, environmental, and social impacts, resulting in tourism-dependent businesses, communities, and livelihoods being increasingly vulnerable to the threat of climate change.

In this context, it is essential that the Travel & Tourism sector intensifies its efforts to fight climate change by exploring all available pathways towards net zero with strong, tangible commitments and actions that accelerate change within, and beyond the sector's boundaries. Both business climate commitments and cross-sectoral Travel & Tourism initiatives that bring together a wide variety of tourism stakeholders, and aim to translate signature commitments into real actions, will be key. Current joint efforts in Travel & Tourism include the Glasgow Declaration on Climate Action for Tourism, a multi-stakeholder initiative led by UN Tourism and implemented within the framework of the One Planet Sustainable Tourism Programme. Notably, a diverse group of 902 signatories comprising 96 destinations' tourism boards, 515 businesses and 291 supporting organisations, have come together as the signatories under the Glasgow Declaration[9]. At an individual business level, as of October 2021, a total of 34 Travel & Tourism businesses joined the SBTi (of which 38% are WTTC members) and 39 businesses are officially in the Race to Zero (of which 18% are WTTC members).

Looking Back And Ahead: Tourism Growth

Affordable air travel, growing middle classes, urbanisation, increased connectivity, technological advances, disruptive business models and greater visa facilitation around the world, drove international and domestic tourism growth over the past decades. Before COVID-19, in 2019, the Travel & Tourism sector reached its 10th consecutive year of growth with 1.5 billion international tourist arrivals worldwide and a forecast of continued growth until 2030.

Yet, COVID-19 had a dramatic impact on the Travel & Tourism sector in 2020, making it one of the hardest-hit sectors worldwide. International spending dropped by 69% compared to the previous year, and the sector's contribution to GDP declined by nearly 50%, compared to an overall decline of global GDP of 3.1%. Over 69 million jobs were lost in the sector globally due to the pandemic, particularly impacting Small and Medium Sized Enterprises (SMEs), which account for 80% of all business in the Travel & Tourism sector.

The global Travel & Tourism sector is experiencing a rebound and in 2024, it is expected/will surpass even pre-pandemic levels. Projections indicate that sector's GDP contribution will reach an all-time high of $11.1 trillion, an increase of $770 billion over the previous record. This follows significant growth in 2023, where the sector contributed $9.9 trillion to global GDP, just 4% below pre-pandemic levels and a 23.2% increase from 2022. This ongoing growth is fuelled by both international and domestic tourism spending. International visitor spending is projected to near its pre-pandemic peak of $1.91 trillion, while domestic tourists are forecasted to spend more than in any year on record to hit $5.4TN.

As the sector emerges from the crisis, COVID-19 already demonstrated one major lesson for Travel & Tourism: the future of the sector will depend on its ability to rebuild a more sustainable and resilient tourism model that balances the needs of people, planet, and prosperity, with net zero commitments and climate action playing a key role in this responsible recovery.

The Role Of The Private Sector

As the largest source of potential investment into a green transition, and with the ability to affect positive change across entire value chains, the private sector not only has a crucial role to play, but a responsibility to proactively participate in driving the decarbonisation of the entire Travel & Tourism sector, through active engagement in policy discussions, cross-disciplinary and global collaboration on technology development, rapid generation of knowledge, targeted education, and the promotion of green growth, among other activities. This is especially important for larger businesses, which, in a sector comprised predominantly of SMEs, play an even greater role as enablers and supporters of the Travel & Tourism ecosystem. Beyond responsibility, the benefits from increased climate action are outlined in the following sections.

Business Performance

The adoption of sustainable practices can strengthen business performance through reduced energy consumption and costs, fuel efficiency improvements, waste reduction, increased risk preparedness, as well as increased brand awareness and revenue growth opportunities. These in turn can increase the competitive advantage of a business, and make it more attractive for consumers, employees, and investors.

Increasing Demand

Travellers' awareness of the climate crisis increased continuously over recent years (see Exhibit 2), in turn reshaping expectations. With 83% of travellers confirming that sustainable travel is important to them, 75% of global travellers say they want to travel more sustainably over the next 12 months[10]. This is further supported by the intention of 55% of travellers who indicated that they are willing to pay more to support sustainable travel options[11]. However, not only is travellers' awareness increasing, but so is their actual behaviour. For example, from 2019 through to April 2024, 246 million travellers on Skyscanner have chosen a flight with less emissions than a typical flight on that route[12]. Travel & Tourism businesses can benefit from leveraging their sustainability initiatives. Moreover, in doing so, they have a responsibility to provide accurate and non-misleading information, including for advertising and marketing purposes on the climate impacts of tourism, greenhouse gas emissions and carbon offset activities, which are essential to enable consumers to make informed decisions and address new consumer demands[13].

Exhibit 2: Relevance of sustainability among global travellers[14]

Of global travellers confirm that sustainable travel is important to them

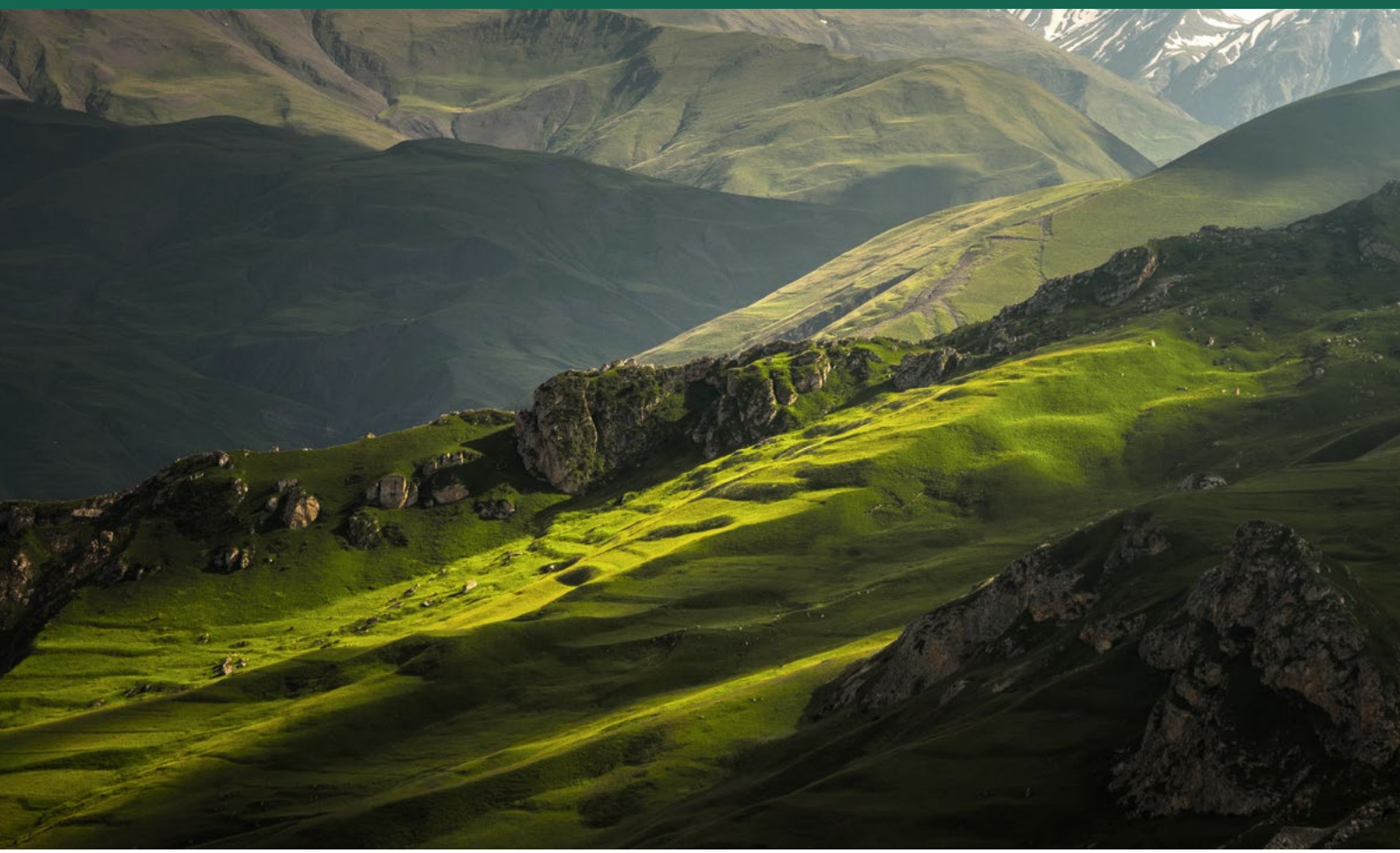
Of global travellers say they want to travel more sustainably over the next 12 months

Of global travellers indicated they are willing to pay more to support sustainable travel options

Regulatory Frameworks

Whilst traveller behaviour is changing, legislation and policy makers are putting increased pressure on Travel & Tourism companies to increase sustainability performance. Indeed, in past years, there has been growing regulatory pressure to monitor and report progress on GHG emissions reduction from industry initiatives, insurers and financial institutions, NGOs, governmental bodies as well as country specific administrations. Targets set within the cruise[15] and aviation industries provide some of the most prominent pressure on the sector[16].

With EU pioneering the establishment of mandatory reporting regulations under the Corporate Sustainability Reporting Directive (CSRD), a broader set of large companies, as well as listed SMEs in the EU are now required to report on sustainability. Working alongside the EU Taxonomy, CSRD rules will be applied for the first time in financial year 2024 for reports published in 2025[17]. The EU has also mandated Sustainable Aviation Fuel (SAF) usage targets, such as the requirement for airports and airlines to use at least 2% SAF by 2025 and 70% by 2050[18] (Under the "Fit for 55" package and the European Commission's ReFuelEU Aviation initiative), driving further environmental accountability. On a global scale, the percentage of public companies disclosing TCFD-aligned information also continues to grow, with 58% of companies disclosing in line with at least 5 of the 11 recommended disclosures in 2022[19]. The International Sustainability Standards Board (ISSB) has further consolidated and built on the work of reporting initiatives like TCFD to empower capital market participants with the right information to support better economic and investment decision-making. As a result of increasing regulatory pressures, companies are developing new capabilities to track relevant regulations and implement effective feedback loops to measure their progress.



About This Report

The updated Net Zero Roadmap is intended to support Travel & Tourism stakeholders, including the private sector and sustainability experts, on their journeys towards net zero emissions. Highlighting key progress made by the sector over the past 3 years, the report places particular focus on creating knowledge about the status quo of emission profiles and the latest climate commitments of the private sector. This includes the most common roadblocks and areas for support, as well as decarbonisation levers that can contribute to the formulation, acceleration, and achievement of net zero targets. The report focuses on specific industries of the Travel & Tourism sector, notably, accommodation, tour operators, aviation, cruise, and OTAs and travel agencies, and offers a decarbonisation framework with specific action tables to support companies in their prioritisation processes. It aims to identify and provide tools and resources to the sector that will encourage collaboration, and support businesses to further prioritise climate action and set high ambitions that will accelerate the change towards a net zero future.

The five industries selected not only represent a significant proportion of the Travel & Tourism sector, but also cover a wide range of different business models, carbon emission profiles, and decarbonisation pathways. Specifically:

- **Accommodation** providers range from multinational hotel groups to small businesses with only a single building. Typical segments in accommodation are hotels, hostels, resorts, vacation rentals, and others.
- **Tour Operators** compose and sell package tours by combining separate travel components from various suppliers, sometimes adding components they provide themselves. This results in a travel product that can span travel, accommodation, transportation, and activities.
- **Aviation** in the context of this report refers to airlines only. Typical segments are low-cost carriers (LCC) and full-service carriers (FSC).
- **Cruise** ships are passenger ships for vacationing. The cruise can act as accommodation, destination and a tour operator at the same time, making it a complex industry. Typical segments are ocean and river cruises.
- **Tourism intermediaries** include a variety of businesses such as Online Travel Agencies, Travel Agencies and Metasearch Engines, and other commercial intermediaries. This group of businesses was selected based on their common role as distribution/reseller and information agents that facilitate both searching and booking of travel products either online or offline. For the report, this group will be referred to as OTAs/TAs.

This report recognises that adaptation and mitigation can be complementary; climate adaptation reduces the risks and costs of climate change impacts, and thus reduces the needs for mitigation. However, adaptation is not covered within this report, which primarily takes a mitigation perspective.

In terms of methodology, this report includes a combination of primary and secondary research methods. As the second edition of the WTTC Net Zero Roadmap for Travel & Tourism, it incorporates the most recent data and insights, drawing from updated databases and current trends. Our approach includes detailed analyses of newly available data, and a review of recent literature to provide a coherent and up-to-date perspective on climate-related developments. Extensive analysis was conducted of documents from academia, international organisations, and Travel & Tourism businesses, including existing climate roadmaps, sustainability reports, traveller surveys, methodology papers, and guides. This research was complemented by expert interviews, as well as industry-specific focus groups, to validate insights and analysis created from the desk research and to gain a deeper understanding of their key challenges and needs.

Terminology And Key Concepts Used In The Report

To generate a common understanding, around some of the terms relating to carbon emissions and efforts to reduce emissions, some of the key terms used in this report are described below:

Carbon emissions and GHG emissions

Carbon emissions and GHG emissions are used interchangeably in this report. Emission calculations are shown in form of CO2 equivalents (CO2e) and include scope 1, 2, 3 emissions, unless otherwise indicated.

Decarbonisation

Decarbonisation in the context of this report refers to all GHG emissions, including CO2.

Carbon neutrality

Carbon neutrality is the balance between emitting, and the voluntary compensation (offsetting) of emissions, to achieve a neutral emission equilibrium. Carbon neutrality refers to emissions in Scope 1 and 2, but not necessarily Scope 3 emissions.

Net zero (emissions)

Net zero (emissions) goes beyond carbon neutrality as it applies to Scope 1, 2 and 3 emissions. The first step towards net zero emissions is to achieve the maximum feasible reductions of emissions. These reductions must be aligned to a 1.5°C science-based target. The second step entails removing any remaining greenhouse gases through greenhouse gas removals. These removals must be at a negative contribution. While offsetting may have a subsidiary role, it must be complementary to real reductions.

GHG Protocol Emissions Categorisation

SCOPE 1

Direct emissions from a business's operations such as fuel combustion, operation of vehicles and fugitive emissions.

SCOPE 2

Indirect emissions resulting from the generation of purchased electricity, heating or cooling and steam by a business.

SCOPE 3

Indirect emissions that occur in a business's value chain such as purchased goods and services, business travel, employee commuting, waste disposal, transportation up- and downstream, investments, leased assets, and franchise activities.

For a more extensive list of concepts and terminologies, please see the Annex.

On The Way Towards Net Zero

A Status Quo Analysis

This section provides an overview of the status quo of decarbonisation in Travel & Tourism with specific focus on the selected industries, including an overview of the sector's estimated pre-pandemic emissions footprint, selected progress examples, insights on climate commitments, and their key challenges and needs.

Travel & Tourism's Carbon Emissions Footprint

Travel & Tourism is a diverse global sector with links to many different sectors, from transport to retail, to agriculture and services industries. Despite the significant carbon emissions associated with its size and economic impact, accurately estimating the precise emissions volume and share of the Travel & Tourism sector – and its various industries – has been challenging. Four major studies examining the sector's footprint were conducted between 2008 and 2019 (listed below), but differences in data sources and methods used have made their findings difficult to compare.

- A study published by United Nations Tourism (UN Tourism), UNEP and the World Meteorological Organization (WMO) in 2008 indicated that Travel & Tourism associated greenhouse gas emissions were estimated to be around 5% (1304 Mt) of global emissions in 2005[20]. This figure included the emissions of three industries, namely transportation, accommodation, and other Travel & Tourism activities, with transport generating 75% and accommodations generating 21% of the overall emissions of the sector. In addition, transport related GHG emissions from tourism represented about 18% of total transport emissions and 3.7% of all man-made GHG emissions.

- Research undertaken in 2018 by Lenzen et al[21]. indicated that tourism's global carbon footprint increased from 3.9 to 4.5 GtCO2e between 2009 and 2013, four times more than previously estimated, accounting for about 8% of global greenhouse gas emissions. In this study, emission shares were 49% for transportation; 12% for retail, 10% for food & beverage services and 6% for accommodations.

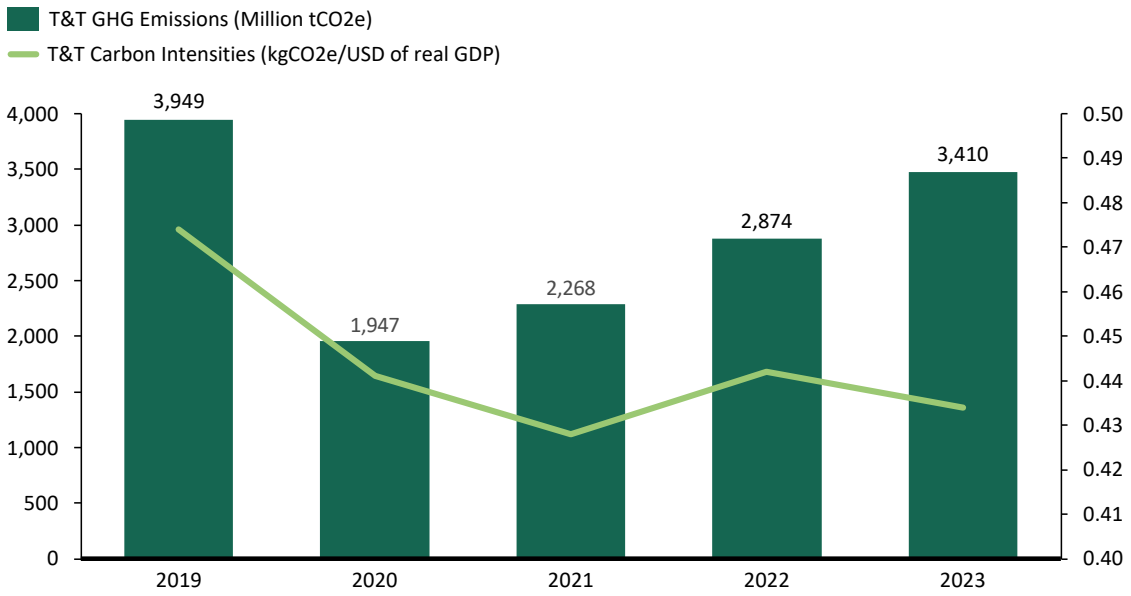
- A 2019 UN Tourism and International Transport Forum (ITF) study noted that transport-related emissions from international and domestic tourism represented 5% of all man-made emissions and 22% of total transport emissions in 2016[22]. While the study did not include estimates on the total emissions from Travel & Tourism with emission shares of the different industries, it indicated an estimated increase of 25% in transport-related GHG emissions until 2030, in a business-as-usual scenario, forecasting that tourism-related transport emissions would account for 5.3% of all man-made emissions by 2030.

In 2022, WTTC, with the support of the Kingdom of Saudia Arabia, launched a major initiative to estimate the full extent of Travel & Tourism's global GHG footprint. The model estimates the GHG emissions produced by the economic activity supported by tourism spend, drawing on tourism spending data from nationally reported Tourism Satellite Accounts (TSAs). This Environmental & Social Research (ESR) allows for comparison between 185 economies globally across time, direct and supply chain impacts, and the sub-sectors that make up Travel & Tourism.

The ESR revealed that in 2023 Travel & Tourism accounted for 6.5% (3.41 billion tCO2e) of all emissions globally, down from 7.8% (3.94 billion tCO2e) in 2019, when Travel & Tourism was at its peak (see Exhibit 3). Part of this decline from 2019 can be attributed to the fact that tourism GDP was still 4% (2023) below its pre-pandemic peak[23]. However, most of the decline can be attributed to an 10.2% decrease in the sector's GHG intensity in the same period (see Exhibit 3). While this demonstrates that the sector's growth is being decoupled from growth in emissions, achieving net zero requires accelerated action in decreasing absolute emissions, not just intensity.

A new statistical framework, the UN Tourism Measuring Sustainable Tourism (MST), was adopted by all 193 UN Member States at the 55th session of the UN Statistical Commission (2024). This framework will allow countries to measure the economic, social, and environmental impacts of tourism. By collecting and analysing data on tourism's emissions, resource use, and social impacts, countries can identify areas where tourism can be made more sustainable. As countries begin to populate this information, it will strengthen existing models such as WTTC's ESR.

Exhibit 3: Overall Travel & Tourism Emission Footprint & Intensities



Note: This graph illustrates the Greenhouse gas (GHG) emissions (measured in million tonnes of carbon dioxide equivalent (tCO2e)) and intensities (measured in kg of CO2e per USD of real GDP) for the Travel & Tourism(T&T) sector from 2019 to 2023, as calculated by WTTC in collaboration with Oxford Economics, using the top-down TSA methodology.

Travel & Tourism Industries In Focus

As there still is a lack of valid estimates for the carbon footprint of the different Travel & Tourism industries, bottom-up

Exhibit 4: 2023 Carbon emissions estimates per industry

Key Indicators	Carbon Emissions (million tCO2e)	Scopes Covered
Accommodation	260	Scope 1&2, Scope 3 (partial)
Tour Operators	N/A	N/A
Aviation	865	Scope 1&2
Cruises	26.4	Scope 1&2
OTAs	~1	Scope 1&2, Scope 3 (partial)
Travel Agencies	N/A	N/A

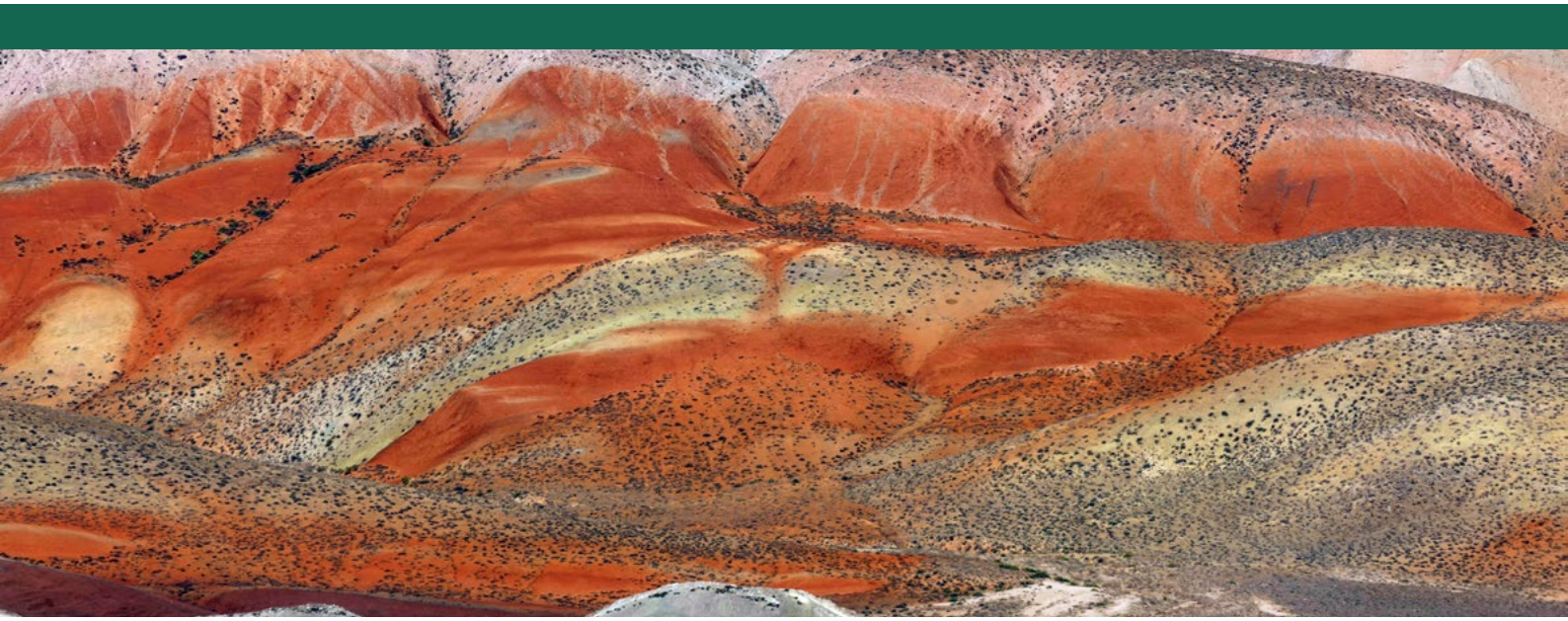
Note: Emissions are calculated by following a bottom-up approach, using reported emissions data for all industries.

As illustrated in Exhibit 4, the accommodation industry in 2023 contributes 260 million tCO2e to the total Travel & Tourism emissions of 3.410 billion tCO2e. These figures are estimated using a weighted average that factors in the emissions of over 50 major hotel chains and their respective market share, along with an extrapolation to include the emissions from the longer tail of accommodation industry. It is important to note that reporting practices vary across these hotel chains, with some reporting only Scope 1 and 2 emissions, while others include Scope 3 emissions as well in their disclosures.

On the other hand, the cruise industry in 2023 accounts for approximately 26.4 million tCO2e (consolidated from the carbon emissions reported by top four cruise businesses, accounting for approx. 60% of passengers, with an extrapolation of the remaining 40%). The estimate includes Scope 1 & 2 emissions, given that most cruise businesses do not disclose their Scope 3 emissions.

Aviation carbon emissions are estimated by taking the 2019 pre-pandemic level of 915 million tCO2e (provided by the International Air Transport Association (IATA), excluding mainly Scope 3 emissions) as a baseline. This baseline is then adjusted using the year-over-year growth in Available Seat Kilometres (ASK), as per IATA factsheet to calculate the emissions for 2023.

For Tour Operators, OTAs and the other intermediaries included in the analysis, valid estimates and reporting information are currently unavailable due to the fragmentation of these industries. An initial intent to estimate carbon emissions specifically for OTAs was undertaken in the context of this report by consolidating the carbon emissions reported by the top three OTAs with the highest market share (approximately 80%) and an extrapolation of the remaining 20%. The result is a carbon footprint lower than 1.23 million tCO2e, although one of three OTAs did not disclose their Scope 3 in 2023[24].



Carbon Intensities

Climate change mitigation is measured in terms of the total amount of CO2 that can be emitted before global temperatures increase beyond the +2 degrees Celsius agreed on in the Paris Agreement. Although global goals, such as the sector's 2050 net zero goal, refer to the reduction in absolute emissions (reduction targets), most of the focus industries track their carbon emission reductions in terms of carbon intensity gains (efficiency targets).

In this context, carbon intensity can be defined as the volume of emissions relative to a specific unit of economic activity/metric that reflects the primary operation of a given industry. This allows businesses to set emissions reduction targets while accounting for growth. In some cases, however, the growth of a particular industry might translate into a decrease in its carbon intensity and at the same time an increase in absolute emissions. While the aviation industry usually expresses carbon intensity in grammes of CO2 per revenue passenger kilometre (RPK) or per available seat kilometre (ASK), most cruise companies report their carbon intensity in grammes of CO2 per available lower berth (ALB) kilometre. In accommodation, a *Net Zero Hotel Methodology*[25] initiative recommended streamlining and aligning carbon intensity reporting in kilogrammes of CO2 per square metre and includes a suggested metric in CO2 emissions per occupied room per night. Regarding the other industries, some tour operators (*asset light*), OTAs and TAs report their carbon intensity as tonnes of CO2 per full-time equivalent (FTE) or per revenue generated. However, the latter is not standardised or commonly used yet.

Carbon intensity ranges vary significantly depending on the industry (see Exhibit 5). For instance, carbon intensity per passenger might appear lower for long and short-haul flights compared to cruises per passenger kilometres. However, when applying these intensities to specific travel examples the picture looks different. Although shorter flights tend to have higher carbon intensity ranges per passenger km than flights with longer distances due to increased fuel burned in take-off and landing, a long-haul flight in an economy cabin produces much higher total emissions than a short-haul flight in an economy cabin and a similar total emission to a 6-day cruise. This highlights the importance of differentiated views and the need to closely monitor and consider both intensities and absolute emissions for mitigation pathways.

Exhibit 5: Carbon emissions from selected travel examples and overview of carbon intensity ranges[26]

Note: (1) Carbon intensity for economy cabin seats, (2) Average emissions intensity of the world's largest cruise operator (low range) and emission intensity of the cruise ship class with the second highest intensity measure (3) Averages of Measure 1 lower and upper quartile of non-resorts from Cornell Hotel Sustainability Benchmarking Index (CHSB) 2024 (4) While cruise is often considered as a transport-only industry, it provides accommodation and transportation services

Overall, within Travel & Tourism, carbon reduction efficiency is taking place at different paces (see Exhibit 6):

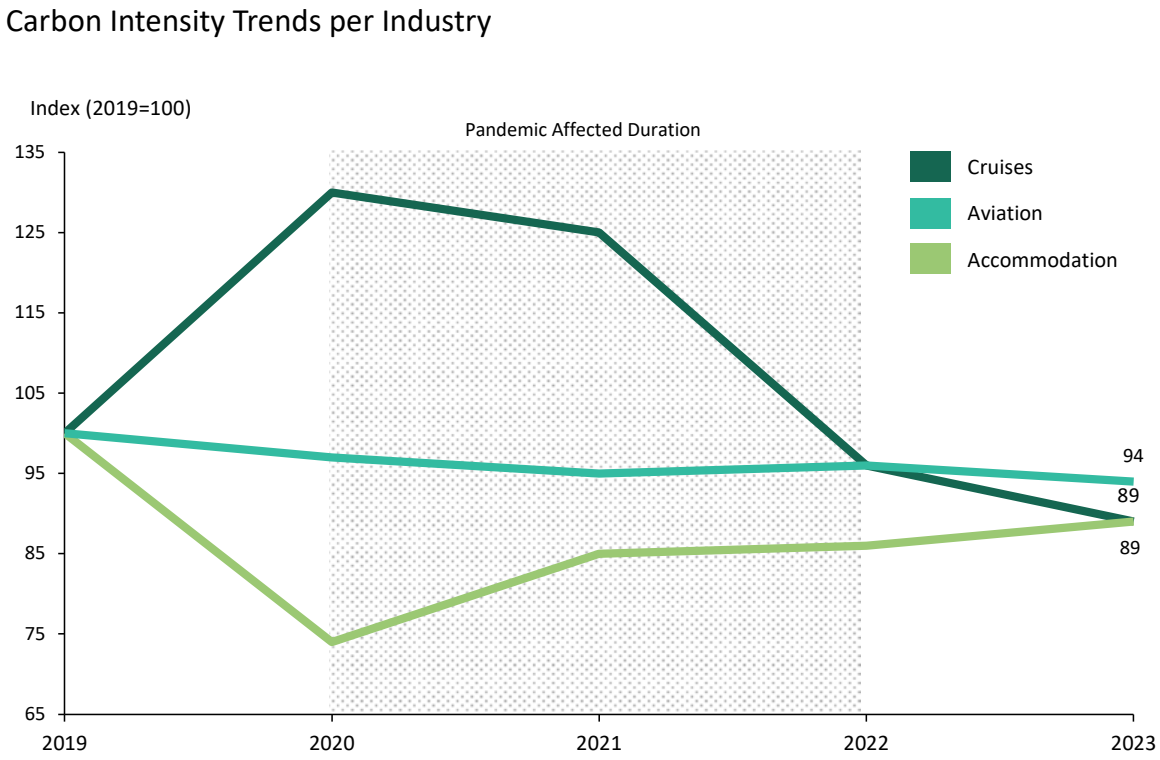
The Aviation Industry has made steady, moderate progress in reducing its carbon intensity, with a 6% decrease from 2019 to 2023. However, the continued growth in air travel and the delayed incorporation of decarbonisation levers may offset some of these gains. Note that aviation industry carbon intensity data for 2020 and 2021 have been adjusted (see Exhibit 6) to smooth out the impacts of the pandemic.

The Accommodation Industry saw a significant drop in carbon intensity in 2020 due to reduced travel and hotel occupancy during the pandemic. Many hotels scaled down their operations, shuttering sections of their properties to optimise energy use, which led to a substantial drop in energy consumption per square foot. While intensity has risen slightly as travel has rebounded, it remains lower than pre-pandemic levels, with an 11% decrease from 2019 to 2023.

The Cruise Industry, in contrast, experienced a temporary rise in carbon intensity in 2020. This anomaly can be attributed to the fact that many ships continued to operate during the pandemic even as passenger numbers reduced. However, the industry quickly adopted more efficient practices as operations normalised post-COVID-19, which has resulted in a considerable carbon intensity reduction of 11% between 2019 and 2023.

Carbon intensity figures from the pandemic years should be interpreted with caution, as the extraordinary impact of COVID-19 significantly disrupted normal operations. So while these figures do provide useful insights, they should not be taken as a reflection of the sector's usual carbon performance and should be considered as outliers in all long-term analyses. While a continuous review of carbon intensity is necessary, absolute emissions tracking also requires attention to ensure both metrics decrease over time and the 2050 absolute reduction goal is reached for the sector.

Exhibit 6: Average carbon intensity trend in selected Travel & Tourism industries from 2019-2023[27]



Note: Accommodation: weighted average carbon intensity measures available and reported by the top 5 accommodation businesses with the highest number of rooms, in kgCO2e per square meters. Cruise: weighted average carbon intensity measures reported by 3 cruise businesses with the highest market share, in gCO2e per ALB-km. Aviation: ATAG Waypoint 2050 Fact Sheet #3 (February 2021) supplied by IATA economics and Accenture's Carbon Calculator, carbon intensity measures in gCO2 per passenger km (pkm) at a constant load factor of 2019. More businesses were reviewed for this exercise but only those with carbon intensities in kgCO2e (accommodations), gCO2e per ALB-km (cruise), and gCO2 pkm (aviation) were used for the graph.

Industry Emission Profiles

Analysing the 'typical' allocation of emissions along all three emission scopes offers insight into the different emission profiles of different Travel & Tourism businesses. Exhibit 7 provides an overview of the results of our analysis, including specific examples of emissions in each scope. Allocations are based on reported Scope 1, 2, and 3 emissions from the top 5 businesses for each industry (also see Exhibit 31).

Exhibit 7: Overview of reported emission profiles of the Travel & Tourism industries in focus [28]

Industry	Scope 1 (average share in %)	Scope 2 (average share in %)	Scope 3 (average share in %)
Accommodation	**7%** On-site gas and fuel consumption, on-site vehicles	**43%** Building energy consumption (in-house laundry, lighting, energy use), office heating, cooling, and electricity	**50%** External laundry services, waste disposal, F&B supply and production, staff travel
Tour Operators (asset light – do not own hotels, airplanes, or cruise ships)	**<1%** Office gas consumption and owned vehicle emissions	**<1%** Office heating and energy consumption	**99%** Business travel, commute, transport & distribution, electricity, brochures, waste
Tour Operators (asset heavy – own hotels, airplanes, and cruise ships)	**95%** Fuel, on-board power generation, vehicle emissions, major & retail premises gas and fuel consumption	**1%** Major premises energy consumption, office heating, cooling, and ground & port electricity	**4%** Business travel, commuting, F&B supply and production, waste disposal, upstream and downstream transportation & distribution
Aviation	**67%** Aircraft fuel, vehicles in airport operations	**1%** Office heating and energy consumption, ground electricity	**32%** Supply chain fuel, capital goods, purchased goods, downstream transport, and distribution
Cruises	**54%** Ship fuel, on-board power generation for support functions	**<1%** Office heating, cooling and electricity, port electricity	**45%** Commuting, passenger transportation F&B supply & production, fuel transport, waste
OTAs / TAs	**8%** Office gas consumption and owned vehicle emissions	**22%** Office / data centre heating, cooling, and electricity	**70%** Business travel, staff commuting, waste management, purchased goods and services

Note: The emission profiles are estimates based on a sample of business emission analysed for this report. Selection metrics varied by industry; for details, please see Exhibit 32. Although the profiles have been discussed and verified with companies directly, considering the wide variety of business models even within each focus industry and differing approaches to calculating Scope 1, 2, 3 emissions, they should only be seen as indicative profiles.

The above exhibit shows just how heterogenous the emission profiles of the respective Travel & Tourism industries are. In accommodation, for instance, most emissions originate from the value chain and purchased services (Scope 3, 51%), with Scope 2, representing energy consumption, as the second most notable emissions source (42%). Tour operators' emission profiles diverge significantly, depending on their underlying business model. The asset-light tour operators' emissions come almost entirely from Scope 3, which represent 99% of emissions. Asset-heavy operators are characterised by a reverse emission profile, with 96% of their emissions coming from Scope 1. Unsurprisingly, the majority of OTAs' and TAs' emissions are Scope 2 (22%) and Scope 3 (70%), primarily linked to data centres' and related services' electricity consumption. As the definition of Scope 3 evolves, the allocation of OTAs' and TAs' emissions is also likely to change.

In contrast, 67% of aviation's emissions derive directly from businesses' own operations, predominantly related to aircraft fuel. The aviation industry also appears to be the most mature industry in terms of Scope 3 calculation, taking all key elements from the supply chain into account.

In 2021, 99% of cruise industry emissions were attributed to Scope 1, while Scope 3 remained largely undisclosed due to limited reporting methodologies. However, advancements in emissions tracking and reporting over the past three years have significantly enhanced the visibility of Scope 3 emissions. As a result, total emissions are now more evenly distributed, with Scope 1 accounting for 53% and Scope 3 for 47%. This shift underscores the industry's growing commitment to comprehensive environmental accountability.

Overall, results reveal that the distribution of Scope 1, 2, and 3 emissions tends to vary significantly between different industries, indicating that the complexity of reducing emissions also varies significantly between industries.

Progress Made So Far

While some industries within Travel & Tourism have been able to make significant and quick reductions to carbon emissions already, others are proving harder to decarbonise. Yet businesses have made significant progress in even the most challenging industries, as the below examples highlight.

Accommodation

Key Words: SBTi targets, Scope 1, 2 & 3

Iberostar Hotels & Resorts commits to reducing absolute Scope 1 & 2 GHG emissions by 85% by 2030, taking 2019 as the base year. Additionally, the group aims to reduce Scope 3 emissions from purchased goods and services, capital goods, fuel and energy activities, waste, downstream leased assets, business travel, and employee commuting by 50% within the same timeframe. This target, validated by SBTi in October 2022, aligns with the emissions reductions necessary to be in line with 1.5 °C of warming by 2050. Iberostar is also a signatory of the Glasgow Declaration.

Key Words: Renewable Energy, Sustainable Sourcing, Eco-Certification

Accor Group aims to contribute to planetary carbon neutrality by 2050, in line with the Paris Agreement. By 2030, the Group targets a 46% reduction in Scope 1 and 2 emissions, and a 28% reduction in Scope 3. To achieve these objectives, it is collaborating with hotel owners to enhance the energy performance of buildings and accelerate renewable energy procurement (on-site and off-site). Accor is also working closely with suppliers to reduce emissions from purchased goods and services, and promote more vegetarian and local alternatives in its restaurants. In 2023, Accor was included for the first time in the CDP Climate A-list, demonstrating its commitment to transparency and carbon emission reduction. In 2024, the Group also reached a major milestone with the eco-certification of its 1000th hotel, bringing it closer to its goal of having 100% of the network eco-certified by 2026.

Key Words: Renewable Energy, Offsetting, Carbon Sink

Bucuti & Tara Beach Resort in Aruba claims to be the first and only carbon-neutral resort in the Caribbean, achieving this status in 2018. The resort continues its dedication to sustainability by significantly reducing emissions through initiatives like low electricity usage, regional sourcing, and solar power. These efforts have resulted in a 61.6% reduction in their carbon footprint since 2021. Remaining emissions are fully offset through high-quality projects, and the resort is on track to be practically fossil-fuel-free by the end of 2024. Further solidifying their commitment, the owner donated 30 acres of land to establish the Bucuti Tara Nature Preserve, a protected carbon sink contributing to the preservation of Aruba's natural beauty.

Aviation

Key Words: Sustainable Aviation Fuel (SAF), Direct Air Capture (DAC)

United Airlines was the first airline to commit to reduce its GHG emissions by 100% by 2050 without relying on offsets. It reduced its emissions intensity by 46% between 1990 to 2019. A combination of constant fleet renewal, operational improvements, and investments in sustainable aviation fuel (SAF), and direct air capture technology (DAC) for carbon removal contributed to this achievement. Additionally, United committed to science-based targets and is part of the Business Ambition for 1.5C initiative.

Key Words: Zero waste airports

TULIPS, a consortium led by Amsterdam Airport Schiphol, secured €25 million from the European Commission to facilitate a transition to low-carbon mobility and enhance sustainability at airports. This initiative focuses on testing aircraft recharging facilities powered by electricity and hydrogen, electrifying ground support operations, and optimizing energy storage solutions. Additionally, it aims to enhance circular economy practices in materials usage and implement Sustainable Aviation Fuel (SAF) on a large scale. TULIPS aims to accelerate sustainable technology adoption, contributing to zero emissions and zero waste at airports by 2030 and achieving climate-neutral aviation by 2050. By serving as a model for other airports, TULIPS aims to inspire a broader shift toward sustainability in the aviation sector, aligning with European climate goals for a greener future in air travel.

Key Words: Sustainable Aviation Fuel (SAF), Book and Claim

Avelia, one of the world's first blockchain-powered digital book-and-claim solutions for SAF, is a cross-industry collaboration between Shell, AMEX GBT, and Accenture. With Avelia, airlines and business customers can simultaneously reduce emissions in their respective scopes, while ensuring transparency and accountability by avoiding issues such as double counting. It connects airlines and businesses globally, allowing them to share the environmental benefits and costs of SAF to generate enough aggregated demand for the sector to transition to net-zero emissions by 2050. Today, Avelia has already more than 35 customers, including airlines and corporates. Today, Avelia has already more than 35 customers, including airlines and corporates. Until Sept 2024, over 18m gallons of SAF have been injected into the existing fuel network and another 49m gallons have been committed up to 2026.

Cruises

Key Words: Emission reduction targets

Carnival Corporation & plc is a member of the Getting to Zero Coalition, Maersk Mc-Kinney Moller Center for Zero Carbon Shipping and The Methane Abatement in Marine Innovation which aim to accelerate maritime shipping's decarbonisation. The company aligns with the International Maritime Organization (IMO) Greenhouse Gas Revised Strategy, adopted in July 2023, which requires the uptake of zero or near zero emission technologies and fuels and has absolute emission reduction targets, including a net zero target by or around 2050. Carnival Corporation aspires to achieve net zero emissions from ship operations by 2050 and is committed to achieving 20% greenhouse gas intensity reduction by 2026 (relative to 2019 baseline measured in kilograms of CO2e per available lower berth day). The company is taking decisive action to reduce emissions, including optimizing its fleet, investing in energy efficiency technologies, adjusting itineraries for greater efficiency, and adopting new technologies and alternative fuels.

Key Words: Liquefied Natural Gas (LNG), Hybrid power generation

Cruise Lines International Association (CLIA) members are pro-actively pursuing net-zero emissions by 2050, consistent with the International Maritime Organization's (IMO) 2023 Strategy for GHG Reduction. The industry is making significant investments in sustainable technologies, including alternative fuels and energy sources such as biofuels, green methanol, bioLNG, hydrogen, and advanced battery storage. A growing number of alternative-fuel-capable newbuilds are entering the fleet, which will reduce emissions significantly by using fuels such as Methanol and Liquefied Natural Gas (LNG) —a cleaner fossil fuel with a lower carbon footprint than conventional marine fuels. Additionally, many of these newbuilds are being designed with fuel-flexibility in mind to enable a transition to low- and zero-emission fuels as they become available at scale. Pilot programs continue to test and improve sustainable fuel technologies, and it is expected that over 15% of ships entering service in the next five years will feature battery storage for hybrid power generation.

Tour Operators, OTAs

Key Words: Science-based targets, Carbon Labels

Intrepid Travel is a certified B Corp and the world's largest adventure travel company. Intrepid became carbon neutral in 2010 and declared a climate emergency in 2020, which was accompanied by a seven-point climate action plan. In the same year, Intrepid became the first global tour operator with verified science-based targets – three short-term targets to 2035, holding itself accountable for achieving significant climate action goals. In 2023, Intrepid developed and introduced carbon labels on most of its itineraries, empowering customers to make informed decisions about their trips and launched open-source tools for the wider travel industry, to foster transparency and collaboration.

Key Words: Renewable Energy, Carbon Fund

The Travel Corporation (TTC) has a long history of supporting projects that align with the planet, its people, and its wildlife. In 2020, the business launched its 5-year sustainability strategy that includes 11 sustainability goals aligned with the UN SDGs, including the target to source 50% of its electricity from renewable sources by 2025. In 2022, TTC released an updated 4-point Climate Action Plan supported by its Carbon Fund, an industry first financial mechanism established solely for the purpose of investing in initiatives that would deliver meaningful carbon reduction for the business.

Key Words: Certifications Initiative

Travalyst is a coalition of some of the biggest brands in travel and technology, aiming to bring sustainability information to the mainstream to help people make more informed travel choices. Through its certifications initiative, Travalyst aims to help the sector at large to be compliant, consistent and recognised across global travel booking platforms. By iteratively reviewing certifications, standards and schemes against a set of independently validated criteria that evolve in line with the legislative landscape, Travalyst aims to drive the minimum threshold that these entities meet. In summer 2024 Travalyst announced the first milestone in this initiative; an initial list of 49 entities that met their first set of criteria, including the WTTC Hotel Sustainability Basics.

Key Words: Sustainable Value Chain, SBTi Targets

Booking Holdings Inc. is committed to reaching net-zero GHG emissions across the value chain by 2040, a full decade ahead of the goals set out in the Paris Agreement. Its targets supporting this commitment have been officially validated by SBTi to be in line with climate science. In working towards this target, Booking Holdings Inc. recognizes how important it is to collaborate with vendors and partners across its value chain. As such, in 2023, Booking Holdings Inc. engaged with major vendors (representing around 50% of our 2023 emissions) to encourage them in measuring, reporting, and reducing their GHG emissions, while also improving its own data quality in this category.

Cross-Industry Collaboration

Key Words: Business Travel

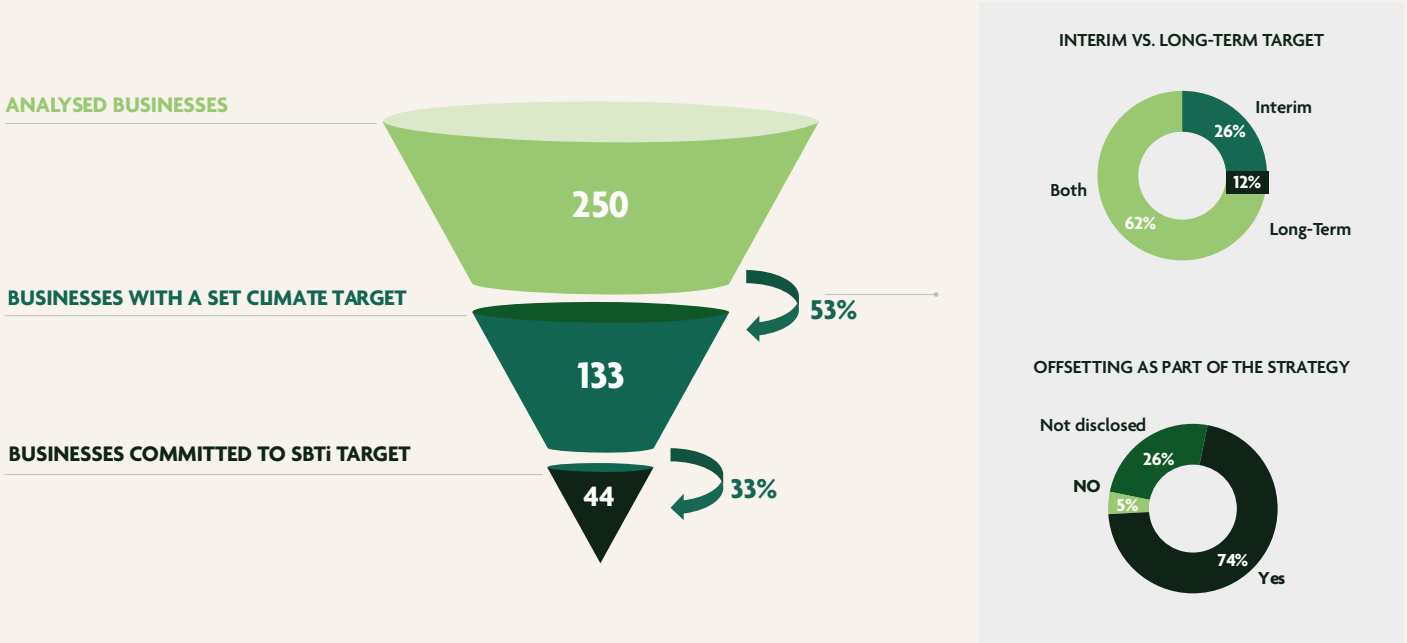
The GBTA Foundation collaborates with industry partners, governments, and experts to advance sustainability within global business travel. One of its recent initiatives, In collaboration with Accenture, is the Sustainable Business Travel Acceleration Challenge that aims to mobilise organisations of all sizes and in all geographies, to start, advance, and accelerate the integration of best practices that materially reduce their business travel emissions. This initiative evaluates companies' sustainable business travel practices within the framework of the Foundation's Pathway to a Climate-Conscious Business Travel Program. This programme includes four strategic levers—Travel Decisions, Emissions Tracking, Supplier Engagement, and Decarbonisation.

These examples not only illustrate how the Travel & Tourism sector has frontrunners with determined climate action pathways but show that measuring emissions and understanding their sources is a crucial first step to take action.

Climate Targets

As a whole, the Travel & Tourism sector is committing to emission reduction targets, with many major players in the sector now including climate and environment goals in their periodic reviews such as financial reports or separate sustainability reports. To generate a comprehensive overview of the status of climate targets across the sector, we analysed a sample of 250 Travel & Tourism businesses selected according to size and market share, with 50 from each of the five focus industries (see Exhibit 8).

Exhibit 8: Summary of climate targets in the analysed sample of Travel & Tourism businesses[29]



Based on publicly available sustainability reports, 53% of the leading Travel & Tourism businesses have set a climate target, whether interim, long-term or both. Of these, 74% use carbon offsetting. Of the businesses with a set climate target, 33% have set emissions reduction targets grounded in climate science through SBTi. This relatively low overall percentage can

be explained by the relatively low percentage of tour operators (30%), OTAs and travel agencies (34%) with climate targets. As these industries are still in early stages of their decarbonisation journeys, little information is publicly available regarding their commitments.

From 2021, the number of Travel & Tourism businesses that have a climate target has increased by 27%, from 105 in 2021 to 133 in 2024. At the same time, businesses committed to SBTi have more than doubled.

The proportion of businesses adopting specific sustainability targets has shifted over the recent years:

- Interim and Long Term Targets have increased by 19% (from 70 in 2021 to 83 in 2024)
- Interim Targets Only have increased by 6% (from 32 in 2021 to 34 in 2024)
- Long Term Targets Only have increased by 433% (from 3 in 2021 to 16 in 2024)

Exhibit 9: Overview of climate targets among Travel & Tourism industries

Comparison Criteria	Industry				
	Accommodation	Tour Operators	Aviation	Cruise	OTAs / TAs
1. Businesses analysed	50	50	50	50	50
2. Selection Logic	Number of rooms (2019)	Revenue (bn $ 2019) + WTTC members & World Travel Awards	Number of seats (2019)	Number of passengers (2019) + CLIA members	Revenue (bn $ 2019) + WTTC members & Travel Weekly Power List
3. Members of WTTC	13 (26%)	14 (28%)	8 (16%)	17 (34%)	11 (22%)
4. Businesses with a Climate Target	26 (52%)	15 (30%)	34 (68%)	41 (82%)	17 (34%)
4.1 Interim Target Only (2025 - 2035)	16 (62%)	10 (67%)	1 (3%)	2 (5%)	5 (29%)
4.2 Long-Term Climate Target Only (2040 - 2050)	1 (4%)	0 (0%)	6 (18%)	4 (10%)	5 (29%)
4.3 Interim & Long-Term Targets	9 (35%)	5 (33%)	27 (79%)	35 (85%)	7 (41%)
4.4 SBTi aligned target	13 (50%)	4 (27%)	13 (38%)	5 (12%)	9 (53%)
4.5 Part of Race to Zero	7 (27%)	3 (20%)	9 (26%)	2 (5%)	0 (0%)
4.6 Offsetting as part of the climate strategy	14 (54%)	13 (87%)	30 (88%)	25 (61%)	16 (94%)

Accommodation

The analysis included 50 leading accommodation businesses, as ranked by their number of rooms in 2019. 26 hotel chains (52%) set a carbon reduction target, of which 62% established interim targets, 4% established long-term targets and 35% included both interim and long-term targets in their sustainability plans. Furthermore, 50% of these commitments are aligned with science-based targets. Seven of the analysed accommodation providers are part of the Race to Zero campaign. In terms of the choice of target metric, 23% of the hotel chains apply the targets to their carbon intensity metric (CO2 per m2), whereas 77% aim to reduce absolute emissions. Carbon offsetting is accepted by more than half of the examined accommodation providers (54%). Half of the evaluated accommodation providers report Scope 3 emissions partially. As Scope 3 includes the emissions from the franchised hotels, it is an important segment requiring additional attention while setting the emission reduction target[30].

Tour Operators

The analysis included the 50 leading tour operators, as determined by 2019 revenue, WTTC's Members, and the World Travel Awards list of leading global tour operators. Carbon reduction targets are currently set by 15 businesses (30%), of which 67% include an interim target, and the remaining 33% include both the interim and long-term targets. 80% of the tour operators that have a decarbonisation target in place take all three emission scopes into account, of which two set separate targets for Scope 1, 2 and Scope 3. These climate targets are largely aimed at reducing absolute emissions; and in 13% of the cases the targets were applied to a carbon intensity metric. There is however a lack of homogeneity in the definition and reporting of carbon intensity metrics for this industry. Depending on their business model, some asset-light tour operators use CO2 per passenger or CO2 per FTE as their default metric, whereas asset-heavy businesses measure carbon intensity by CO2 per passenger night (cruise) or per revenue tonne km (aviation). On the other hand, all tour operators assessed include carbon offsetting as part of their sustainability strategy.

Aviation

The analysis included the 50 largest airlines ranked by the number of seats in 2019. Carbon reduction targets are set by 34 airlines, accounting for almost 70% of the airlines assessed. Of those, close to 80% of airlines defined both an interim and long-term target. Additionally, all airlines analysed include Scope 1, 2 and 3 in their decarbonisation targets. However, these aim mostly to reduce absolute carbon emissions, especially for the airlines with carbon neutrality targets or aligned to Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). 50% of airlines apply their reduction targets to a carbon intensity metric, normally expressed in CO2 per revenue passenger kilometres. The aviation businesses analysed generally allow for the use of carbon offsets in both their carbon neutrality and net zero targets. To date, only two airlines have explicitly committed to reducing 100% of its carbon emissions by 2050 without relying on the traditional offsets, thirteen airlines committed to science-based targets through SBTi and nine have joined the Race to Zero campaign.

Cruise

The analysis included the 50 biggest cruise lines, as determined by the number of passengers in 2019 and the Cruise Lines International Association's (CLIA) members. Of these, 82% have set a decarbonisation target, out of which 5% include an interim target, 10% include a long-term target and 83% undertake both interim and long-term commitments. Even if close to 95% of the targets appeared to cover all three emission scopes and applied to their carbon intensity metric, most of the analysed companies did not disclose their total Scope 3 emissions publicly or reported only emissions related to employee commuting. 90% of the analysed cruise lines are members of CLIA and therefore follow the carbon reduction targets of 40% carbon intensity reduction by 2030 and net zero emissions by 2050 (relatively to 2008 baseline). With the SBTI guidance for the maritime sector now available, the sector has formal guidelines available on both emissions target setting and accounting.

OTAs & TAs

The analysis included 21 online travel agencies and 29 travel agencies, as determined by revenue, WTTC's Members as well as

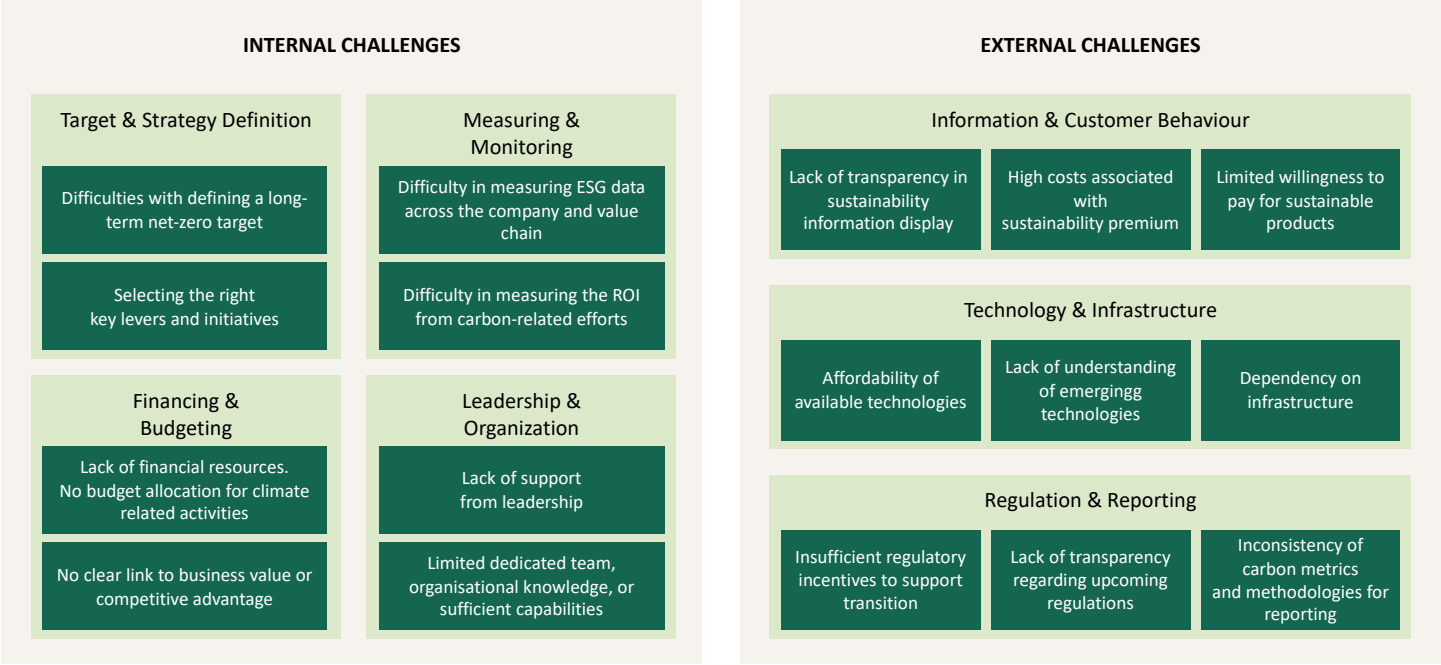
Travel Weekly's 2019 Power List. Of these 50 businesses, 34% had a carbon reduction target, of which 29% set interim targets, another 29% set long-term targets, and 41% set both an interim and long-term target. Similar to the cruise industry, 82% of decarbonisation targets cover all three emission scopes, although the definition and measurement of Scope 3 emissions remains a significant hurdle for the industry. Regarding alignment with SBTi, four companies (two TAs and two OTAs) have a validated science-based target.

Key Decarbonisation Challenges

The research, expert interviews and focus groups highlighted a number of decarbonisation challenges and needs for Travel & Tourism businesses. Some are common across the sector, while others are specific to particular industries. Since the publication of the previous roadmap, businesses have made significant progress in areas including net zero target setting and emissions measurement. They have been supported by a number of government policies, such as the US's Inflation Reduction Act, and by new mandatory reporting regulations such as the EU's Corporate Sustainability Reporting Directive (CSRD) and ISSB globally. But significant challenges persist. Progress on crucial external factors such as technological advancement and regulatory frameworks has been slower than the required pace.

A summary of all challenges identified can be found in Exhibit 10. To accelerate its green transition, the sector needs to address them urgently.

Exhibit 10: Overview of the key challenges of Travel & Tourism businesses[34]



Of the challenges identified, the following were the most common across all industries:

- **Emission measurement:** Businesses across the sector report difficulty in measuring and categorising their emissions. They face both conceptual and technical difficulties: first, they must determine how best to measure their emissions, then they must find an accurate way to take those measurements regularly. These difficulties are heightened for Scope 3 emissions.

- **Regulatory frameworks & government support:** The fragmented nature of the sector and the rapidly evolving regulatory landscape leads to planning uncertainty. In addition, a continuous lack of government support and insufficient regulatory incentives present challenges, which makes it more difficult to transition to net zero.

- **Reporting standards:** Reporting metrics and methodologies are numerous and inconsistent across the sector. While some focus industries, including aviation, have more standardised methodologies, most are still in the process of defining standard metrics and methodologies.

- **Financing:** Given the insufficiencies regarding regulatory incentives and frameworks, it is sometimes difficult for businesses in the sector to balance internal budget pressures with the investment needed to support net zero.
  More broadly, it is generally harder for SMEs to define and follow a more strategic decarbonisation approach, making it important to ensure inclusiveness in Travel & Tourism's fight against climate change.

Travel & Tourism Businesses Also Face Many Industry-Specific Challenges:

Accommodation:

1. **Emission boundaries:** Many accommodation providers find it difficult to define the boundaries of emissions to be considered within each scope. There is no standard methodology for assessing which emissions to include in which scope and how accommodation businesses should prioritise them. This is particularly challenging for Scope 3 emissions such as external laundry services, waste disposal, F&B supply, and production. A promising approach to address this challenge is outlined in the Net Zero Hotel Methodology (2023).

2. **Different business models:** The wide variety of ownership models complicates the assignment of particular emissions to particular actors (e.g. to the hotel owner, the hotel operator, or the franchisee). As a result, it is not often clear who is responsible for investing in the corresponding decarbonisation initiative.

3. **Infrastructure dependency:** Because accommodation providers depend on third-party actors and local infrastructure, their control over the emissions they produce is limited. The potential to reduce Scope 2 emissions by switching to on-site renewable energy sources (e.g. solar, wind, geothermal energy) highly depends on local energy infrastructures.

Tour Operators:

1. **Target setting:** Due to lower regulatory pressure compared to other industries, many tour operators are just getting started on their net zero journey. Their major current challenges therefore centre around assessing their carbon footprints, calculating baselines, and drawing up climate targets and action plans.

2. **Dependency on infrastructure:** Tour operators are heavily reliant on destinations' infrastructures, including local agriculture, energy procurement, waste disposal, and transport. This dependence adds a layer of complexity to measuring emissions and limits businesses' ability to reduce them.

3. **Trip emission calculation:** Another key challenge is that tour operators run according to many different business models. Asset-heavy and asset-light tour operators differ greatly in terms of their emission profiles (as shown in Exhibit 7). So there are hardly any standardised methodologies for calculating trip emissions, which requires each tour operator to develop its own custom approach.

Aviation:

1. **Availability of decarbonisation solutions:** The most promising decarbonisation solutions for aviation are based on the development of sustainable aviation fuels (SAF) and on new aircraft technologies, such as hydrogen-powered or electric aircraft. For the most part, these technologies either do not exist yet or exist only as prototypes or not at scale. While the development of SAF is promising, supply remains severely limited by regulatory barriers and infrastructure limitations, as well as significant technological constraints.

2. **Affordability of decarbonisation solutions:** Promising decarbonisation solutions which are already available remain very cost intensive and would therefore require massive investment from both the private and public sectors to scale. Even the most cost-competitive SAF available, "HEFA", is still approximately three times as expensive as conventional jet fuel.

3. **Fragmented regulatory landscape:** With different regional regulatory regimes, there is an increasing need for global standardisation and incentives to support the transition to a net zero aviation industry, specifically in terms of mandates and blending regulations for SAF usage as well as clear environmental and social standards to ensure climate benefits and avoid unintended negative consequences from SAF production. CORSIA serves as a global carbon trading scheme for aviation, whereas regional emissions trading systems (ETS) like Japan ETS, EU ETS, China ETS, etc. which differ in terms of geographical scope, schemes type, and environmental goals operate on a more localised scope. In terms of updates of[31] more regional regulations, the European Green Deal adopted the Green Deal Industrial Plan in February 2023 and inclusion of a new intermediate goal of a 90% reduction by 2040 which was recommended in February 2024[32] ; Singapore SAF Mandate 2024 announced all flights from Singapore to blend 1% SAF from 2026, increasing to 3-5% by 2030[33]; The U.S. Aviation Climate Action Plan has launched the "SAF Grand Challenge," which targets a minimum 50% reduction in lifecycle GHG emissions compared to conventional fuels, with goals of producing at least 3 billion gallons of SAF annually by 2030 and sufficient SAF to meet 100% of aviation fuel demand—approximately 35 billion gallons per year—by 2050.

Cruise:

1. **Availability & prioritisation of decarbonisation solutions:** The most promising solutions for cruise decarbonisation, such as lower carbon shipping fuels (e.g. LNG) and green hydrogen, are generally not yet available at scale. Given the competition from industries including road and aviation, sourcing sustainable fuels will be a challenge for the cruise industry. Encouragingly, the International Maritime Organization pledged to reach net zero emissions from shipping by or around 2050 and to ensure that zero- and near-zero-carbon fuels are available and in use by 2030.

2. **Reporting Scope 3 emissions:** Although reducing Scope 1 emissions remains a priority, measuring Scope 3 emissions is a challenge for cruise companies due to a lack of standardisation and data access. Given that Scope 3 can make up a significant proportion of cruise company emission, and given that the regulatory framework might change, this exposes the cruise industry to significant risk.

3. **Fragmented regulatory landscape:** With different regulatory regimes across geographies, the risk of business disruption due to fragmented local regulations is particularly high for the cruise industry, whose model requires international standardisation of regulations and incentives, as well as plenty of time for companies to adapt.

OTAs/TAs:

1. **Information on sustainability for travellers:** Many OTAs/TAs face challenges to provide information about the footprint of travel products in a consistent way and across multiple platforms. They need an industry-standard methodology, ideally based on quantitative estimates rather than just qualitative descriptions.

2. **Definition of Scope 3 emissions:** Increased clarity as to which sources of emissions should be included in Scope 3 is vital for OTAs/TAs, as these tend to account for their biggest share of emissions. For instance, most OTAs/TAs account for staff travel, but not consumer travel. While OTAs/TAs may not be responsible for their reduction, agreement exists that these emissions should at least be known.

3. **Leadership buy-in:** There appears to be a lack of leadership support across the industry and a limited dedicated team to drive its sustainability agenda forward. The lack of regulatory pressure and scrutiny for OTAs and TAs, draws the leadership team's attention to other priorities.

At a sector-wide level, the following **areas of support** were identified as crucial for achieving net zero:

Information Exchange: There should be more coordinated platforms and hubs where Travel & Tourism companies can share and discuss methodologies, best practices, case studies, etc. with peers within and beyond the sector.

Guidance & Advisory: Travel & Tourism businesses would benefit from more guidance via publications and advisory on topics including target setting, decarbonisation strategy development and implementation, and carbon measurement and reporting.

Regular Updates: Businesses would also benefit from regular updates on existing and upcoming regulations and policies, official measurement and reporting standards, and emerging technologies with respect to decarbonisation.

Data & Insights: There is a need for trustworthy data and insights, for example to calculate Scope 3 emissions accurately or to benchmark themselves to their peers.

Government Support: Government should collaborate more closely with Travel & Tourism industries to accelerate their transition to net zero, and increase the support they offer businesses to decarbonise, including financial incentives.

Status Quo - Key Takeaways

The key takeaways from the status quo analysis are summarised below:

Footprint: While Travel & Tourism has a significant potential to contribute to the global net zero journey, the focus industries differ significantly with respect to their footprints, due to their different business models and corresponding emission profiles.

Climate Commitments: Of the 250 Travel & Tourism companies analysed, approximately 53% have a public climate target, of which approximately 33% have a target aligned with SBTi. Yet among the public climate targets, variations in the chosen target metric, the target date and baseline, or the emission reduction commitment complicate transparency and comparability.

Challenges & Need for Support: Key challenges across the five focus industries centre around emission measurement and especially Scope 3 emissions, the fragmented regulatory landscape and lack of government support, inconsistencies in reporting standards, and insufficient budgets for a net zero transition. Businesses also face industry-specific challenges. Areas where the sector is looking for support include: platforms to share case studies and best practices, updates on regulations and policies, official standards and methodologies, and fostering investments and collaborations to advance decarbonisation solutions, with a focus on emerging decarbonisation technologies.

Overall, there is an urgent need for further guidance with respect to both determining the best mid-and long-term net zero targets and to developing strategies to meet those targets.

The Role of the Public Sector

Comprehensive and coordinated government support, both locally and internationally, is required to decarbonise the Travel & Tourism sector. Commonly identified challenges for businesses where governments have an important role to play, include a fragmented and rapidly evolving policy and regulatory environment, a lack of incentives, unavailability of new technologies and/or markets, and dependency on public infrastructure development.

Key recommendations for governments to address these challenges are:

1. **Show clear commitments** and targets for climate action in Travel & Tourism and align tourism policies and targets with SDGs, Nationally Determined Contributions (NDCS) and climate policies. Reward companies that publicly commit to bold action and create incentives for renewable energy, greater efficiency, circularity, and net zero strategies. Set clear and strong long-term policies that create a safe operating environment for investments and goal setting. Increase transparency by establishing, for instance, Measurement, Reporting, and Verification (MRV) systems, which ensure environmental integrity, avoid double counting, and provide markets with information on climate risks and opportunities.
2. **Prioritise sustainable infrastructure** and retrofitting of ports, airports, energy grids, etc. Travel & Tourism infrastructure can be decarbonised in the construction phase (e.g. raw materials with a low carbon footprint and the use of local materials and labour) as well as the operational phase (e.g. retrofitting facilities with solar panels and energy efficient appliances). Public procurement of infrastructure that incorporates sustainability requirements can support better resource management and efficiency throughout the value chain.
3. **Develop and foster partnerships** for collaboration across the Travel & Tourism value chain and ensure the inclusion of SMEs. Many climate challenges can be overcome through joint research, activities, and the products and services of other private sector actors. In the insurance sector, for example, large insurance companies may provide weather-index risk to SMEs, who otherwise lack access to safety nets in the event of a climate shock.
4. **Facilitate business transition** to a low carbon economy through training, upskilling, and capacity building on climate adaption and mitigation, and include vulnerable groups such as women and youth. Support identification and uptake of digital tools that help to identify climate risks, to measure and monitor emissions, and to mitigate its impacts.
5. **Support required research** to improve the monitoring of climate impacts in the Travel & Tourism sector. More reliable evidence will allow for better decision-making regarding investment, planning, policy development, and marketing, etc.
6. **Promote inclusive carbon market mechanisms**, including cap and trade and voluntary transactions, as components of larger strategies to achieve the long-term goals of the Paris Agreement. Carbon markets can deliver real emissions abatement and drive ambition, but only when rules are clearly defined, designed to ensure that transactions reflect actual reductions in emissions, and are supported by arrangements to track progress and provide transparency.
7. **Develop supportive fiscal policies and financial instruments** (and disable harmful ones) to foster sustainable, innovative, and new technological solutions. This should include research, development and deployment of such, to increase climate action and resilience. Ensure that fiscal measures encourage, incentivise and reward practices supporting green and inclusive development and that they are coordinated to avoid contradictory effects, for example by adjusting erratic, rigid regulations that create entry barriers for green innovators or by removing subsidies for out-dated technologies.
8. **Provide investments and finance** for actions that strengthen and protect the natural resource base on which tourism depends. The conservation of biodiversity, natural ecosystems and landscapes, which are all key for building more resilience to climate change, can be supported through Nature-based Solutions (NbS) and carbon-sinks, among others.

Many government tourism organisations are proactively implementing various strategies to equip businesses across the Travel & Tourism sector with the tools and knowledge they need to effectively measure and manage their carbon emissions. Some effective examples are as follows:

- **Greece (Keywords: Training programme for tourism SMEs):** The Greek Ministry of Tourism has partnered with Google and the Global Sustainable Tourism Council (GSTC) to speed up the green and sustainable transformation of the Greek tourism sector. The partnership includes a new training program for tourism SMEs, developed in collaboration with GSTC. Additionally, Google has committed $1 million to support organisations that assist social entrepreneurs focused on eco-tourism and environmental sustainability in Greece[35].

- **Scotland (Keywords: Emissions measurement, Carbon budget forecasting):** VisitScotland, Scotland's Tourism organisation is developing a Scottish Sustainable Network reporting tool. This tool will enable businesses to measure and calculate emissions across all Scope 3 categories, facilitating precise carbon budget forecasting for both future projects and routine activities across businesses[36].

- **Norway (Keywords: Emissions measurement):** A signatory of the Glasgow Declaration, Norway's national tourism organisation, Innovation Norway, is advancing its Sustainable Destination scheme to address climate change and reduce tourism-related emissions, especially from transport, which accounts for about 75% of sector emissions. Covering nearly 50% of the country's tourism destinations, the initiative has introduced the CO2 emissions calculator, Co2rism, which enables stakeholders to build a holistic picture of their business's impacts on the environment and society. Alongside the measurement platform there are further tools for tracking sector progress on sustainability, as well as inhabitant satisfaction surveys, consumption trackers and a seasonality calculator[37].

- **Colombia (Keywords: Tourism policy, E-learning platform):** Colombia's Sustainable Tourism Policy, "Together with Nature," aims to unite stakeholders for sustainable tourism by 2030. Key initiatives include an e-learning platform for over 2,000 entrepreneurs, a manual of good practices for sustainability, and 50 workshops across the country to promote environmental responsibility[38].

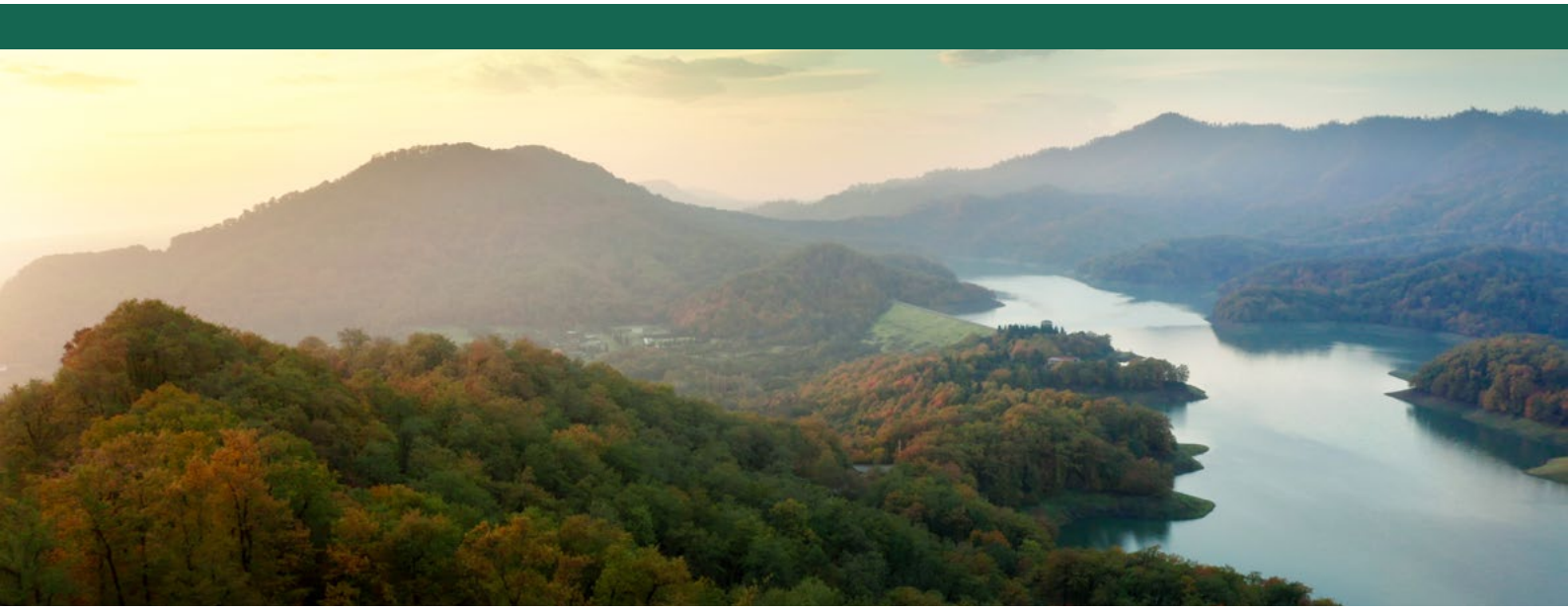
- **Valencia (Keywords: Tourism activity, Certifications):** Valencia has become the first city in the world to certify the carbon footprint of its tourism activity. The city is committed to achieving carbon-neutral tourism activity by 2025 and is implementing various measures to achieve this goal, including promoting renewable energy, electric mobility, and protecting natural spaces[39].

Azerbaijan's Commitment to Sustainable Tourism Development

Recognising the impact of climate change and the significance of tourism to its economy, Azerbaijan has prioritised "green growth" within its "Azerbaijan 2030" plan. This commitment is further demonstrated by the "Azerbaijan Tourism Strategy 2023-2026", adopted by the State Tourism Agency and Azerbaijan Tourism Board. The strategy promotes sustainability across nine pillars, positioning the country as a leading tourism destination. Complementing this strategy, the State Tourism Agency's Action Plan on Sustainable Tourism (2024) introduces measures to regulate the tourism sector by introducing sustainability standards and recognising sustainable operators through certification. It also involves the assessment of destinations based on sustainability criteria and the development of new government-initiated mechanisms to help sector stakeholders transition to a net zero carbon footprint.

In collaboration with the Azerbaijan Hotel Association (AHA), the Azerbaijan Tourism Board is actively engaging the hospitality industry in adopting sustainability measures. To support these efforts, AHA has established a Sustainability Working Group, which includes prominent hotel chains, provides training, shares best practices, and tackles technical challenges to improve environmental performance and integrate sustainability into hotel operations. Azerbaijan is also a country partner of WTTC's "Hotel Sustainability Basics" (HSB) program, which enables ATB to guide hotels in adopting core sustainability practices as a foundation for future progress.
Furthermore, the Azerbaijan government is promoting energy efficiency through legislation such as the Law on the Use of Renewable Energy Sources adopted in May 2021. This has facilitated projects like the Beautiful Village initiative, which utilises solar-powered street lighting in mountainous regions. These solar-power systems provide continuous illumination for up to eight hours, enhancing both the quality of life for residents and the sustainability of the region.

Azerbaijan has committed to signing the Glasgow Declaration on Climate Action in Tourism and successfully advocated for the inclusion of tourism in the COP29 Thematic Program. These initiatives demonstrate Azerbaijan's proactive approach to sustainable tourism, ensuring the long-term viability of this vital economic sector while preserving the country's natural heritage for future generations.



An Updated Target Framework For The Travel & Tourism Net Zero Journey

Prior to 2021, many businesses from the Travel & Tourism sector primarily relied on carbon offsetting to achieve their climate objectives. This enabled the 2021 version of the Net Zero Roadmap to present a Target Framework that categorised Travel & Tourism businesses into three distinct corridors based on their emissions reduction targets and ability to achieve them: easy, harder and hard to abate. These categorisations took carbon offsets into account. But as Travel & Tourism businesses have refined their targets in alignment with the SBTi's guidelines (which only allows the use of offsets for residual emissions), an update of the original target framework is now appropriate.

This section introduces the Updated Target Framework to reflect that businesses have now employed a more robust methodology of target-setting. It outlines the implications of the updated corridors, and then examines existing and potential carbon reduction targets for the sector, including interim milestones for each focus industry.

Target Corridor Framework

The evolving landscape of climate ambitions within the Travel & Tourism sector has produced a more nuanced set of target corridors. Categorisation by ease of emissions reduction has been replaced by categorisation based on the type of emissions reduction target (see Exhibit 11).

The updated framework comprises three corridors. The short-term corridor (2020-2030) focuses on achieving carbon neutrality through a combination of emissions reductions and removal. The medium-term corridor (2030-2040) aims for net zero emissions across Scope 1 and 2. The long-term corridor (2040-2050) targets net zero across Scope 1, 2, and 3, covering the entire value chain from direct to indirect emissions.

As a best practice for building a roadmap to net zero, Travel & Tourism businesses should set targets across all three timeframes to ensure a balanced and phased approach.

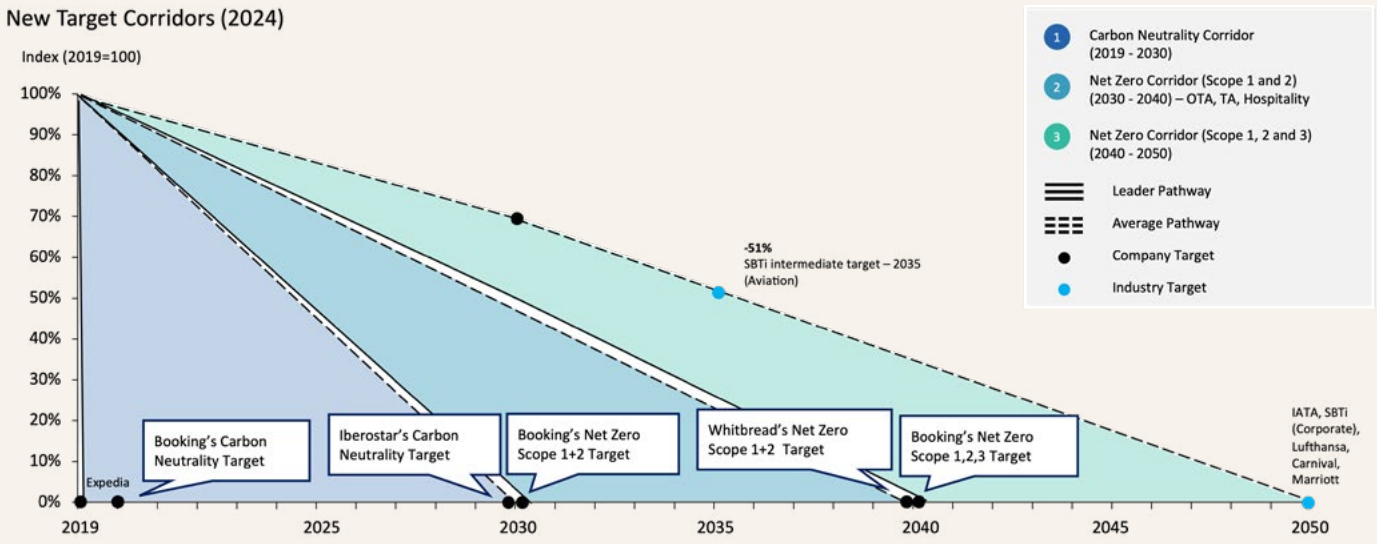
However, for difficult to decarbonise industries like aviation and cruise lines, achieving net zero for Scope 1 and 2 emissions may not be feasible within the medium-term corridor (2030-2040) due to technological and operational constraints. These

industries will likely see a more gradual emissions reduction in the short and medium term, with net zero targets only in the long-term corridor between 2040 and 2050.

The key metrics used in the framework are carbon intensities, indexed at 2019 levels. The widths and trajectories of the target corridors reflect the sector average (dotted line), as well as the sector leaders and their more ambitious intensity targets (solid line). Industry targets from authorities like SBTi and industry associations are also included to demonstrate the alignment of the corridors.

Exhibit 11: Decarbonisation Target Corridors for the Travel & Tourism Sector[40]

Carbon Intensities



Source: Accenture Analysis (2024), based on public target disclosures.

Note: Targets may rely on carbon removal for residual emissions. Only selected company targets shown.

Which Travel & Tourism businesses fall potentially into which corridor?

According to SBTi, achieving net zero status requires businesses to reduce Scope 1 and 2 emissions by 95% and reducing Scope 3 emissions by over 90%. Only residual emissions permitted to be offset through permanent carbon removal and storage solutions[41].

Since net zero targets now include reduction of Scope 3 emissions which necessitate decarbonisation throughout the entire value chain, the net zero target dates tend towards 2040-2050 across all industries.

1. **The Carbon Neutrality corridor** applies to businesses who want to take early decarbonisation action focused on carbon removal strategies, even before their emissions reduction efforts achieve significant results. Setting a target in this corridor should be considered in supplement to - rather than a replacement of - emissions reduction targets in the net zero corridors. Companies in this corridor tend to be OTAs or TAs and for the most part they are shifting their offset portfolios from avoidance to removal offsets of increasingly higher quality.

   OTAs, travel agencies, and accommodation businesses that utilise carbon offsets should prioritise setting targets to achieve carbon neutrality in the short term (2030). This approach allows for immediate action while emission reduction efforts are expected to yield results in the medium to long term (2030–2050). These businesses should opt for **Corridor 1 in conjunction with Corridor 2 and/or Corridor 3.**

2. **The Net Zero (Scope 1 and 2) corridor** applies to businesses that have set specific (ideally science-based) emission reduction targets for Scope 1 and 2 emissions, stipulating tangible progress and meaningful actions in the medium term from 2030 to 2040. These medium-term targets are set to be achieved ahead of broader net zero targets in order to show emission reduction progress in easy and moderate to decarbonise industries.

   OTAs, travel agencies, and accommodation businesses with a lower proportion of Scope 1 and 2 emissions—unlike Aviation and Cruise industries—should aim to reach Net Zero in the medium term. To support this goal, they should target a 50% reduction in emissions intensity for Scope 1 and 2 by 2030. This will prepare them for addressing Scope 3 emissions reductions across the value chain in the long term (2040–2050). These businesses should align with ***Corridor 2,*** *supplemented by* ***Corridor 3***

3. **The Net Zero (Scope 1, 2 and 3) corridor** applies to all businesses with the broadest definition of all emissions scopes (direct and value chain). This corridor includes a diverse set of companies ranging from OTAs and TAs, with a relatively low carbon footprint, to Airlines, Accommodation and Cruises with a significantly higher share of emissions.

   Aviation and Cruise businesses, with their high volume and share of Scope 1 emissions, makes it difficult to reach net zero even with offsets before 2040 and will see significant decarbonisation results only in the long term (2040–2050). Therefore, their Net Zero targets are projected to be achieved within this timeframe, and they should aim for a 25-30% reduction in emissions intensity across all scopes by 2030. These businesses should focus on ***Corridor 3.***

Some companies set targets within all the corridors, as part of a progressive decarbonisation strategy. For instance, Booking.com declared itself as carbon neutral in 2020 and based on alignment with SBTi in 2024, set a 95% emission reduction target for Scope 1 and 2 by 2030 (near term target) and a Scopes 1, 2 & 3 net zero target for 2040, positioning itself in all the three corridors. This strategic alignment underscores the company's commitment to sustainability and decarbonisation in the short, medium and long-term.

Emission Scopes Included In The Framework

This framework captures Scope 1, 2 and 3 emissions. Scope 3 emissions, in alignment with SBTi guidelines, are only part of the framework for organisations for which they represent more than 40% of total footprint. Tour operators, OTAs & travel agencies, and accommodation may fall into this category (see Exhibit 11).

Scope 3 emissions of asset-heavy companies, mostly in aviation and cruise, tend to represent a lower share of total emissions and are mostly driven by asset manufacturing processes, upstream and downstream emissions from fuel, staff travel, and shipment of goods to cruise ships. While some of these businesses started setting targets for Scope 3 emissions, there are no clear guidelines on how to distribute manufacturing emissions through the lifespan of the asset. This is likely to shape in a way that mirrors asset financial depreciation, spreading the emissions over time based on forecasted asset utilisation and asset lifespan.

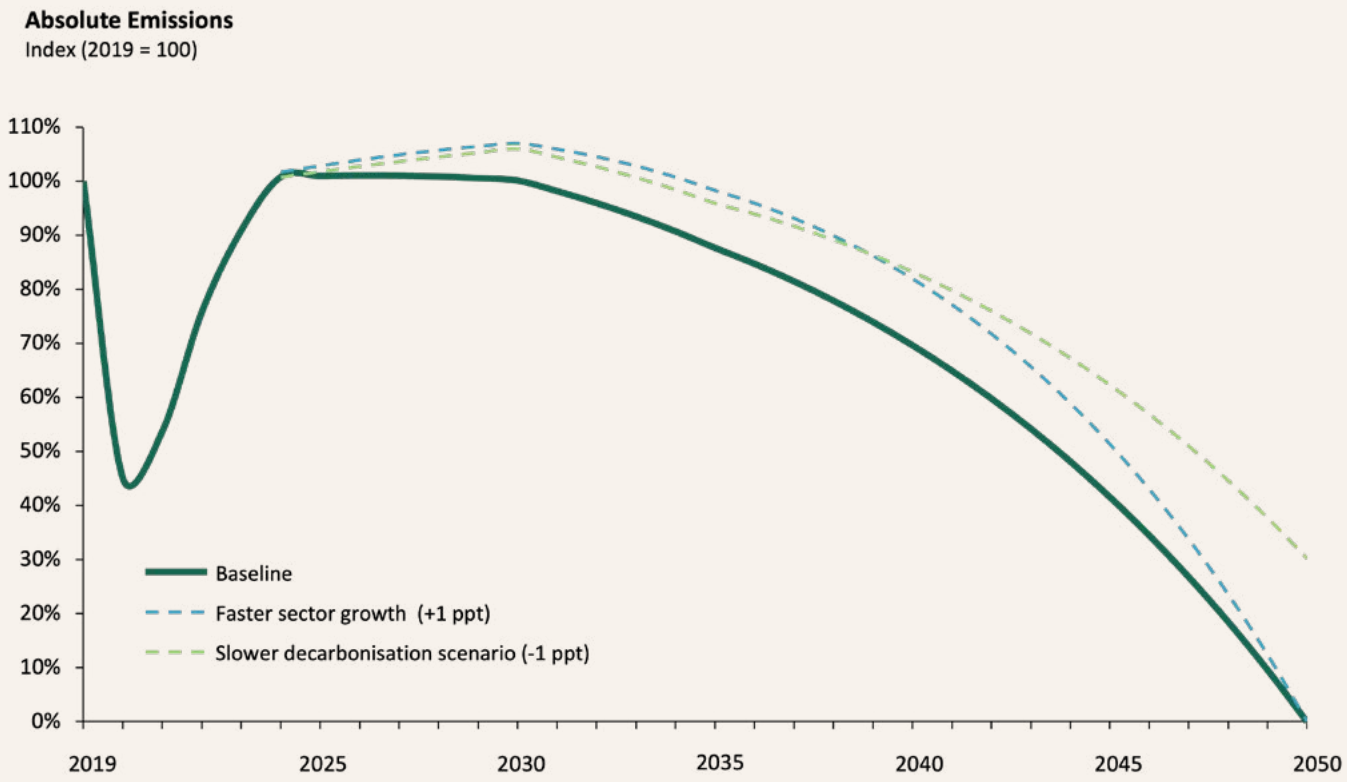
Absolute Emission Outlook

There are different forecasts relating to the level of recovery of Travel & Tourism volumes in the coming years. In 2023, leisure travel has rebound to 2019 levels, just 2.9% behind the 2019 peak, business travel recovery is slower in part (5.4% behind 2019 peak) and in 2024, business travel is set to surpass pre-pandemic levels[42].

Exhibit 12 illustrates example scenarios for absolute emissions, accounting for the impact the pandemic has on the sector. Emission savings are expected to come from the general prioritisation of sustainability and focus on climate action from more businesses.

Total emissions in 2023 is approximately 90% of 2019 levels. Growth from 2023 to 2024 is estimated at 10% rate and from that point onwards is estimated by applying a 3% compound annual growth rate (CAGR) for aviation[43] and OTAs and 5% CAGR for all other industries in the Travel & Tourism sector[44] (current ambition scenario).

Exhibit 12: Estimated absolute Travel & Tourism sector emissions following industry targets[45]



Note: Industries included are Accommodation, Aviation, Cruise, and OTAs (total emissions in 2019 = 1,320 million tCO2). Decarbonisation rates are weighted compounds of carbon intensity rates for the focus industries (Aviation is 40% reduction by 2035 and 100% by 2050, Accommodation and Cruise at 100% by 2050, and OTAs are 100% by 2040). CAGR estimate for all industries is assumed 10% from 2023 to 2024 levels and post 2024, estimate for aviation and OTAs is 3% (IATA, 2021) and for Accommodation and Cruise as assumption of 5% has been made based on previous (pre-pandemic) annual growth rates of Travel & Tourism (UN Tourism, 2020).

Between 2023 and 2035, absolute emissions of the focus industries are estimated to only decrease moderately remaining at an approximate 85-90% of 2019 emission levels. While it is estimated that the rate of decarbonisation is unlikely to yield significant reductions during that time, from 2035 onwards the sector can expect to significantly accelerate the speed of lowering carbon intensity and therefore total emissions. This will be mostly driven by sufficient availability of SAF and new aircraft technology given the relatively high emissions of aviation compared to other industries. In this context, achieving a 50% reduction of absolute emissions by 2030 (as stated by SBTi, Race to Zero and Glasgow Declaration) on a full sector level seems unlikely.

Testing the model for sensitivities shows a significant impact in medium term emissions. Increasing annual sector growth by 1 percentage point (ppt) without changing the assumed decarbonisation rate, results in a rise of total emissions until 2034. However, the net zero sector goal will be achieved by 2050 in this scenario. In contrast, if sector growth is left unchanged but the annual decarbonisation rate is lowered by 1 ppt, total emissions will fall short of the 2050 net zero sector target, staying at about 30% of the 2019 baseline. Until 2040, it is essential to monitor the growth rate of industries and its impact on overall emissions. However, in the long term, maintaining a high rate of decarbonisation is even more critical to achieving net zero emissions by 2050.

In contrast to a scenario in which all businesses only aim for achieving net zero in 2050 (instead of the short and medium term targets as well of carbon neutrality and net zero for scope 1 and 2 respectively), the target corridor scenario (current ambition scenario) is characterised by a more direct pathway to net zero, where emission reduction starts earlier thereby leading to a less aggressive reduction rate in the latter part. This will help catalyse action, activate positive ambition loops between public and private actors, avoid the risk of high costs related to adapting reactively to climate regulations, and minimise the risk of not achieving the 2050 net zero goal.

Industry leaders may find it harder than other sector participants to achieve the additional medium-term intensity reduction targets as their baselines are lower. However, these businesses will reap the benefits associated with lower emissions in the short term and will be able to continue doing so if reinvesting some of the benefits strategically to maintain a leading position.

A Guide To Decarbonise The Travel & Tourism Sector

To support Travel & Tourism businesses on their net zero journey, this report intends to equip them with an actionable toolkit including an overarching decarbonisation framework, a set of guiding principles, an overview of industry-specific key decarbonisation levers as well as a table of recommended action items.

Decarbonisation Action Framework

The following action framework (see Exhibit 13) intends to provide Travel & Tourism businesses with a structured guide to get started on their decarbonisation journey. The framework aims to serve all Travel & Tourism companies regardless of their specific industry background, laying out the general building blocks each business will likely need. It encompasses four main action areas, each containing the most relevant topics Travel & Tourism businesses have to act on. The updated framework includes deep dives into the benefits of sustainability certifications and green financing for SMEs in the Travel and Tourism sector.

Exhibit 13: Decarbonisation Action Framework

1. Assess & Define

The first action area focuses on assessing the current emission profiles and impact areas as well as on defining climate targets and corresponding strategies.

1.1. Carbon Inventory

A first step in the decarbonisation journey of each business is to understand its own carbon footprint and the origin of its emissions as well as how climate change is impacting its operations. A carbon inventory gives an overview of all emissions (Scope 1, 2, & 3) split by source, in turn enabling companies to effectively establish an emissions baseline. An annual GHG inventory can be managed with the global GHG protocol. For many companies, the key challenge is to get valid figures for their Scope 3 emissions. These can either be gathered by engaging with value chain partners, to get the information directly or by conducting own estimations. Carbon calculators can be a powerful tool for this purpose, examples of which can be found in Exhibit 14.

Exhibit 14: Selected Carbon Calculators

Industry	Calculator	Link
Aviation	ICAO calculator for route-level average CO2 estimates	Link
	Accenture's Aviation Carbon Calculator for flight-level CO2 estimates	Link
	Travalyst Travel Impact Model	Link
Accommodation	Hotel Carbon Measurement Initiative	Link
	Hotel Footprinting Tool (based on HCMI methodology)	Link
	The Green Key Carbon Calculator (based on HCMI methodology)	Link
	Greenhouse Gas Abatement Cost Model, GACMO	Link
Tour Operators	CARMACAL	Link
	Trip Carbon Calculator Methodology	Link
	Carbonocero	Link

Note: There are currently no standardised carbon calculators specifically designed for cruises.

1.2. Materiality Assessment

A materiality assessment is a methodology to identify and assess the key sustainability issues that impact a company's business and stakeholders. The main goal is to enhance an understanding of which ESG (environmental, social, and governance) topics a business should focus on. While there is no standard approach for how to conduct a materiality assessment, typically two views are combined to assess how relevant a topic is. The first focuses on the business impacts including growth, cost, and trust. The second focuses on the importance to stakeholders, such as consumers, investors, partners, employees. The result of a materiality assessment is a prioritisation of topics, typically visualised in form of a two-dimensional matrix. There are four main reasons why Travel & Tourism businesses should conduct a materiality assessment, namely, better identification and management of risks, effective reporting and measurement, facilitation of decision making and budget and resources allocation. The Corporate Sustainability Reporting Directive (CSRD) introduces a key innovation: the Double Materiality Assessment (DMA). This mandatory process helps companies determine which sustainability issues are most significant by assessing both their impact on environmental and social factors and how these factors, in turn, affect the company.

1.3. Climate Targets

Companies are advised to set science-based targets to effectively reduce emissions, while specifying long-term and net zero targets. Moreover, when targets are set, they should be regularly reviewed to ensure they remain aligned to climate science. Travel & Tourism companies are advised to set key targets aligned to SBTi. When setting a climate target several components must be defined, including, target metrics, target year and baseline, reduction commitment, emission scopes as well as whether offsetting is allowed or explicitly excluded.

1.4. Net Zero Strategy

Once a climate target has been defined, the next step is to develop a corresponding strategy and roadmap to attain the target. Travel & Tourism businesses are advised to decide on carbon management strategies that focus on measuring the business's emissions annually, identifying emission reduction opportunities and offsetting the unavoidable emissions. To effectively execute a Net Zero Strategy, a good understanding of one's own decarbonisation levers is needed. Though

generic decarbonisation levers can be identified for each Travel & Tourism industry, there is no silver bullet. Ultimately, each business has to define its unique set of key decarbonisation levers. There are, however, global initiatives, including Race to Zero, that connect individual companies and governments to collectively support the shift to a decarbonised economy, as well as industry-specific initiatives, such as The Global Maritime Forum's Getting to Zero Coalition.

Further reading on that action area can be found in the Annex (see Exhibit 33).

2. Build & Enable

The second action area focuses on building the required capabilities and enabling the organisation to execute the defined strategy.

2.1. Leadership & Governance

Effective integration and management of sustainability within Travel & Tourism requires committed leadership, clear direction, and strategic influence. Business leaders should define and build robust governance models to oversee and steer their net zero journey. Given the often radical transformation required at the organisational level, a dedicated team with authority will be needed. Appointing a Chief Sustainability Officer will allow for embedding change adaptation and mitigation considerations into core corporate strategy and business[46]. Forming dedicated sustainability teams will also help to both execute the sustainability strategy and integrate it across the entire value chain of the business whilst engaging with various business units, functions, and external stakeholders.

Recognising a climate emergency and building internal support can also be a powerful tool for the Travel & Tourism sector to take action to reduce carbon emissions. Leaders should make the case for decarbonisation based on data and engage employees early to enable buy-in. The Glasgow Declaration on Climate Action in Tourism is an action framework to accelerate climate action across Travel & Tourism to cut the sector's global GHG in half. Its intent is to urge and enable all Travel & Tourism stakeholders to sign and demonstrate, for the first time as a united sector, a shared voice and commitment to aligning the sector's climate ambitions with scientific recommendations and international agreements (Glasgow Declaration, 2021).

Given the strong business case for achieving net zero, Travel & Tourism leaders should treat decarbonisation as an opportunity and a driver of value for their businesses. Reducing GHG emissions can not only boost brand reputation and help to attract and retain new consumers and staff, but also give a strong signal to investors seeking climate risk and opportunity management. The journey to net zero can also lead to commercial success through new products and services, innovative revenue models and partnerships.

2.2. Finance & Budgeting

Financing and budgets are needed for both adaptation and mitigation efforts. Impact Assessment tools and Environmental Profit & Loss supply chain analyses can help better understand current business impacts and the scope of needed climate action as a starting point. Depending on the individual context and needs, more focus may then be directed to adaptation of mitigation like in the case of Soneva, which introduced a levy of 2% of room revenue in their resorts, which is invested specifically in projects to mitigate CO2.[47]

Travel & Tourism businesses should also introduce internal carbon pricing or other mechanisms which provide financial incentives to transition to low-carbon alternatives[48]. It is also advisable to adopt more extensive carbon pricing initiatives, including internal prices on CO2e applied to the procurement of any products or services. Such a mechanism will help steer purchase behaviour towards low-carbon options, support actions of greater environmental awareness and stimulate climate-conscious demand for more sustainable products. It will also provide businesses with a decision-making tool to recognise their exposure to external carbon pricing schemes and direct their business decisions and investments. Businesses are also encouraged to set-up financial mechanisms to encourage the implementation of circular business models, adoption of energy efficient technologies, electric vehicles, and improved waste management infrastructure and technology[49].

However, external governance and regulatory support from governments, such as those provided by the US IRA and the EU Green Deal, are imperative to establish a decarbonisation investment-friendly environment. This, in turn, will provide Travel & Tourism industries with strong financial incentives to meet emissions and CO2 reduction targets. Already, thanks to good governance, Etihad secured a US $111 million sustainability-linked loan to invest in biofuels, green buildings, waste management and other green initiatives. Similarly, the Royal Schiphol Group issued a €750 million green bond investment in sustainable buildings across the airports it manages in the Netherlands[50]. In February 2020, JetBlue also secured a sustainability-linked loan which was an amendment to its existing US $550 million senior secured Revolving Credit Facility (RCF). With BNP Paribas acting as the structuring agent, the deal was made as part of an effort by JetBlue to reduce its carbon footprint and improve its community relations[51].

Financing decarbonisation of Travel & Tourism SMEs

Small and medium-sized enterprises (SMEs) in the Travel & Tourism sector play a crucial role in shaping the sector's environmental impact. However, these SMEs face considerable challenges in securing financing, making it difficult for them to pursue sustainability initiatives. Lenders often view the sector as high-risk due to its seasonal nature and susceptibility to external factors, leading to reluctance in funding long-term projects. Additionally, the lack of tangible assets for collateral and the smaller scale of SMEs often makes them less attractive to traditional lenders. Furthermore, limited financial literacy among entrepreneurs hinders their ability to navigate funding options effectively. This financial gap emphasises the urgent need for innovative financing solutions to empower SMEs in implementing sustainable practices.

The International Monetary Fund (IMF) estimates that an estimated additional US$6 to 10 trillion in global investments, both public and private, are needed in the next decade to mitigate climate change[52]. Therefore, support from both the public and private sectors is essential to bridge the financing gap and enable Travel & Tourism SMEs to transition toward sustainable operations.

Governments are taking a multi-faceted approach to support SME financing in the Travel & Tourism sector. Public institutions are already implementing proactive measures such as grants, subsidised loans, and loan guarantees to counteract market failures and support wider policy goals. These initiatives are instrumental in fostering innovation, regional development, and inclusivity within the sector. For example, Croatia offers targeted loan programmes and grant schemes, while France's Welcome City Lab nurtures Tourism SMEs through incubation and mentorship. In addition to direct financial assistance, governments are also creating favourable business environments through streamlined regulations, training programmes, and improved access to information about financing options. New Zealand's legislative changes favouring crowdfunding and Ireland's National Enterprise Hub, a one-stop shop promoting awareness of SME financing options, are examples of such supportive measures[53].

Simultaneously, the private sector is expanding the range of financing choices available to Travel & Tourism SMEs. Beyond traditional avenues like bank loans and venture capital, alternative solutions such as crowdfunding and peer-to-peer lending are becoming increasingly popular. These mechanisms offer more flexibility and accessibility, particularly for smaller enterprises and startups that often struggle to secure traditional financing.

Moreover, financial incubators and accelerators are playing a key role by connecting innovators with private financing sources and public financing institutions offering favourable loan terms. For instance, Open World Accelerator, an Expedia Group initiative, empowers Tourism SMEs through mentorship, resources, and access to Expedia's vast network[54]. Such platforms not only facilitate access to capital but also provide mentorship and resources that enhance the overall business acumen of entrepreneurs. By fostering collaboration between startups and established financial entities, they create an ecosystem that supports sustainable growth and innovation within the Travel & Tourism sector.

Exhibit 15: Finance instruments available for Travel & Tourism SMEs

Public/Private Support	Financial Instruments	Where to Access?	Accessibility
Public	**Term Loans**	Development banks (e.g., EIB, World Bank), National Commercial Banks	**Easy:** SMEs with financial stability and repayment capability can apply via bank websites or branches
	Debt Financing & Equity Contribution	DFIs, Govt-backed venture capital funds, National or regional level Agencies	**Limited:** Requires detailed business plan and co-financing, applicable only for selective large-scale tourism projects with strong impact potential
	Credit Guarantees	Government-backed programmes (e.g., EU's COSME, SBA), Govt-export credit agencies	**Easy:** SMEs can apply through partnering banks, meeting eligibility criteria for SME classification and business viability
	Financial Subsidies	National/ Regional tourism boards, EU's ERDF	**Moderate:** Subsidies depend on government priorities. SMEs can apply through government or EU portals which varies by region and industry
	Grants	National tourism development grants (e.g., GTIP, TTF), Grant finding databases (e.g., Grant.gov)	**Limited:** Highly competitive as SMEs are required to apply via strong proposals focused on sustainability innovations with measurable outcomes
Both	**Incubators & Accelerators**	NTOs offering seed funding and mentorship, Private Incubators etc.	**Easy:** SMEs (start-ups) can apply with early-stage projects with a proper elevator pitch
Private	**Green Loans**	Banks like HSBC (HSBC SME Green Loan), DBS (DBS Eco Renovate Loan), etc. focusing on eco-tourism initiatives	**Moderate:** SMEs are required to submit a business plan focused on sustainability and environmental certifications
	Value Chain Finance	Partnerships with large tour operators, suppliers, or local networks	**Limited:** Requires SMEs to be integrated into larger value chains with existing relationships in the supply chain
	Asset-based Finance	Specialised asset-based lenders, Equipment financing companies, Microfinance organisations, Fintech platforms (Funding circle), etc.	**Moderate:** SMEs with physical assets as collaterals can apply, but not suitable for small service-base businesses
	Funds (Debt Fund & Investment Fund)	Funds like European Invest-ment Fund (EIF), Credit Union, etc.	**Limited:** SMEs with proven track records of high growth can apply via a detailed investment pitch highlighting scalability and innovation
	Crowdfunding	Platforms like Kickstarter, TravelStarter (for tourism-specific projects), etc.	**Easy:** SMEs can use crowdfunding early on to raise funds and build momentum for sustainable projects while engaging eco-conscious customers
	Standard Bank Loans	Commercial banks (Santander, HSBC) offering dedicated tour-ism SME loan programmes	**Easy:** SMEs can apply with financial records and collateral demonstrating creditworthiness
	Private Equity & Venture Capital	Tourism-focused VCs like Thayer Ventures, Accel Part-ners, General Catalyst Partners	**Limited:** SMEs which are primarily high-growth startups with disruptive ideas can apply with a strong business plan, clear scalability and ROI for negotiations

Navigating the diverse funding landscape for Travel & Tourism SMEs requires a well-planned approach. Many financing programmes are accessible through traditional loan application processes via designated banks or financial institutions. These often involve submitting detailed business plans, financial statements, and collateral to demonstrate creditworthiness and project viability. However, some funding opportunities offer more streamlined application processes, allowing SMEs to apply directly through programme websites or incubator/accelerator platforms. These may have less stringent requirements and faster turnaround times.

Key Recommendations for Travel & Tourism SMEs to navigate the funding landscape and secure financial support include:

1. **Define a business plan:** Develop a robust business plan showcasing business concept, market insights, operational tactics, and financial projections. Highlight unique value proposition and in-depth understanding of the Travel & Tourism sector.

2. **Targeted funding exploration:** Investigate a diverse range of funding avenues including venture capital, angel investors, crowdfunding, and business loans. Utilise online resources like the Grants.gov, EU Funding & Tenders Portal, local government websites, etc. to identify programmes aligned with needs and eligibility of the SME.

3. **Prepare a funding proposal:** Create a compelling proposal that articulates your business vision, growth trajectory, and unique advantages in contributing towards sustainable Travel & Tourism to secure the required funding.

4. **Strategic network utilisation:** Engage with local Travel & Tourism boards and funding organisations to access valuable information and support. Leverage the expertise of industry professionals to enhance your business prospects.

By understanding the unique requirements of each funding programme and leveraging available resources, SMEs can effectively navigate the funding landscape and access the crucial support needed to drive sustainable tourism development.

2.3. Employee Capacity Building

By investing in human capital through sustainability training and development, businesses can enable their employees to better guide consumers, while engaging with regulators, contributing to corporate strategy, and continuing the drive towards decarbonisation. Recommended sustainability trainings may cover areas of Climate and Carbon, Circular Economy, Sustainable Cloud, IT and Software and Sustainability Performance Measurement. Furthermore, including net zero targets as part of employee job descriptions, incentives, performance reviews or bonuses could bring tangible sustainability improvements.

2.4. Governance & Steering

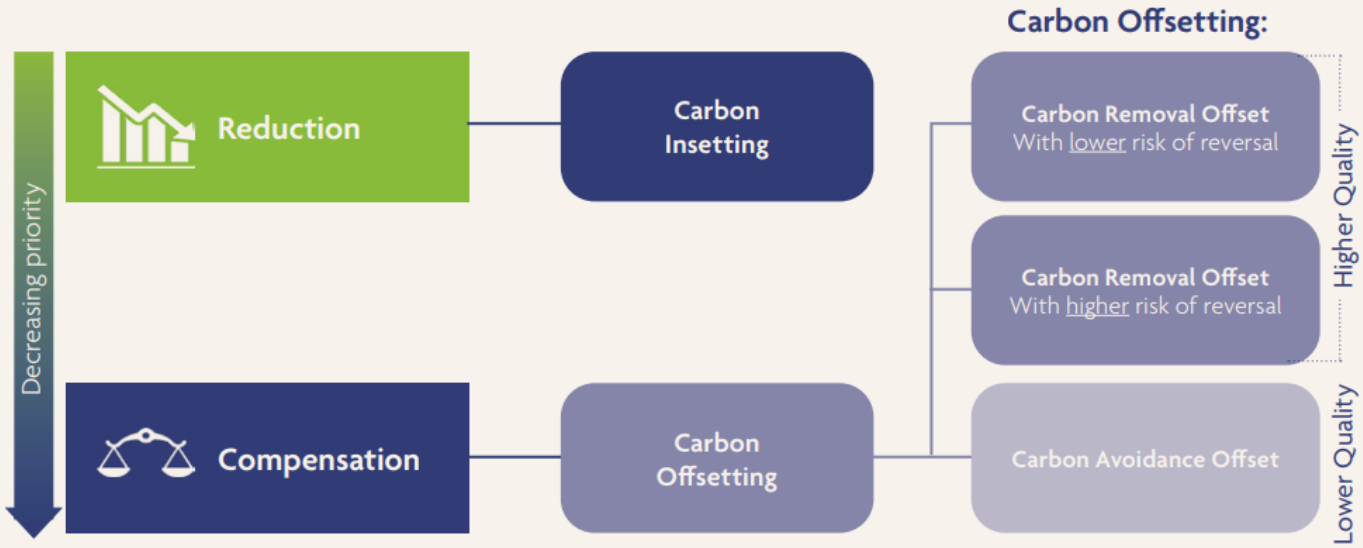
Effective integration and management of sustainability within Travel & Tourism requires having committed leadership, clear direction, and strategic influence. Business leaders are advised to define and build robust governance models to oversee and steer their net zero journey. This requires a radical transformation of the whole organisation, and as such, should be supported by a dedicated team with executive power and authority to enable it. Appointing a Chief Sustainability Officer will allow for embedding change adaptation and mitigation considerations into core corporate strategy and business operations (Glasgow Declaration, 2021). Also forming dedicated sustainability teams will help to both execute the sustainability strategy and integrate it across the entire value chain of the business, while engaging with various business units, functions, and external stakeholders.

Further reading on that action area can be found in the Annex (see Exhibit 34).

3. Reduce & Collaborate

The third action area focuses on reducing GHG emissions and collaborating within and beyond the Travel & Tourism value chain. Exhibit 16 illustrates the logic of emissions mitigation strategies and options from reducing to offsetting. The term insetting refers to interventions and activities that are designed to avoid, reduce, or sequester emissions upstream or downstream along an organisation's own value chain, while carbon removal includes the processes of capturing and storing carbon in products or in geological or ocean reservoirs. Finally, carbon offsetting is a method to offset carbon emissions outside of one's own value chain.

Exhibit 16: Emissions mitigation strategies and options



3.1. Carbon Reduction

As Travel & Tourism businesses define, prioritise, and begin initiatives to reduce their GHG emissions, they should set up strategies targeted towards using decarbonisation levers that are specific to the organisation's individual emission profile. In doing so, it is imperative to work with partners across the value chain and choose suppliers working to reduce their emissions. In this context, KLM Air France aims to achieve net zero carbon emissions by 2050 while also targeting a 30% reduction in CO2 emissions per passenger-kilometre compared to 2019 levels[55].

Businesses that launch sustainability initiatives with high visibility, but little to no tangible impact on the carbon footprint, are at risk of being accused of unsubstantiated greenwashing. Indeed, product-linked purchases, such as carbon offsets, can be open to criticism, especially if not matched with the business "addressing the big picture" [56]. Travel & Tourism stakeholders should therefore invest their efforts in the decarbonisation activities that are most effective.

3.2. Carbon Compensation

Carbon insetting, which engages value chain and ecosystem partners, should be the priority compensation choice for Travel & Tourism businesses to maximise positive sustainable impacts. Collaboration is already happening through various industry partnerships, including recently launched sustainable aviation fuel GHG emission accounting and insetting guidelines, led by Massachusetts Institute of Technology (MIT) Centre for Transportation & Logistics, and Smart Freight Centre, to facilitate GHG insetting[57] .

After implementing insetting strategies, carbon removal should be prioritised, as it permanently reduces atmospheric carbon and provides a negative contribution to the carbon balance. In the short term, when insetting and carbon removal options are limited, external offsets can help by compensating emissions through carbon avoidance or removal. While carbon avoidance offsets generally aim to prevent additional emissions, they are considered low quality; in contrast, carbon removal offsets directly take carbon out of the atmosphere and are seen as higher quality. These can further be categorised as either high-risk or low-risk for carbon reversal. Since carbon removal is the only offset strategy allowed for companies aiming for net zero, the Travel & Tourism sector is encouraged to prioritise carbon removal over lower-quality offsets.

General offsets should be replaced over time by insets and carbon removal. Whenever carbon compensation is part of a corporate decarbonisation strategy, it is important to ensure they are of high-quality standard by investing in eligible offset programmes, such as the Clean Development Mechanism following the Kyoto offset mechanism, or voluntary programmes, such as the Gold Standard and Verified Carbon Standard certified projects[58]. This approach is being demonstrated by the Radisson Hotel Group, using its Radisson Meetings offering in all hotels across the group's seven brands worldwide to automatically calculate and offset any carbon footprint through First Climate and Carbon Footprint ltd[59].

Natural Climate Solutions (NCS), which fall under the umbrella of Nature-based Solutions (NbS) aim at the conversation, restoration and protection of ecosystems and place special emphasis on the various benefits climate actions can have for adaptation, human well-being and biodiversity. These are actions that address GHG emissions, either by reducing them or by sequestering carbon through the growth of carbon sinks. They are a high potential decarbonisation opportunity, with estimates suggesting that they can support up to around 1/3 of the required mitigation for a Below-2°C pathway by 2030, at costs of approximately $10-100 per tCO2 [60] [61] . This can be compared with the price of EU ETS carbon permits at $63 as of October 2024[62], with market consensus that prices must, and will, go up. NCS additionally provide numerous socio-economic and environmental benefits, such as the preservation and restoration of biodiversity, provision of critical ecosystem services, and the support of sustainable livelihoods[63]. Still, further research in NbS for climate change mitigation is required as broader adaptation strategies grow increasingly important going forward.

3.3. Cross-Sector Partnerships

Decarbonisation is a team sport. The focus should extend beyond reducing individual emissions to utilising a business's strengths and resources to assist partners and stakeholders in achieving their own decarbonisation goals. Building interdisciplinary, multi-level partnerships is essential for addressing existing knowledge gaps on climate change impacts and on effective adaptation and mitigation strategies[64]. Further progress can be achieved by implementing cross-sector emissions mitigation measures that involve cooperation between two or more clusters within Travel & Tourism. However, it is critical to recognise that various clusters within the sector are at different stages of organisational development, necessitating tailored approaches to cultivate meaningful, sector-wide progress.

One example where collaboration between multiple partners across the value chain is required is "embodied carbon", which refers to the carbon dioxide emissions associated with materials and construction processes throughout the whole lifecycle of a building or infrastructure. In Travel & Tourism this could be an airplane, a cruise ship, or some kind of tourism infrastructure. There are significant opportunities to reduce these kinds of emissions. For example, through (a) increasing the efficiency of materials used (e.g. replacing high carbon with low carbon and recycled materials); and (b) establishing more efficient production processes (e.g. shifting to low carbon technologies, raw materials, and energy carriers)[65]. The Travel & Tourism sector has a clear role to play in this area, especially through procurement.

3.4. Policy & Stakeholder Collaboration

Effectively transitioning to a more sustainable Travel & Tourism model will rely heavily on collaboration between the public and private sectors. Public support plays a central role by promoting policies that integrate climate mitigation, adaptation, biodiversity, and pollution into tourism's strategies and initiatives[66].

Cross-industry alliances, like the Clean Skies for Tomorrow Coalition, provide a global platform for industry executives and public leaders to work towards carbon-neutral aviation[67]. One example is the commitment to increase sustainable aviation fuel (SAF) to 10% of global jet aviation fuel supply by 2030, supporting aviation's path to net zero emissions by 2050[68]. Such initiatives should aim to decouple the growth of Travel & Tourism from the increased use of natural resources and GHG emissions and encompass both international and destination levels, while prioritising inclusive and participatory approaches[69].

Further reading on that action area can be found in the Annex (see Exhibit 33).

4. Monitor & Report

The final action area of the Decarbonisation Framework focuses on monitoring and reporting GHG emissions.

4.1. Voluntary Disclosures

Beyond mandatory disclosures, Travel & Tourism companies are encouraged to voluntarily publish emissions, official net zero targets and commitments and publicly announce them. This not only helps investors, consumers, policy makers and other stakeholders to evaluate the non-financial performance of large companies, but also encourages and enables these organisations to develop a responsible approach to doing business. Setting ambitious objectives can also stimulate the organisational progress towards net zero, as it frequently leads to identification of additional reduction opportunities. Transparency also attracts leadership attention and increases funding for internal decarbonisation projects. This in turn stimulates innovation, enhances employee morale, and helps to recruit and retain skilled employees[70]. Businesses setting and announcing their ambition statements should follow the best practice examples, including developing goals for an absolute reduction in GHG emissions and/or emissions intensity, and setting a target year 5 to 15 years from the base year. Such goals should, as much as possible, cover businesses' global operations in their geographic boundaries, across all three emission scopes[71].

Strategic benefits of sustainability certifications

Sustainability certifications act as a powerful form of voluntary disclosures in the Travel & Tourism sector, providing a standardised and transparent way for businesses to showcase their commitment to environmental responsibility. While disclosing emissions and net zero targets helps stakeholders evaluate non-financial performance, certifications validate these efforts through recognised frameworks. This added accountability not only reassures consumers but also amplifies the impact of voluntary disclosures by translating them into actionable benchmarks.

The demand for such transparency is evident in the growing consumer interest in sustainable travel. Recent studies indicate that while 90% of travellers actively seek sustainable options, confusion surrounding sustainability assertions leaves 70% feeling overwhelmed. As a result, two-thirds of travellers request more detailed sustainability information from accommodation and transport providers. This underscores the immediate need for certified practices that are as transparent as they are easily accessible.[72] By pursuing certifications, businesses not only respond to this consumer need, they but also promote a culture of accountability within their own operations.

Beyond consumer trust, certifications also provide operational and financial benefits. By adhering to rigorous standards that focus on energy efficiency, waste reduction, water conservation, carbon emission reduction and sustainable sourcing, certified companies not only enhance their environmental impact, they also achieve significant cost savings. For instance, TUI's analysis of 330 certified hotels demonstrated a 10% reduction in CO2 emissions, 24% less waste, and a 19% decrease in freshwater use per guest night. Moreover, certified hotels saw a 23% increase in the use of green energy and employed 9% more local staff compared to non-certified counterparts[73]. Furthermore, certified businesses often enjoy greater access to financing, as financial institutions increasingly prioritise companies with recognised sustainability credentials.

The Travel & Tourism sector offers a diverse range of certifications tailored to specific sub-industries. With over 200 sustainable tourism certification programmes available globally, these certifications help businesses prioritise sustainability efforts unique to their operations.[74]

Exhibit 17: Industry-Specific Certification Examples (Non-Exhaustive)

Industry	Certification Examples
Accommodation	EarthCheck, Travelife, Green Key, TourCert, etc.
Online Travel Agencies (OTAs)	EarthCheck, Travelife, TourCert, etc.
Tour Operators	EarthCheck, Travelife, B Lab Global, TourCert, etc.
Cruise	EarthCheck, Travelife, etc.
Aviation	IATA Environmental Assessment (IEnvA)

With a wide range of certification options, the accommodation industry is at the forefront of committing to environmental sustainability. One such initiative is WTTC's Hotel Sustainability Basics (HSB), a globally recognised set of fundamental sustainability indicators that all hotels should implement as a minimum. Developed by industry experts, it encourages accommodation providers and destinations worldwide to implement these standards, thereby raising the bar for sustainability across the industry. Azerbaijan, a country partner of WTTC "Hotel Sustainability Basics" (HSB) programme, is

actively promoting its adoption among hotels as an introductory step, guiding them through sustainable practices before transitioning to certification schemes as the next step, ensuring that sustainability is integrated into their daily operations. On the other hand, the cruise industry has fewer recognised certifications. Similarly, the aviation industry's certification landscape is evolving yet remains relatively limited. The IATA Environmental Assessment (IEnvA) is one prominent example, developed to independently assess the commitment of aviation stakeholders such as airlines, airports, cargo handling facilities, freight forwarders, MROs, caterers, and ramp handlers, to continuously improve their environmental and sustainability performance.[75]

Several parties offer certifications to businesses in the Travel & Tourism sector. Third-party certifications, including Green Key, EarthCheck, etc. are issued by independent entities that conduct thorough assessments, providing credible validation of a company's sustainability practices. Internal certifications, such as Hilton's LightStay programme, are created and managed within companies to allow for internal alignment and management. However, there is a growing trend for external-facing programmes to require third-party verification to ensure the accuracy of sustainability claims. This shift is driven by initiatives like the upcoming EU Green Claims Directive, which highlights the need for independent assessments to validate sustainability efforts within the industry.

Exhibit 18: Types of Certifying bodies and example certifications (non-exhaustive)

Industry	Certificaton Examples
Third-Party certifications	LEED
	Dream & Charme
	Green Key
	Green Step Sustainable Tourism
	GreenStar
	EMAS
	Preferred by Nature
	Biosphere ResponsibleTourism
	EU Ecolabel
	Green Tourism Business Scheme
	Global Sustainable Tourism Council (GSTC)
	Hotel Sustainability Basics *
Internal Certifications	Light Stay (Hilton)
	Green Program (Wyndham)
	Green Engage system (IHG)

**Hotel Sustainability Basics is a verification program*

While sustainability certifications are an important foundation, they should be seen as just part of a company's journey towards environmental responsibility. Achieving certification is a significant milestone, but businesses must continue to innovate, using these standards as a stepping stone to greater environmental impact.

4.2. Data & Monitoring Capabilities

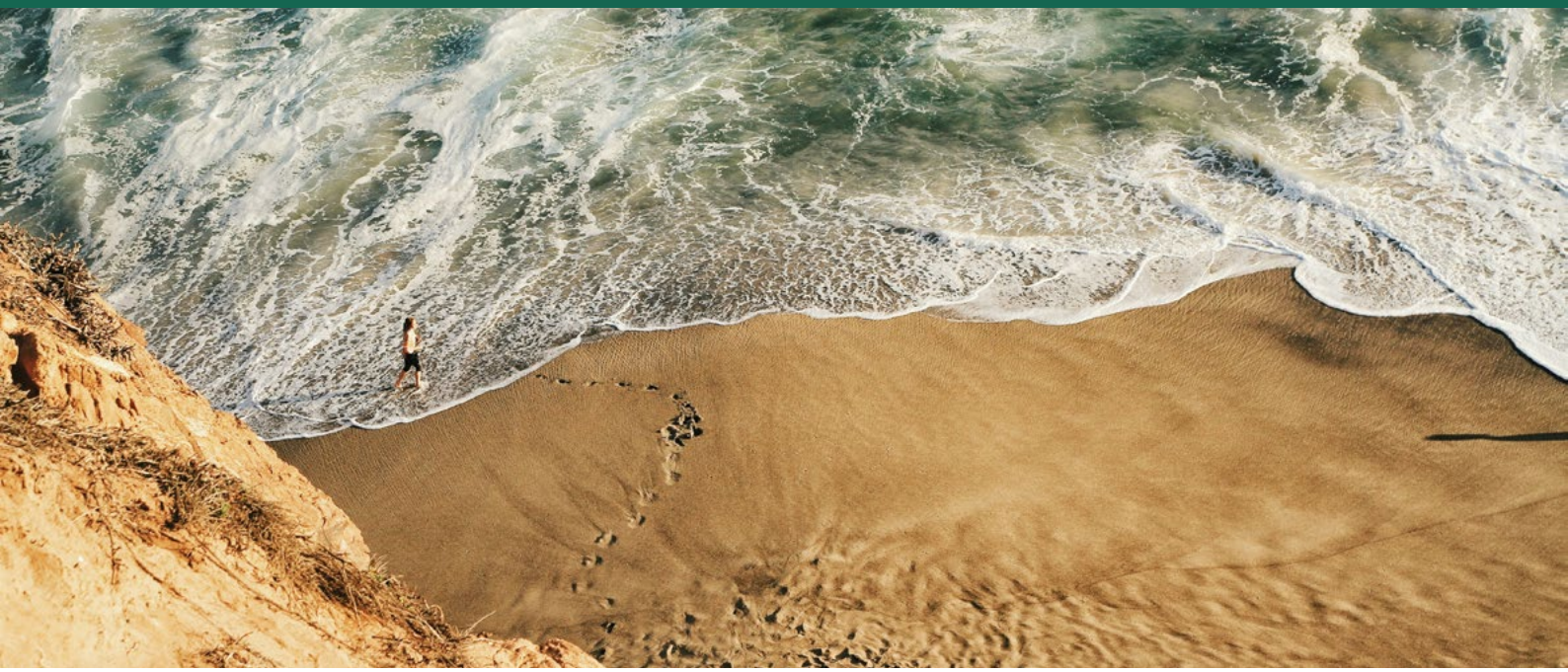
For the Travel & Tourism sector to achieve net zero, it is critical to build capabilities to measure and monitor its carbon footprint regularly and accurately. In general, stationary source emissions monitoring is composed of four elements, including indicators of performance, measurement technique, monitoring frequency and averaging time[76]. The European Commission provides a comprehensive framework on monitoring, reporting and verification of emissions reported under the EU ETS system, ranging from templates for small emitters to additional tools and guidance have been developed for aviation operators[77]. As part of the 2023 revisions of the ETS Directive, a new emissions trading system named ETS2 was created, separate from the existing EU ETS. This new system will cover and address the CO2 emissions from fuel combustion in buildings, road transport and additional sectors (primarily the small industries not covered by the existing EU ETS)[78]. It is also advised to collect and share data on indicators on the state of nature, social disruption, and economy in tourism destinations, in order to inform impact assessments of current practices and planned climate action[79].

Travel & Tourism leaders should encourage, enable, and support businesses and destinations to measure and disclose emissions according to best practice guidelines, such as those available on the One Planet Network website[80]. Third-party operators may support monitoring and management of environmental data in the Travel & Tourism sector. Additionally, developments in Artificial Intelligence (AI) can provide further capabilities in emission data collection, monitoring, predicting, and reducing emissions across all sectors[81], including Travel & Tourism.

4.3. Progress Reporting

For reporting purposes, businesses may use international, European, or national guidelines to produce their statements, including the UN Global Compact, the OECD guidelines for multinational enterprises, ISO 26000 and GRI, among others[82]. The UN Global Compact is the world's largest corporate sustainability initiative and offers a practical framework for action and a platform for demonstrating corporate commitment and leadership. Additionally, the Task Force on Climate-Related Financial Disclosures (TCFD) provides recommendations on consistently disclosing climate-related financial risk as well as communicating the information to stakeholders. By following the guidance, Travel & Tourism businesses can more effectively evaluate climate-related risks to their own operations, suppliers, and competitors[83]. Such disclosures will consequently help the sector develop climate inclusive insurance schemes for risk management[84].

Further reading on this action area can be found in the Annex (see Exhibit 33).

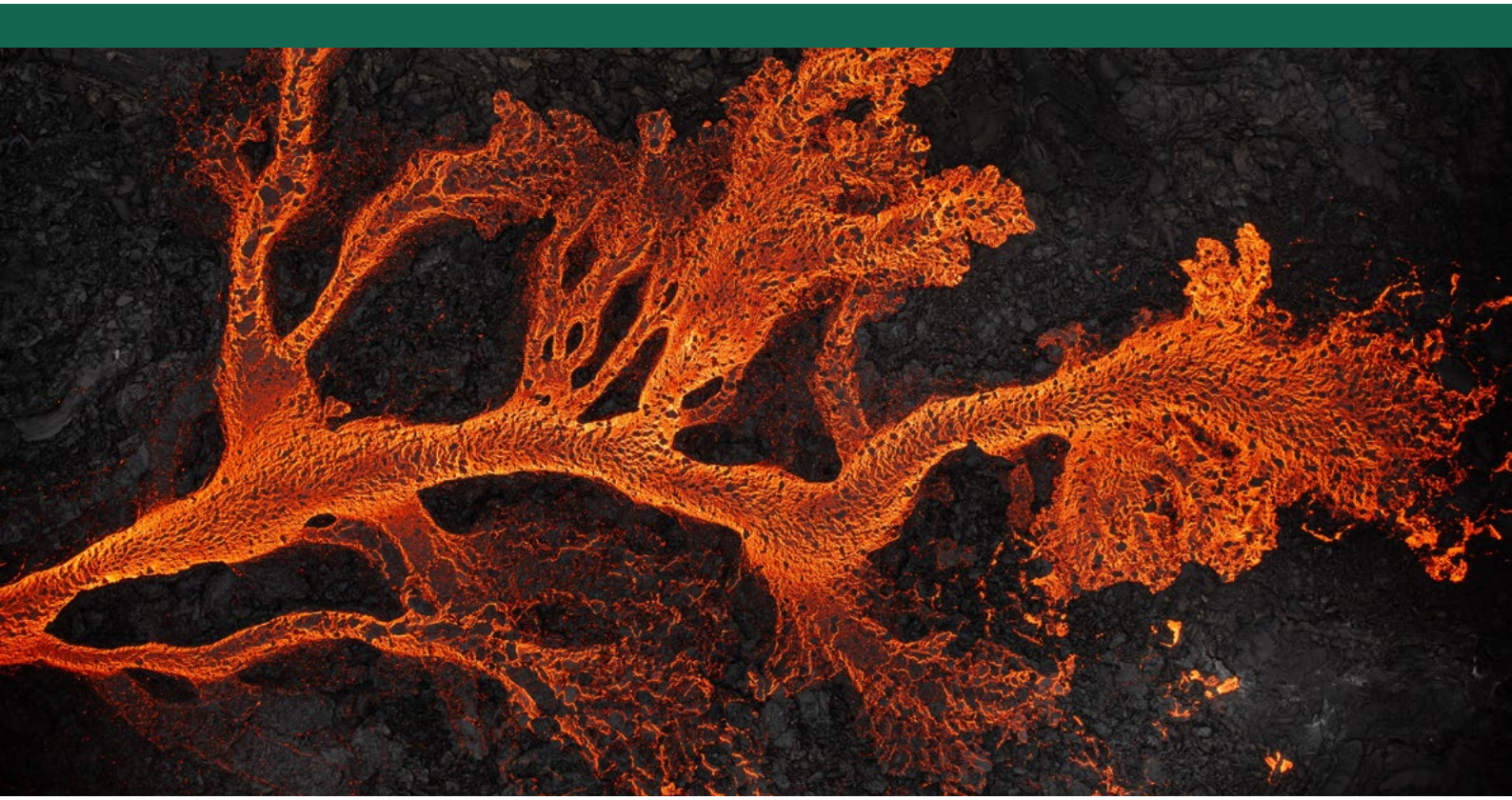


Decarbonisation Guiding Principles

The following overview (see Exhibit 19) provides a summary of the key messages provided in the Decarbonisation Action Framework to support and guide organisations throughout their net zero journeys.

Exhibit 19: Overview of Decarbonisation Guiding Principles

Action Area	Key message	Accessibility
1. Assess & Define	1.1. Carbon Inventory	Use carbon calculators and create carbon inventory to gain transparency about your carbon footprint
	1.2. Materiality Assessment	Identify and be clear about the ESG issues that matter generally and particularly for your business
	1.3. Climate Targets	Set science-based targets to effectively reduce emissions & specify long-term/net zero targets
	1.4. Net zero Strategy	Develop a strategy & roadmap to attain your net zero target relevant to your industry's decarbonisation levers
2. Build & Enable	2.1. Leadership Involvement	Get commitment from business leaders, with appropriate structure, including appointing a CSO/owner of net zero journey
	2.2. Finance and Budgeting	Spend 2+1% of your revenue on carbon reduction & adaptation to climate change respectively
	2.3. Employee Enablement	Invest in human capital through sustainability training including climate & carbon, circular economy, IT, and performance measurement
	2.4. Governance & Steering	Define and build robust governance models to oversee and steer their net zero journey
3. Reduce & Collaborate	3.1. Carbon Reduction	Prioritise most effective decarbonisation activities and avoid greenwashing
	3.2. Carbon Compensation	Prioritise carbon reduction, insetting and removal. Carbon offsetting should only be used to compensate remaining emissions
	3.3. Cross- Sector Partnerships	Leverage business strengths and capabilities to support & enable other partners to decarbonise
	3.4. Policy & Stakeholder collaboration	Collaborate on carbon insetting with governments and regulators to decouple Travel and Tourism's growth from climate change
4. Monitor & Report	4.1. Voluntary Disclosures	Develop goals for an absolute and/or emissions intensity reduction and set a target 5 to 15 years from the base year
	4.2. Data & Monitoring Capabilities	Build up capabilities to measure and monitor its carbon footprint regularly and accurately, leveraging third-party support and AI
	4.3. Progress Reporting	Share your results publicly based on international guidelines, such as UN Global Compact, the OECD, ISO 26000, GRI, SASB, and TCFD



Decarbonisation Levers

Given the unique emission profile of each of the five Travel & Tourism industries analysed in this document (see Exhibit 7), each industry is characterised by different decarbonisation opportunities. The following section provides an overview of the key decarbonisations levers relevant to the respective Travel & Tourism industries in the medium and long-term, until 2035 and 2050 respectively. The GHG impact assessment of each lever is based on the qualitative inputs from discussions in focus groups, expert interviews and literature reviews conducted as part of this report. The levers are ranked from the highest to lowest impact in the medium term. The impact is expressed in relative terms within each industry and should not be compared across different industries. Finally, the analysis highlights the mechanisms of offsetting the emissions typically adopted by the respective industries.

Decarbonisation Levers for Accommodation

In the accommodation industry, new builds and renovations can generate significant impact and as with most construction, can be wasteful with regards to emissions. A whole-life emissions perspective includes carbon emissions arising from the built environment during both the use of buildings (operational emissions) and their construction (embodied emissions). Building emissions will need to be reduced along their lifecycle through a triple-pronged-strategy, namely through a combination of A) reducing energy demand (behaviour change and energy efficiency), B) decarbonising the power supply (e.g. electrification through renewable sources and increased use of other zero-carbon heating technologies), and C) addressing embodied carbon stored in building materials. Through the first two measures, it is possible to nearly eliminate carbon emissions from building operations by 2050[85]. Furthermore, better construction and use of buildings could influence 50% of final energy consumption and about 35% of total GHG emissions - 50% of the extracted materials[86]. The accommodation sector can play a central role in influencing better design, retrofitting, and the use of materials to minimise its impact. Once in operation, most of the hotel buildings' emissions then relate to on-site energy consumptions (see Exhibit 20).

Exhibit 20: Overview of Decarbonisation Levers for Accommodation

Decarbonisation Levers	Medium-term GHG Impact (2035)	Long-term GHG Impact (2050)	Examples
Energy efficiency improvements			• Improve building thermal performance • Enhanced building controls • Sustainable hotel design
Operational improvements			• Use less heating/cooling, A/C • Fitting energy efficient lighting
Sustainable procurement and sustainable sourcing			• Sustainably source food and cotton • Encourage low carbon diets at hotels, reduce meat consumption • Sustainable source building materials and retrofit
Transition to low carbon energy			• Purchase or generate renewable energy on-site • Electrification
Reducing waste usage			• Reduce landfilled waste intensity • Measure and reduce food waste

Accommodation-related emissions can be reduced through five key decarbonisation levers:

1. **Energy efficiency improvements:** These include promoting sustainable hotel designs, enhancing the thermal performance of building materials, and using advanced building controls. For new hotel constructions, integrating sustainable design from the start is essential.
   GHG impact: Energy efficiency improvements in existing hotels, along with passive measures, offer the greatest potential for reducing wasted energy in the medium and long term.

2. **Operational improvements:** Adjustments like optimising heating and cooling systems, upgrading hot water systems for laundry and guest use, installing energy-efficient air conditioning, and adding efficient lighting and energy-saving window films can significantly cut energy consumption.
   GHG impact: Improving operations in hotels is considered to have the second highest impact on carbon savings in the medium-term, though is decreasing in the long run. Reducing energy at a hotel is the most cost effective and easiest way to reduce carbon[87]. However, since multiple environmental initiatives have already been implemented by hotels to reduce their carbon emissions[88] once the "easy" innovations are implemented, it will become more difficult to meet targets.

3. **Sustainable procurement and sustainable sourcing:** Hotels should encourage guests to choose low-carbon, plant-based meals and reduce consumption of high-impact foods like meat and dairy. Many purchasing professionals recognise the benefits of circular procurement – such as reducing water, chemicals, and energy use – resulting in lower GHG emissions. Circular procurement can also address larger structural challenges, like limited public transportation, by offering shared transport for staff, or inadequate waste management, by including take-back provisions in contracts to reduce on-site waste[89]. Where reducing meat consumption isn't feasible, hotels are advised to prioritise sustainably sourced meat, poultry, produce, seafood, and cotton, which, can be achieved through partnering with suppliers.
   GHG impact: Sustainable sourcing is considered to have a medium impact in the medium-term, increasing to high impact in the long-term as the energy efficiency increases across the entire value chain.

4. **Transition to low carbon energy:** Electrification is a key lever to reduce Scope 1 emissions, including shifting from boilers to heat pumps, or from gas to induction stoves as well as making the necessary infrastructure adjustments. Further gains can be made by generating renewable energy on-site and, through establishing renewable energy purchase agreements. This includes purchasing energy from third parties separate from the utility grid (or as a para-utility partner) in purchase power agreements (PPAs), Sleeve PPA, or community solar projects.
   GHG impact: Currently, hotel chains are taking the initial steps to increase sourcing of renewable energy. However, enabling access to affordable renewable energy will require governments to take supporting action which is expected to take time to develop. Therefore, the associated impact of this lever is higher in the long term.

5. **Reducing waste usage:** Actively measure food and water waste and participating in food waste reduction programmes to minimise food waste sent to landfill. There needs to be greater focus towards reducing plastic packaging and single-use items where possible.
   GHG impact: Reducing waste and food-related emissions is considered to have a low impact in the medium- and long-term, as this is an area that many hotels have already tried to optimise to the best of their ability.

Engaging stakeholders to reduce emissions across the entire value chain – not just in procurement – is essential. Hotels should actively involve partners and encourage them to set science-based targets. For any remaining emissions, hotels often source high-quality certified offsets. However, tracking of Scope 3 emissions by hotels is typically limited and should be improved. If further reduction of Scope 3 emissions isn't possible, offsetting will likely be necessary.

Further reading on the decarbonisation levers for Accommodation can be found in the Annex (see Exhibit 33).

Decarbonisation Levers for Tour Operators

Tour Operators can be split into two categories: asset-light and asset-heavy. For asset-light Tour Operators, the largest share of CO2 emissions typically comes from employee business travel. For asset-heavy Tour Operators, CO2 emissions mainly stem primarily from assets owned (airplanes, hotels, or ships), which can be reduced following the decarbonisation levers for Aviation, Accommodation, and Cruises, respectively (as described in the corresponding sections). Exhibit 21 illustrates the decarbonisation levers available to the asset-light Tour Operators.

Exhibit 21: Overview of Decarbonisation Levers for Asset-light Tour Operators

Decarbonisation Levers	Medium-term GHG Impact (2035)	Long-term GHG Impact (2050)	Examples
Trip footprint			• Choose more sustainable flights • Use alternative modes of transport • Promote more sustainable trips
Office energy & waste			• Switch to renewable energy • Improve energy efficiency of offices • Reduce waste (e.g. paper/brochures)
Other business travel			• Encourage virtual meetings when trip is not needed • Promote hybrid workplace • Use alternative modes of transport

Asset-light Tour Operator emissions can be reduced by the following three key decarbonisation levers:

1. **Trip footprint:** Employee and traveller emissions related to trips can be reduced by reconsidering modes of transportation, choosing more sustainable flights, or encouraging consumers to opt for more sustainable trips.
   GHG impact: Reducing Tour Operator's trip footprint is likely to have the most significant impact on emission levels in both the mid- and the long-term due to potential improvements in carbon intensity of business travel.

2. **Office energy & waste:** Emissions from office-usage may be lowered by switching to lower carbon sources of energy and using electricity generated (on-site) from renewables as much as possible.
   GHG impact: In general, where office usage cannot be prevented, switching to lower carbon energy sources is considered to have a constant, medium impact in both the mid- and long-term.

3. **Other business travel:** Emissions from other business travel may be reduced by creating a hybrid workplace, where employees can work from home, as well as effectively reducing other business travel emissions. Further investments in communication technology should be encouraged.
   GHG impact: Limiting business travel which is not important has been optimised as a consequence of the COVID-19 pandemic. Hence, it is considered to have a low to medium impact in both the mid- and long-term.

The majority of Tour Operators currently focus on achieving carbon neutrality through carbon offsetting strategies. However, carbon neutrality is not enough and undertaking sustainability initiatives targeted at actively reducing emissions is becoming increasingly acknowledged and adopted by Tour Operators.

Further reading on the decarbonisation levers for Tour Operators can be found in the Annex (see Exhibit 33).

Decarbonisation Levers for Aviation

In aviation, the main source of CO2 emissions comes from fuel. Consequently, the key decarbonisation levers for airlines target a change in energy source or improvements in fuel efficiency as illustrated in Exhibit 22 below.

Exhibit 22: Overview of Decarbonisation Levers for Aviation

Decarbonisation Levers	Medium-term GHG Impact (2035)	Long-term GHG Impact (2050)	Examples
Improvements to existing aircraft technology			• Continued fleet renewal • Aircraft optimisation
Development of new aircraft technology			• New electric propulsion technologies • New hydrogen-based propulsion technologies
Operational efficiency improvements			• Flight profile optimisation (efficient routing) • Airport energy supply decarbonisation
Use of Sustainable Aviation Fuel (SAF)			• Bio-Fuels (e.g. HEFA, ATJ) • E-Fuels (e.g. P2L)

Emissions coming from burning aviation fuel can be reduced by four key decarbonisation levers:

1. **Improvements to existing aircraft technology:** Fleet renewal options and aircraft optimisation solutions such as retrofits and weight reductions increase fuel efficiency, effectively reducing air travel emissions[90]. General upgrades such as engine improvements, airframe updates and lighter materials also reduce emissions, by around 20% compared to previous models.
   GHG impact: Continued improvements to existing aircraft technology and operational efficiency improvements will be the most relevant decarbonisation levers for the medium- and long-haul fleet, coupled with sustainable aviation fuels.

2. **Development of new aircraft technology:** New aircraft designs with alternative propulsion technology, such as electric or hydrogen-powered aircraft may in the long-term replace some traditional aircraft with conventional engines. Reducing emissions through new aircraft technologies will first become feasible for short-haul flights.
   GHG impact: New aircraft technologies and designs will likely be introduced towards the 2030's (small, short-range electric aircraft could be in service around 2030, and hydrogen might become a possibility around 2035). These could help to reduce emissions from at least short-haul flights in the long-term.

3. **Operational efficiency improvements:** Flight planning and flight profile optimisation as well as using ground power at airports will further reduce fuel intensity of airline operations.
   GHG impact: Operational efficiency improvements will be the most relevant decarbonisation lever for the short-term, along with continued improvements to existing aircraft technology, yet declining in significance in the long-term due to flattening efficiency curves.

4. **Use of Sustainable Aviation Fuel (SAF)** is a sustainable alternative to fossil-based jet fuel and can be used interchangeably in today's aircraft engines as a drop-in fuel (with a current blend limit of up to 50%, but this will shift to 100% over time)[91] SAF may reduce the fuel's life cycle emissions by up to 80% (when calculated with established life cycle assessment methodologies, compared to using conventional jet fuel) [92], depending on the SAF pathway[93] and potentially up to 100% by 2050.
   GHG impact: In the mid to long-term, SAF is expected to be the critical decarbonisation lever for the aviation industry[94] especially for emission reductions in medium and long-haul flights while facilitating integration within the existing fleet as it becomes available. SAF potentially accounts for approximately 65% of the emissions reductions required for the travel & tourism sector to achieve net zero CO2 emissions by 2050[95].

Further reading on the decarbonisation levers for Aviation can be found in the Annex (see Exhibit 33).

Sustainable Aviation Fuel (SAF) Trends

Current trends in the uptake of SAF indicate that momentum is not as widespread as anticipated. A recent Analysis of SAF Offtake Agreements show that 69% of global SAF usage is concentrated among three carriers: Air France-KLM, DHL, and IAG; Also, as of the end of 2023, European passenger and cargo carriers accounted for 78% of global SAF consumption, with more than 50% of airlines, based on fuel usage, not any SAF [96]. This concentration of usage underscores the need for strategic initiatives to encourage broader adoption of SAF among airlines, thereby advancing sustainability efforts and supporting emissions reduction goals.

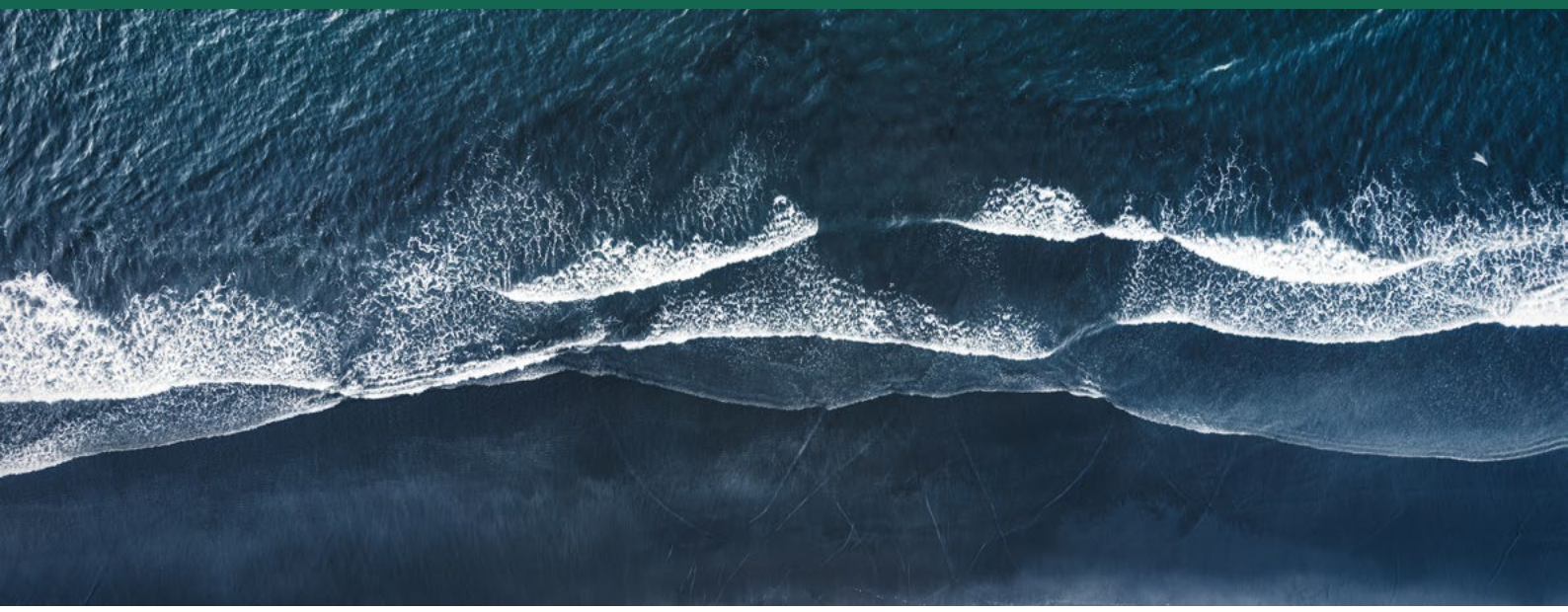
While demand for SAF is strong, with every drop produced being purchased and used, the limited production capacity remains a significant barrier. IATA highlights that SAF currently accounts for just 6% of all renewable fuel production, projected to increase only slightly from 3% in 2023. This scarcity keeps prices high, hindering wider adoption. To meet aviation's needs and drive down costs, IATA asserts that SAF production needs to represent 25% to 30% of overall renewable fuel capacity. This urgency is underscored by the fact that at least 43 airlines have already committed to using some 13 million Mt of SAF in 2030, with more agreements being announced regularly[97].

Government support is essential to realising the potential of the key levers, as described above, in aviation.
To enhance the adoption of SAF, governments should consider measures such as subsidies and loan guarantees to boost SAF capacity and narrow the price gap with conventional jet fuels. Directing research and development efforts towards local SAF production pathways and new energy industries and establishing supportive, globally aligned policy frameworks, could be highly beneficial[98]. The European Commission has actively initiated such measures, proposing mandates that require a minimum percentage of SAF in aviation fuel—targeting 5% by 2030 and rising to 63% by 2050 under the ReFuelEU Aviation initiative. These mandates are likely to stimulate both demand and investment in SAF production.

In the voluntary market, SAF is generally procured through a book-and-claim system, which separates SAF production, consumption, and emission reduction claims. This approach allows all aviation supply chain participants – fuel producers, airlines, corporations, and regulators – to engage in carbon reduction efforts. SAF can be produced and used at one location, while other stakeholders purchase its environmental benefits (often called SAF certificates or credits) via a digital credit registry. This system helps recover the additional production costs and enables carbon reduction claims, regardless of the stakeholders' physical location. By supporting airlines in meeting sustainability goals even without direct SAF infrastructure at every airport, the book-and-claim system helps speed up the shift to low-carbon aviation globally.

One notable example of a book-and-claim registry is Avelia, that ensures SAF environmental attributes are verifiable, properly tracked, and credited only once, maintaining the integrity of the system. Purchasing SAF credits through platforms like Avelia provides demand signals to encourage the production of additional SAF.

While more permanent technologies and fuels are developed, many airlines promote voluntary carbon offsetting programs to mitigate their climate impact and to engage environmentally aware consumers. In addition, ICAO's offset scheme (CORSIA) is a market mechanism agreed between countries whereby airlines flying between participating countries must purchase specific high-quality carbon credits to compensate for emissions that exceed 2019 levels on specific routes[99] .



Decarbonisation Levers for Cruise

Most cruise emissions are due to burning fuel that is used to move and operate cruise ships. Cruise ship operators can utilise some of the decarbonisation levers shown in Exhibit 23.

Exhibit 23: Overview of Decarbonisation Levers for Cruise

Decarbonisation Levers	Medium-term GHG Impact (2035)	Long-term GHG Impact (2050)	Examples
Operational efficiency improvements			• Designing ships for greater efficiency (hull technology) • Increasing efficiency via ship ops & maintenance • Onboard operational improvements (HVAC, lights) • Route planning, itinerary operations
Use of alternative lower carbon fuels			• Liquefied Natural Gas (LNG) as a transitional measure • Bio-LNG (liquefied biomethane)
GHG emissions efficient technologies			• More efficient propulsion systems • Cold Ironing, Shore Power Technology
Transition to batteries and other non-emitting technologies			• Battery systems • Fuel Cell Technologies • Minimising fuel use/engine emissions

Cruise emissions can be reduced by the following four decarbonisation levers:

1. **Operational efficiency improvements:** Reducing emissions by redesigning ships to enhance efficiency, increasing efficiency via ship operations and maintenance as well as reducing onboard power consumption through Heating, Ventilation, Air Conditioning (HVAC) and lighting upgrades.
. ***GHG impact: Although the use of alternative fuels and GHG emissions technologies may be considered the two main levers to reduce emissions, operational efficiency improvements are expected to have a more immediate impact in the short term.***

2. **Use of alternative lower carbon fuels:** Use of LNG, Bio-LNG, or other alternative sustainable fuels for passenger ships in ports. LNG has virtually zero sulphur emissions, a 95-100% reduction in particulate emissions, an 85% reduction in NOx emissions and up to a 20% reduction in greenhouse gas emissions[100]. LNG is also a fuel that is already available at the required quantities and can hence provide an immediate reduction in GHG emissions. Nonetheless, LNG is only seen as a bridge technology, and further effort needs to be geared towards the development of other low and zero emissions fuels that effectively reduce carbon emissions. Specifically, it will be key for cruise lines to partner with and encourage suppliers to drive sufficient supply and develop new fuel alternatives. Use of hydrogen will have an increasingly likely role as a future energy source.
GHG impact: As most cost from operating a cruise line comes from its fuel usage, cruise lines have already been investing significant effort to find ways to reduce carbon intensity. Consequently, the quick wins in fuel efficiency improvement have already been partially achieved. The next big step will be to find a pathway to alternative sustainable fuels. Hence, the use of alternative low carbon fuels is expected to have medium impact in medium- and strong impact in the long-term.

3. **GHG emissions efficient technologies:** New-build cruise ships should use more efficient propulsion systems, and save additional propulsion energy, for example via hydrodynamic optimisation. Additionally, whenever ports offer this facility, cruise operators should be able to use sustainable shore side power to plug into the local power grid and shut down the engine to reduce cruise emissions.
GHG impact: The development of GHG emissions efficient technologies is expected to have medium impact in medium- and stronger impact in the long-term, along with the use of alternative low carbon fuels.

4. **Transition to non-emitting technologies:** The use of battery systems, fuel cell technologies and hydrogen-powered engines have the potential to reduce fuel use and are currently being explored. Specifically, green hydrogen produced from renewable sources such as offshore wind is seen as an alternative fuel to lower the emissions in the shipping sector. ***GHG impact: Although the transition to non-emitting technologies is currently in early stages of development, its impact may be greater in the longer term, driven by innovation and technological breakthroughs.***

Lastly, individual cruise lines are voluntarily launching carbon offset programs to compensate for their residual carbon footprint and reach carbon neutrality goals based on Scope 1 emissions, which tend to account for 54% of a cruise line's footprint.

Further reading on the decarbonisation levers for Cruise can be found in the Annex (see Exhibit 33).

Decarbonisation Levers for OTAs & TAs

For OTAs/TAs, the largest share of CO2 emissions relates to offices and data centres. Amongst travel companies, there is a lack of consensus on whether they should include their travellers' footprint as part of their Scope 3 emissions. Since these businesses have limited control over most emissions related to travel booked via their platforms, they are hesitant to set net zero targets. Still, OTAs and TAs may use decarbonisation levers as illustrated in Exhibit 24.

Exhibit 24: Overview of Decarbonisation Levers for OTAs & TAs

Decarbonisation Levers	Medium-term GHG Impact (2035)	Long-term GHG Impact (2050)	Examples
Lower carbon energy sources			• Switch to lower carbon energy sources • Use on-site renewables
More sustainable business travel			• Use alternative modes of transport • Choose more sustainable flights
Office improvements			• Office space optimisation • Operational efficiencies • Technological upgrades • Leasing energy-efficient buildings
Purchase Goods & Services			• Encouraging sustainable procurement • Lowering the carbon footprint of supplier premises, data centres, use of cloud computing rather than on-premises infrastructure, equipment usage, etc.
Consumer and partner education on sustainability			• Creating awareness and helping clients and consumers get insight into the estimated footprint of their (travel) choices

When focussing on carbon emissions for OTAs and TAs, emissions can be reduced by the following five key decarbonisation levers:

1. **Lower carbon energy sources:** Reducing Scope 2 emissions by increasing energy efficiency by switching from fossil fuels to lower carbon energy sources and converting standard grid mix energy contracts to renewable energy contracts.
   GHG impact: Reducing office related emissions by lowering carbon energy sources is most impactful in the mid- and long-term since offices are the highest emissions source for OTAs and TAs.

2. **More sustainable business travel:** Encouraging and supporting staff to opt for alternative modes of transportation (e.g. rail) and where flying cannot be avoided, choosing more sustainable flights based on estimates provided by carbon calculators.
   GHG impact: This is considered to have the second highest reduction impact on OTAs and TAs emission levels. Further air travel decarbonisation benefits may be offered by commercialisation of Sustainable Aviation Fuel.

3. **Office improvements:** Office space optimisation efforts, carrying out efficiency upgrades in the highest emitting offices as well as leasing more energy-efficient buildings.
   GHG impact: Office related improvements are important but of lesser significance in the longer term, as the low hanging fruit have likely been exhausted.

4. **Purchased goods & services:** Encouraging sustainable procurement by working with partners and aligning on sustainability targets. OTA Scope 3 emissions may be reduced by lowering the carbon footprint of supplier premises, data centres, using cloud computing rather than on-premises infrastructure, equipment usage, etc.
   GHG impact: Sustainable procurement is considered to have a low CO2 impact in the medium-term, yet growing to medium impact in the long-term, driven by digitalisation and use of more efficient cloud computing as opposed to on-premises infrastructures.

5. **Consumer and partner education on sustainability:** Enabling decarbonisation in Travel & Tourism by creating awareness and helping clients and consumers get insight into the estimated footprint of their (travel) choices.
   GHG impact: Sustainability education is expected to have low CO2 impact in both the medium-term, and long-term, as its impact falls outside of the travel agencies' direct control. However, OTAs and TAs play a key and visible role in enabling the decarbonisation of the Travel & Tourism sector through collaboration with supply chain partners, creating awareness on sustainability concerns and educating consumers on their travel emissions footprint.

Large online travel companies, such as Booking.com and Expedia, are generally offsetting their environmental footprint to reach carbon neutrality. Some OTAs have also created carbon-offset strategies with the idea to offset past emissions of their operations. Generally, it is accepted that carbon offsets are a viable temporary solution to compensate for emissions that have not been reduced, though the priority should be on emission-reduction plans.

Further reading on the decarbonisation levers for OTAs & TAs can be found in the Annex (see Exhibit 33).

Overview Of Potential Actions

The following action tables (Exhibits 25–29) intend to provide tangible ideas on where to focus efforts on net zero carbon emissions in the short, medium, and long term and which level of impact to expect from the activities.

Exhibit 25: Action Items for Accommodation

Action Item	Key Lever	Description	Time Horizon	GHG Reduction Impact
Eliminate the use of plastics and reduce packaging materials	Reducing waste usage	Preventing waste by reducing single-use plastic from the entire operations chain.	Short	Low
Purchase key ingredients of the food value chain in a sustainable way	Sustainable procurement and sustainable sourcing	Ensuring that the key ingredients are sourced from sustainable and organic (certified) sources facilitates improving biodiversity as it allows to eliminate the species at risk from the value chain.	Short	Low
Source components of the food value chain locally	Sustainable procurement and sustainable sourcing	Sourcing of the key ingredients from the local suppliers allows to avoid negative transportation effects, depending on production methods and energy matrix.	Short	Medium
Reduce food-related emissions	Sustainable procurement and sustainable sourcing	Promoting plant-based menu items, reduce meat consumption, including in the meetings and events.	Short	Medium
Adapt high-efficiency appliances	Energy efficiency improvements	Replacing existing light fixtures with LED bulbs, HVAC, and outdated cooling systems, introduction of variable frequency drives, boiler/ chiller upgrades, and occupancy sensors.	Short	High
Introduce intelligent energy management systems	Energy efficiency improvements	Installing of smart energy management systems to prevent unnecessary energy use by automatically turning off the lights, closing curtains, or adjusting the thermostat when rooms are unoccupied.	Medium	Medium
Implement waste management systems	Reducing waste usage	Optimising waste sorting, recycling, reusing, composting, converting to energy to increase the materials diversion rate. Using the proper waste disposal streams for hazardous waste.	Medium	Medium
Introduce water management systems	Operational improvements	Equipping hotels with water regulators and low-flow dispensers, optimising swimming pool water consumption. Installing systems to recover rainwater & recycle grey water. Optimising hotels' irrigation schedule & redeveloping the property's evaporative tower system. Training housekeeping & kitchen staff to reduce water waste.	Medium	Medium

Introduce electric vehicle charging stations	Operational improvements	Offering electric vehicle charging stations to the hotel guests.	Medium	Low
Introduce shared mobility services	Operational improvements	Reducing of single-occupancy vehicle commutes by introducing shared transport facilities at the largest sites to reduce CO2 footprint & traffic congestion.	Medium	Low
Introduce on-site renewable power generation	Transition to low carbon energy	Generating renewable energy on site as an integral part of meeting the residual building load. Includes wind power, solar power, ground sources of heating & cooling, and biofuels.	Long	High
Introduce near-site renewables	Transition to low carbon energy	Opportunities for hotels to purchase energy from third parties separate from the utility grid (or as a para-utility partner) in PPAs, Sleeve PPAs, or community solar projects.	Long	High
Increase electrification	Transition to low carbon energy	Transitioning from certain energy use being powered by fuel burning, to being powered by electricity, e.g. installing electric-driven chillers and heaters, storing electricity on-site.	Long	High
Design sustainable buildings	Energy efficiency improvements, climate resilience, & ecosystem protection	Incorporating sustainability criteria into the concept specification and design of the hotels.	Long	High

Exhibit 26: Action Items for Tour Operators

Action Item	Key Lever	Description	Time Horizon	GHG Reduction Impact
Minimise the necessity of business travel	Other business travel	Limiting business travel through promotion of use of video conferencing and remote working.	Short	Medium
Eliminate single-use plastic from operations	Trip footprint / Office energy & waste	Preventing waste e.g. by reducing single-use plastic from the entire operations chain.	Short	Low

Reduce printed materials / brochures	Office energy & waste	Reducing manufacturing of brochures and other consumer materials e.g. by introducing an app that acts as a 'one-stop-shop' for the consumers.	Short	Low
Reduce energy consumption in the office	Office energy & waste	Introducing efficiency upgrades: movement detection control systems, LED lighting, inclusion of energy performance clauses in contracts with vendors.	Short	Low
Optimise ground fleet	Trip footprint	Increasing the efficiency of the coach fleet by investing in fuel-efficient vehicles, installing fuel consumption monitoring systems, optimising the routes, and training drivers on more efficient driving techniques.	Medium	Medium
Use more sustainable means of transport	Trip footprint	Optimising itineraries where possible so that the travellers can use more environmentally friendly transportation (e.g. buses, trains, or more sustainable flights).	Medium	Medium
Support alternative solutions for business travel	Other business travel	Encouraging staff to opt for alternative modes of transportation and choosing more sustainable flights if air travel cannot be avoided.	Medium	Medium
Measure sustainability performance of retail shops	Office energy & waste	Roll out of a dashboard providing with real-time information of how each shop is performing against its energy targets.	Medium	Low
Collaborate with the local partners to sustainably manage natural resources	Trip footprint	Partnering with the in-destination partners on the environmental initiatives and local management of natural resources.	Medium	Low
Promote sustainable trips	Trip footprint	Encouraging consumers to opt for more sustainable trips, e.g. by promoting experience-based approach to travel that emphasises connection to local culture, making conscious decisions and helping the environment by reducing travellers' global footprint.	Medium	Low
Ensure hotels meet criteria for sustainability certification	Trip footprint	Ensuring partner hotels have credible sustainability certification, building sustainability into the concept specification of the hotels and setting specific sustainability targets.	Medium	Low
Educate hotels on environmental topics	Trip footprint	Showcasing global sustainability standards through publishing environmental guidelines, providing easy-to-follow action plans on carbon reduction, developing a support forum for hotels to share sustainability learnings and drive improvements.	Medium	Low

Assess sustainability performance of the tours	Trip footprint	Assessing the sustainability criteria of the tours, such as completion of sustainability training by the guide or including sustainability-friendly practices for the visitors.	Medium	Low
Increase energy efficiency in the office	Office energy & waste	Moving from usage of fossil fuels to low carbon energy sources and using electricity generated from on-site renewables.	Long	Medium
Introduce an offsetting system for travellers	Trip footprint	Including the possibility to offset carbon emissions released on a journey.	Long	Medium

Exhibit 27: Action Items for Aviation

Action Item	Key Lever	Description	Time Horizon	GHG Reduction Impact
Implement state-of-the-art aircraft technology for flight profile optimisation	Operational efficiency improvements	Introducing innovative software (e.g. optimising the climb speed profile of the flight to reduce fuel consumption without affecting the duration of flight, considering aerodynamic parameters, engine efficiency and wind/temperature gradients) and services (weather forecast model retrieved in real-time from the global aviation weather provider).	Short	Low
Implement necessary infrastructure adaptations for Airport energy supply decarbonisation	Operational efficiency improvements	Ground infrastructure adaptations for radical new aircraft concepts. Provision of necessary infrastructure for clean electricity supply, hydrogen, and battery recharging facilities at the airports.	Medium	Low
Fleet renewal - Replace old fleet with the more sustainable aircraft	Improvements to existing aircraft technology	Replacing the retired aircraft only with the environment-friendly fleet.	Medium	Medium
Improve performance of the existing aircraft	Improvements to existing aircraft technology	Retrofitting of the in-service aircraft with the evolutionary technologies or building them into existing types as they come off the production line over the next years.	Medium	Medium

Deploy SAF	Use of Sustainable Aviation Fuel (SAF)	Reducing fossil fuel consumption through introduction and acceleration of use of sustainable aviation fuels.	Long	High
Commit to SAF offtake agreements at an early stage	Use of Sustainable Aviation Fuel (SAF)	Long-term investment in SAF offtake agreements at an early stage.	Long	High
Set up the policy infrastructure required for SAF acceleration	Use of Sustainable Aviation Fuel (SAF)	Introducing best practices regarding the sustainability standards, accounting procedures, logistics, communication, effective policy, and business case development.	Long	High
Accelerate research into radical airframe designs, electric and hydrogen propulsion	Improvements to existing aircraft technology	Exploring the potential and participating in the evaluation of advanced technologies. Accelerate product cycles and innovation speed with enhanced digital capabilities, keeping the affordability of new products in focus.	Long	Medium

Exhibit 28: Action Items for Cruises

Action Item	Key Lever	Description	Time Horizon	GHG Reduction Impact
Deploy lower carbon fuels	Alternative Low Carbon Fuels	Introducing use of sustainable shipping fuels and advanced fuel technologies. Relying on LNG for primary propulsion, as it has a lower carbon emission profile, eliminates sulphur, and significantly improves overall air emissions. Nevertheless, the overall goal for cruise lines should be to help enable the development of new technologies and fuels.	Short	High
Install shore-side power capability wherever possible	GHG Emissions Efficient Technologies	Encouraging port developments and activities globally to facilitate reduction of GHG emissions from shipping, including provision of ship and shore-side/on-shore power supply from renewable sources, infrastructure to support supply of alternative low carbon and zero-carbon fuels, and to further optimise the logistic chain and its planning, including ports. Although many cruise lines are already fitting shore power capability as standard, some ports may not have the systems to provide it.	Short	Medium
Optimise engine operational performance of the ship	Operational Efficiency Improvements	Operating single engine running, or drifting on passage, so that the engines can run at their most efficient speed – all of which cuts energy demand.	Short	Medium
Analyse the use of itineraries optimisation as a measure	Operational Efficiency Improvements	Applying changes to itineraries affecting speed, routes and distances travelled to reduce fuel consumption and CO2 emissions per passenger night.	Short	Medium

Further improve the energy efficiency framework	GHG Emissions Efficient Technologies	Improving the existing energy efficiency framework with a focus on Energy Efficiency Design Index (EEDI) and Ship Energy Efficiency Management Plan (SEEMP), taking into account the outcome of the review of EEDI regulations. Energy efficiency improvements are also driven by proposed new regulations by IMO for existing ships, i.e. EEXI and CII, leading to a substantive difference to the way the industry operates cruise ships.	Medium	Medium
Develop technical and operational energy efficiency measures for the ships	Operational Efficiency Improvements	Developing the energy efficiency measures for both new and existing ships, including consideration of indicators in line with the three-step approach that can be utilised to indicate and enhance the energy efficiency performance of shipping, e.g. Annual Efficiency Ratio (AER), Energy Efficiency per Service Hour (EESH), Individual Ship Performance Indicator (ISPI), Fuel Oil Reduction Strategy (FORS).	Medium	Medium
Test fuel cells technologies	Transition to batteries and other non-emitting technologies	Participating in the joint venture projects to develop and test a decentralised energy network and a hybrid energy system with a new generation of fuel cells for use in oceangoing passenger vessels.	Long	High
Develop the hybridity of the ships	Transition to batteries and other non-emitting technologies	Fitting of batteries to enable generators to be switched off at dock, at anchor and when in proximity to inhabited areas.	Long	High
Explore alternative power systems	Transition to batteries and other non-emitting technologies	Cooperating with suppliers to co-develop and introduce battery storage systems on a cruise ship that can power the ship's propulsion and operation for limited periods of time.	Long	Medium

Exhibit 29: Action Items for OTAs & TAs

Action Item	Key Lever	Description	Time Horizon	GHG Reduction Impact
Prioritise critical business travel	Streamlining business travel	Prioritising business travel and opt for use of video conferencing and remote working when not needed.	Short	Medium
Introduce shared mobility services	Streamlining business travel	Reduction of single-occupancy vehicle commutes by introducing shared transport facilities at the largest sites.	Short	Low

Reduce energy consumption in the office	Office improvements	Introducing efficiency upgrades, such as movement detection control systems, LED lighting, inclusion of energy performance clauses in contracts with vendors.	Short	Low
Optimise server utilisation rate	Office improvements	Migration of products and data storage to the cloud to improve overall energy efficiency.	Medium	Medium
Launch CO2 calculator of the travel	Consumer and partner education on sustainability	Providing travellers with an estimate of emissions released during a journey at the booking stage. Possibility to compare emissions from different itineraries or means of transport.	Medium	Medium
Support alternative solutions for business travel	Streamlining business travel	Encouraging staff to consider more sustainable modes of transportation.	Medium	Medium
Source sustainably purchased products & services	Purchased goods & services	Encouraging sustainable procurement through working with supply chain partners and aligning on sustainability targets.	Medium	Low
Display accommodation partners' sustainability certificates & initiatives	Consumer and partner education on sustainability	Displaying officially approved sustainability certifications and chosen sustainability initiatives to provide consumers with transparent information.	Medium	Low
Increase energy efficiency in the office and deploy renewable energy	Lower carbon energy sources	Moving from usage of fossil fuels to low carbon energy sources, converting standard grid mix energy contracts to renewable energy contracts in the office locations.	Long	Medium
Improve Power Usage Effectiveness of the data centres	Office improvements	Improvement of the energy-efficiency of the data centres, renewal of the low-voltage distribution units, implementation of more efficient cooling machines and optimisation of intelligent control systems.	Long	Medium
Introduce sustainable product bundles	Consumer and partner education on sustainability	Creating sustainable product bundles (e.g. sustainable flight + hotel + airport transfer) to meet increasing consumers' expectations towards sustainable travelling.	Long	Medium
Introduce carbon-offsetting system & reward consumers choosing offsetting options	Consumer and partner education on sustainability	Including the possibility to offset carbon emissions released on the journey and rewarding the consumers choosing carbon offsetting options with points that can be redeemed in environmental initiatives.	Long	Medium

Create dashboards for business trips	Consumer and partner education on sustainability	Introducing dashboards for business travellers, including a full analysis of their carbon footprint, comparing it to previous years, benchmarking against other colleagues, and the business.	Long	Low
Introduce post-trip CO2 reporting tools	Consumer and partner education on sustainability	Possibility to obtain aggregated post-trip CO2 emissions reports.	Long	Low
Introduce educational cooperation programmes with accommodation providers	Consumer and partner education on sustainability	Rolling out programmes for accommodation partners that support them in becoming more sustainable, sharing guidance and best practices via educational opportunities, including sustainability handbooks and dedicated content.	Long	Low

Conclusion And Call To Action

Conclusion

While progress towards decarbonisation has been made, this research highlights the diversity within the sector, differences in context as well as variety in commitments across industries and companies in Travel & Tourism. The sector must continue developing long-term strategies and targets consistent with the Paris Agreement and latest scientific recommendations, aligned to relevant national and international policies and strategies, to achieve net zero emissions goals.

The analysis showed that 53% of the Travel & Tourism businesses analysed currently have publicly announced climate targets. Though many targets are not yet based on the latest science, it is promising to see that many businesses are currently in the process of revising and adapting their targets to reach standards like those set by SBTi, and many others, putting climate action much higher on their priority lists. Of course, key for monitoring this progress will also be the transparent sharing of these activities through more harmonised methodologies.

Overall, the Travel & Tourism sector has made progress since the 2021 edition of Net Zero Roadmap but still needs to accelerate efforts to meet the 2050 target. More businesses have climate targets, but implementation and execution have been slower than what is needed. A strong volume recovery highlights the need for continued focus on decarbonisation, particularly in certain geographies experiencing strong growth. New target frameworks and net zero pathways have been established, but challenges remain in carbon data measurement, regulation, and infrastructure.

Moving forward, progress will depend on addressing various challenges, some common to all focus industries and some more specific to individual ones. These include emission measurement, especially Scope 3 emissions, the fragmented regulatory landscape, inconsistencies in reporting standards and insufficient budgets remains issues. Moreover, the special challenges for SMEs in the sector, which make up the majority of Travel & Tourism businesses, will require strong commitments from all stakeholders to increase collaboration and ensure inclusiveness.

There are clear opportunities for Travel & Tourism to achieve net zero in many areas and industries even before 2050. However, as businesses define their commitments based on their respective corridors, they will require support, particularly for those businesses with hard-to-abate emissions. As the sector pushes for the highest ambitions and an acceleration of climate action overall, it will have to join forces to strengthen the innovation needed for new technologies and alternative fuels to decouple Travel & Tourism growth rates from resource use and emissions for a net zero future. There is no doubt, time is of the essence and our actions of today define our world of tomorrow.

Call To Action

Given that higher ambition targets and differentiated decarbonisation approaches can lead to achieving net zero in many areas of the Travel & Tourism sector even before 2050, we therefore call on businesses to increase their ambitions where possible:

1. Set the right baselines and emission targets now to achieve individual & sector goals:

For all Travel & Tourism businesses:

- Where possible, halve emissions by 2030. It is recognised that not all industries may be able to achieve this, but ambitions should be set as high as feasible.
- Join important sector-wide initiatives that include accountability mechanisms and help with clear guidance, such as the Race to Zero Campaign, the Glasgow Declaration on Climate Action in Tourism, and Tourism Declares A Climate Emergency.
- Create climate action plans now that help guide the implementation of activities required to achieve targets, which are regularly reviewed and adapted, if needed.
- Strive for a complete net zero future for the sector by 2050.

For all Travel & Tourism businesses that do not have defined climate targets yet:

- Start the target definition process and ensure that targets are science-based and aligned with relevant national and international policies and strategies.
- Set ambitions as high as possible, in alignment with corridor aspirations, yet keep them feasible.
- Gather data to establish required baselines to track progress over time.

For all Travel & Tourism businesses that already have baselines and set a target, but it is not aligned with SBTi:

- Review and update your targets so they are science-based, building on the aspirations of the decarbonisation target corridor that correspond most to each individual business model.
- Revise your targets and decarbonisation approaches regularly and finetune them regularly.

2. Monitor and report progress:

- Share your defined climate targets with the public.
- Define emission boundaries for all three scopes and monitor them as accurately and regularly as possible.
- Share your monitoring results and progress on a regular basis, ideally, annually, with the public.
- Share your lessons learned and best practices with the Travel & Tourism community.

3. Collaborate within and across industries:

- Join and regularly participate in industry alliances and networks to share and learn from others' climate actions and experiences and stay up to date with latest developments.
- Engage especially in methodological dialogues to ensure alignment in monitoring approaches and drive standardised frameworks for reporting.
- Support other Travel & Tourism businesses that are not as far advanced, in particular SMEs, and learn from those that are.
- Encourage and support the integration of Travel & Tourism into local, regional and national climate plans and strive for alignment with them.

4. Provide finance and investment required for the transition:

- Understand your financial needs to achieve your climate targets.
- While one or the other may be the focus, invest in both mitigation and adaptation measures.
- Adopt more extensive carbon pricing mechanisms to help steer climate-conscious purchase behaviour.
- Invest in and support low-emissions solutions, circularity, Nature-based Solutions etc. within the business and along the value chain.
- Advocate for more government and regulatory support for Travel & Tourism businesses, including SMEs, to strengthen investment-friendly environment for climate action. This includes campaigning for financial incentives to industries where decarbonisation represents major costs.

5. Raise awareness and build capacities on climate:

- Invest in human capital through sustainability training and development.
- Prioritise building climate expertise in-house but also recognise when external support is needed.
- Advocate, where needed, to move climate action and sustainability on top of the business priority list. A CSO is at the C-level. Maybe 'Appoint a sustainability lead (ideally at the C-level)' and establish dedicated sustainability teams where needed.
- Make sustainable options the default for customers with an option to opt-out, instead of opting-in.
- Set up accountability mechanisms for change within the business so that climate commitments and activities endure potential future system changes (e.g. merger & acquisition or change of leadership).

6. Move from planning to implementing net zero actions:

- Prioritise actionable steps and work towards short-term milestones to ensure continuous progress toward net zero.
- Allocate dedicated resources, both human and financial, to facilitate the swift implementation of climate actions[101].
- Integrate net zero actions into business operations by embedding sustainability into decision-making processes at all levels.
- Develop a feedback loop to assess the impact of implemented actions and adjust strategies in real-time to achieve set targets.

In the context of the presented research results, WTTC, in its role as the leading advocate of Travel & Tourism, will continue to support the sector on its journey to net zero together with its partners. To do so, WTTC will aim to expand and continue its research on climate commitments and progress made to ensure regular insights, including through its Environment and Social Research (ESR). Efforts will also be made to develop specific tools that facilitate the access to needed information, such as on policies and regulations. Furthermore, the organisation will continue to advocate for differentiated decarbonisation approaches and encourage Members to open-source emission calculation methodologies and decarbonisation strategies and openly report on impacts and results. At the same time, WTTC will strive to strengthen collaboration with, and support of, relevant organisations and initiatives within and beyond the sector. Finally, with the objective to close the gap between discussions around biodiversity and nature conservation with the discussion around climate action and decarbonisation, WTTC is committed to work with Travel & Tourism stakeholders to ensure that the sector has a voice in the relevant discussions around these important issues and support the sector in translating the outcomes into tangible actions.

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ANNEX:

For further reading, glossary of terms and report methodology can be found in the Annex

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