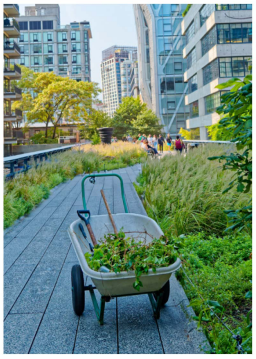
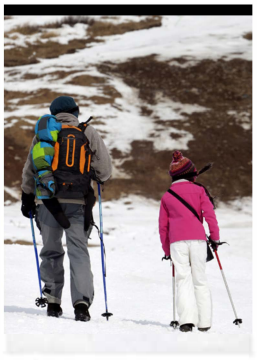
TPCC

TOURISM PANEL
ON CLIMATE CHANGE





Tourism and Climate Change Stocktake 2023

Key Findings for Policymakers

Foreword

We are pleased to present this first Tourism and Climate Change Stocktake, after a year of extensive international collaborations related to the state of tourism and the climate crisis. It follows the TPCC Foundation Report introduced during COP27 in November 2022.

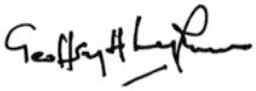
This Stocktake was undertaken by over 60 global experts who assessed progress and gaps in critical dimensions of tourism climate action, including mitigation, adaptation, policy, and finance. The key findings, distilled and highlighted within each chapter, collectively indicate that the entire tourism sector needs to go further and faster to rapidly reduce tourism emissions, accelerate climate resilient tourism development, and advance inter-sectoral and international collaboration to support the transformative response needed to achieve the goals of the Paris Climate Agreement.

At present, no country, no destination, and no sub-sector have achieved meaningful reductions in tourism greenhouse gas emissions. The many signs of progress, good practice and innovation identified in the Stocktake need to be urgently scaled. Overall, observed action and incremental change is insufficient to achieve the climate goals articulated in the Glasgow Declaration on Tourism and Climate Action of halving emissions by 2030, and achieving net zero GHG emissions by 2050, or earlier. At the same time, the intensification of observable impacts of climate change on tourism destinations is unmistakeable. Few tourism authorities have focused adequately on the potentially massive impacts of climate hazards and the paradigm shift that will be required in the transition to climate resilient tourism development.

The findings raised many challenging questions about the future of tourism in a climate resilient and net-zero emissions world. To what extent does tourism need to be decoupled from difficult-to-mitigate air travel? What are the climate justice implications of such a decoupling and other proposed tourism mitigation policies, including the production and allocation of Sustainable Aviation Fuels? What is the reputational risk and consumer response of falling short of sector emission reduction goals? How do we keep tourists and tourism workers safe from worsening and more frequent climate hazards? Where compounding climate change impacts severely degrade current forms of tourism in communities and countries dependent on international tourism, what mechanisms could support a just transition for developing countries and those with lost tourism industry? How can co-benefits of tourism sector adaptation enhance climate resilient development in destinations around the world, but particularly in highly vulnerable low-income countries? What governance arrangements are needed to rapidly redirect climate finance to support climate resilient tourism development? How can climate compatible practice and tourism development be scaled up to become sector-wide standard?

Climate action in tourism is heavily influenced by other sectors, and tourism can do more to leverage its advocacy power within climate governance to accelerate solutions and avoid unintended consequences. The complexity of advancing climate action in tourism, whilst recognising tourism dependency in some countries and tourism contributions to biodiversity protection, requires an integrated approach involving multi-sector policy coordination and partnerships between public and private sectors. Tourism administrations must strengthen the collaboration with agencies leading the climate response in energy, transport and infrastructure systems, ecosystem management, and risk reduction and response. Partnerships will also be necessary to achieve adequate levels of climate finance for tourism climate action. Redirection of public sector funds towards investments that support low GHG, climate resilient tourism is imperative.

In 2023, the world witnessed an extraordinary succession of broken climate records, causing widespread and profound impacts on ecosystems and society. This moment compels a proportionate response from the tourism community, and we hope the new collaborations and foresight emerging from this Stocktake provide a stimulus toward a new era of climate resilient global tourism.



Prof. Daniel Scott
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TPCC Executive Board December 2023

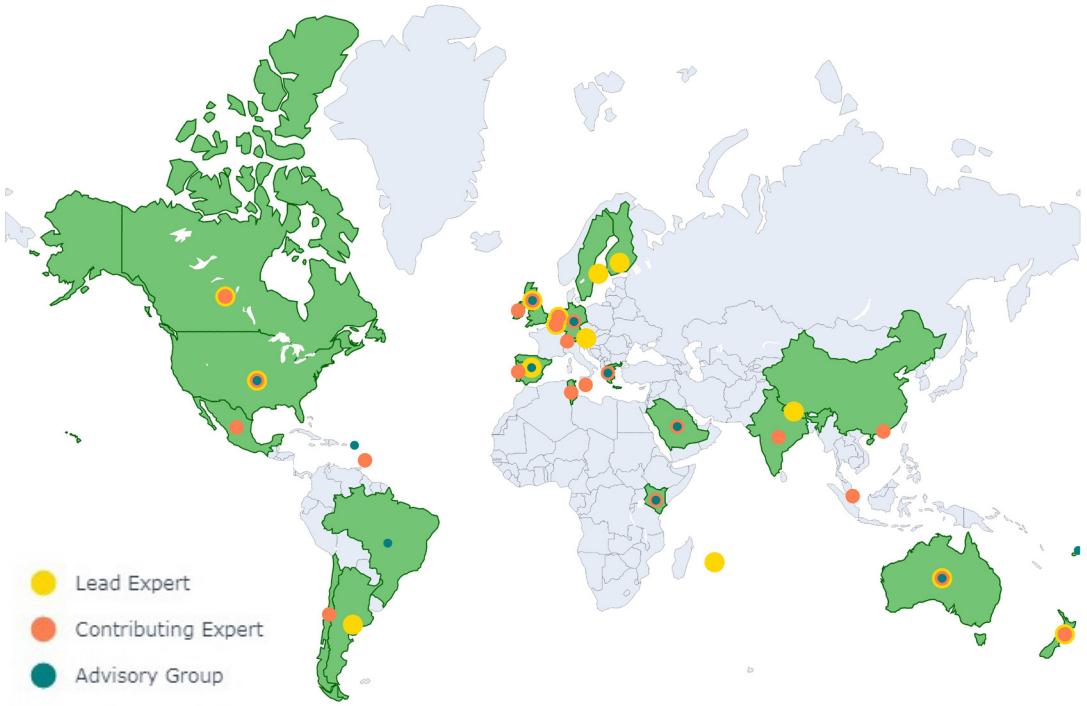
Why a Tourism Sector Stocktake?

The travel and tourism sector is a vital component of the global economy, responsible for an estimated 10% of global GDP and supporting one in 10 jobs worldwide, with even greater contributions to livelihoods in many developing economies. For many countries, tourism represents an important pathway for development and nature conservation. At the same time, tourism is a major contributor to global greenhouse gas (GHG) emissions (approximately 8-10%) and recognized as one of the sectors most vulnerable to climate hazards. Climate change is the foremost challenge to sustainable tourism.

This Stocktake is intended to assess progress on sector climate action (using 40 metrics) and provide insight to tourism policymakers and actors in business, civil society, and academia who operate within or in partnership with the tourism sector to advance climate resilient tourism development worldwide.

Our Process

The TPCC brought together more than 60 leading experts from over 30 countries and from across academia, business, and civil society in a 10-month process of indicator development, analysis, and peer review to ensure the most authoritative and robust information was available for this Stocktake. The Lead Experts, Contributing Experts, and Advisory Committee members that comprise the TPCC are identified at the end of this document.



The Tourism Panel on Climate Change (TPCC)

TPCC Vision	Our vision is a new era of climate resilient global tourism that is on track to achieve net zero emissions by 2050 and is successfully adapting to the accelerating impacts of climate change through actions that broadly advance the Sustainable Development Goals.
TPCC Mission	Our mission is to inform and rapidly advance science-based climate action across the global tourism system in support of the goals of the Paris Climate Agreement.

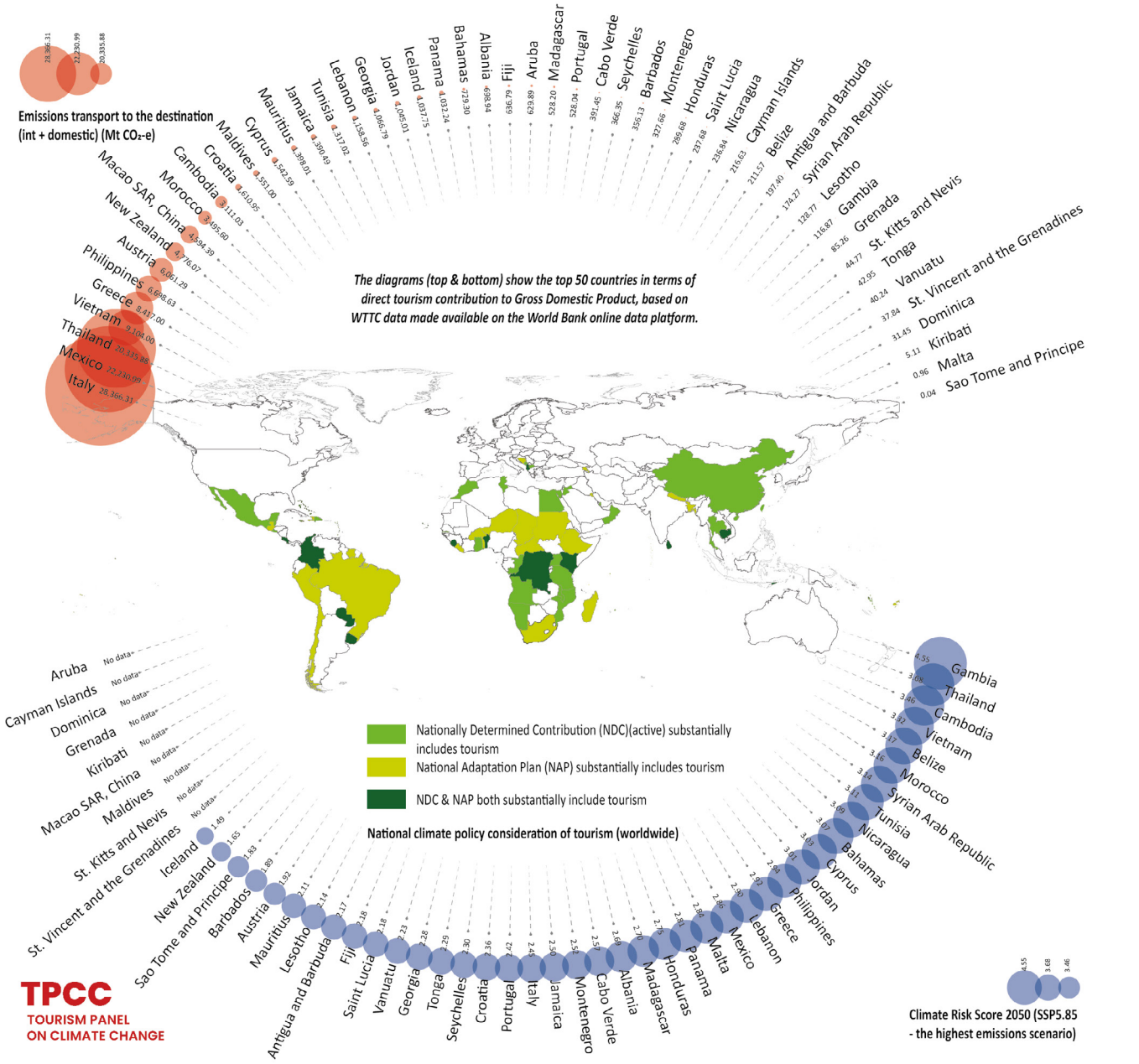
Key Findings

A total of 24 key findings have been distilled from the Stocktake and are presented in five key areas: (1) sector emissions and mitigation, (2) climate impacts and adaptation, and key enablers of climate action, including (3) tourism climate policy, (4) climate finance, and (5) capacity-building.

The Figure below summarises key aspects of climate resilient tourism development for the top 50 tourism countries in terms of contribution to Gross Domestic Product. The visualisation combines tourism transport emissions attributed to each country (in red), with climate hazard exposure (blue) and national climate policy consideration of tourism as evident in Nationally Determined Contributions and National Adaptation Plans.

What is Climate Resilient Development?

The Intergovernmental Panel on Climate Change Sixth Assessment defines climate resilient development as 'a process of implementing greenhouse gas mitigation and adaptation options to support sustainable development for all.' It emphasizes the interdependence of climate action and sustainable development, the intersection between mitigation and adaptation, and the importance of agency and just societal transitions.



Tourism Sector Emissions and Mitigation

1. Many countries support tourism because of its integral role in contributing to economic development. Tourism has seen significant growth and is continuing to grow faster globally than the rest of the economy, putting greater pressure on the need to decouple growth from emissions. Continued capital investments and trends toward longer average travel distances and more air travel are key barriers to emission reductions.

2. Approximately 8-10% of global emissions are from tourism. Data show that tourism emissions have increased annually over the decade prior to Covid-19 disruptions, and tourism is not on track to achieve the Glasgow Declaration on Climate Action in Tourism interim target of reducing emissions by 50% by 2030. Urgent whole-of-sector leadership is required for tourism emissions to peak and decline substantially by the end of the decade.

3. Tourist transport emissions have increased by 65% between 1995 and 2019. Air travel was a key driver of this growth, now contributing 26% of all tourist trips (domestic and international), but 75% of tourist transport emissions. Existing aviation technologies are unlikely to fully mitigate emissions by 2050. Sustainable aviation fuels can contribute to mitigating aviation's climate impact, but their net GHG improvement, broader sustainability, scalability, and climate justice implications will constrain production. Emerging technologies will play an expanding role after 2040.

4. Rail travel is growing in some countries and can potentially gain a substantial share of short-haul tourism transport at low emissions where networks exist, or major new infrastructure investments are made. Rail represents the lowest emissions form of transport in tourism even with current use of fossil fuels. Further decarbonisation of rail relies on sufficient availability of low carbon electricity, which remains lacking in many countries.

5. Personal light duty vehicles (LDV) remain a key transport mode in tourism (32% of all tourist trips in 2019, and 15% of tourist transport emissions). Continuing improvement in global fuel efficiency and standards, as well as the increasing shift to low-emission electric vehicles is critical to reduce emissions from related tourism mobility. Important challenges remain in the electrification of LDV for tourism, including under-developed intercity, destination and accommodation charging networks, as well as availability of low-carbon electricity in many jurisdictions.

6. The GHG intensity of hotel operations is gradually improving among leading operators in some regional markets but, without acceleration and expansion globally, will fall short of reducing emissions by 50% by 2030. Energy demand per room remained steady, indicating that emission reductions are the result of decarbonisation of electricity rather than lower energy consumption in the hotel.

7. Shortfalls in mitigation from low-emission technologies and their implementation mean that demand management and shifts in consumer behaviour away from the highest-emitting tourism activities are a necessary part of measures to achieve GHG reduction targets.

8. Global tourism emissions are heavily concentrated in a few high-income outbound markets and destinations. The unequal distribution of tourism emissions and potential mitigation strategies have important climate justice implications.

9. The social cost of tourism carbon emissions is increasing and is likely to equal or exceed its direct contribution to the global economy by as much as US$2 trillion in 2030. The climate justice implications of travel emissions predominantly from high-income countries, and the disproportionate burden of the social costs of tourism emissions in highly vulnerable countries, compels greater consideration in tourism sector climate responses.

"Tourism stands at the very heart of the sustainable development challenge. On the one hand, tourism is the way we come to know the wider world and to cherish the world's natural and cultural diversity. On the other hand, tourism directly impacts the planet through emissions linked to tourist-linked transport and operations, and through the irreversible damage that unsustainable tourism can cause on natural and cultural heritage sites. For these reasons, the tourist sector has both a wondrous opportunity to lead in global climate awareness and action, and a heavy responsibility to ensure the sustainable development of the tourist sector itself. This stock-taking exercise is therefore exemplary in the detailed information it conveys and in the sober message at its core: the tourist sector has far more to do to match its major role and it profound stakes in climate action. It should be widely read, acted upon, and replicated by other sectors of society."

Jeffrey D. Sachs
University Professor at Columbia University
President of the UN Sustainable Development Solutions Network

"As a staunch advocate for sustainable and climate-friendly practices in travel, and a firm believer in harnessing the power of accurate data for effective management, I am very pleased to see the completion of the inaugural TPCC Tourism and Climate Stocktake. At Khiri Travel, we are committed to utilizing the valuable insights from this report to further our efforts in promoting sustainability. While recognizing the importance of addressing climate concerns, it's crucial to underscore that responsible travel practices are an integral part of the solution, and we remain dedicated to minimizing our environmental impact."

Willem Niemeijer
Founder & CEO, Khiri Travel

Tourism Sector Climate Change Impacts and Adaptation

10. Climate change exposure and impacts are anticipated to be far-reaching for tourism. High sector vulnerability often coincides, both with regions where tourism contribution to GDP is high and those where tourism growth is anticipated to be the strongest through to the 2050s. Current forms of tourism will not be viable at some destinations.

11. Tourism can be a support mechanism for biodiversity and ecosystem management, although careful management of tourism impacts on biodiversity is required. The continued ability of tourism to support biodiversity conservation requires due consideration of associated GHG emissions from travel, sequestration potentials, and whether tourism to support adaptations such as ecosystem restoration or expanded protected areas are maladaptive.

12. Assessments of the integrated effects of climate hazards at the destination scale remain very limited, providing an incomplete and potentially under-estimate of risk. More comprehensive understanding of the interactions of multiple hazards as well as from climate change responses is needed to inform effective adaptation.

13. Combinations of high levels of poverty, unsustainable tourism development and multiple climate hazards are undermining prospects of achieving sustainable development goals while exacerbating climate injustice in island and mountain destinations in low- and medium-income countries.

14. Insight into the extent, effectiveness (current and future climate), co-benefits and equity of climate change adaptation in the tourism sector is very limited. Improved monitoring and evaluation are important to inform sizeable future investments in adaptation.

15. There is increasing consideration of adaptation and resilience building in tourism plans and strategies, but sector-specific actions remain fragmented, near-term focused and unequally distributed across regions and destination types.

16. Compounding climate hazards and limits to adaptation mean that current forms of tourism will not be viable in some destinations (e.g., ski tourism at low elevations, beach tourism in highly erodible coastlines, desert destinations). Where alternate tourism markets and destination rebranding are not successful, a just transition requires support for those with lost tourism-dependent livelihoods.

"The travel industry must internalize the profound risks of climate change to the fundamental assets they depend on, people, planet, and infrastructure, and prioritize actions to adapt to rapidly changing conditions and prevent further harm. Only in this way will the industry flourish economically and remain a force for good."

Isabel Hill
Former Director National Travel and Tourism Office, USA

Tourism and Climate Policy and Planning

17. Tourism policy is not yet integrated with global and national climate change frameworks, despite an increase in sectoral climate pledges. Only 18% of Nationally Determined Contributions and 43% of National Adaptation Plans submitted over time address tourism, respectively. Tourism is omitted from climate change frameworks in many countries where tourism represents a high proportion of the economy. The separate treatment of domestic and international aviation and cruise liners at international and national levels is a governance challenge for effective tourism mitigation policy.

18. Most national tourism policies or plans give limited consideration to climate change, although this is starting to improve. Tourism policies are currently not addressing mitigation in high emission forms of tourism, nor are they incentivising the development and choice of low-carbon tourism products.

19. Emerging good practice in destination governance falls far short of the need for sector-wide action to measure and mitigate tourism destination emissions and increase adaptive capacity and climate resilience. While increasing attention is given to the sustainability of tourism at the destination, travel to the destination often remains excluded.

"The Glasgow Declaration is a pivotal roadmap for the tourism sector's journey towards decarbonization. It offers a collaborative platform for all stakeholders to advance collectively in aligning with the Paris Agreement. By embracing this framework, we can not only reduce emissions but also foster a regenerative approach to tourism that ensures sustainability, competitiveness and resilience. Our united efforts under this declaration are key to reshaping the future of tourism for a healthier planet."

Zoritsa Urosevic
Executive Director, United Nations World Tourism Organisation

Tourism Climate Finance

20. Governments continue to invest in tourism infrastructure that is climate vulnerable and linked to high GHG emission intensity. For example, by providing 68% of US$601 billion for airport projects globally. Explicit fossil fuel subsidies of US$732 billion globally are hindering the reallocation of investment into the low-carbon transition in travel and tourism. Global efforts to address the gap in adaptation finance would support climate resilient tourism development, particularly in highly vulnerable countries.

21. International development for tourism tends to support large infrastructure projects. The share of global projects that address climate change and tourism and thus likely to advance climate resilient tourism represents just 8% of US$7198 million invested between 2000 and 2022, with a greater support for adaptation than mitigation projects.

Tourism Climate Response Capacity Building

22. While media coverage and consumer awareness of climate change and tourism have increased, there is limited evidence of behavioural change towards lower carbon tourism. The reputational risk for tourism remains uncertain. Provision of carbon labelling or relevant information and 'visitor pledges' may contribute positively to change.

23. Although there is a large and recognised need to build climate change capacity in tourism, training in industry and tourism education programs remains very limited. Including climate change in university tourism curricula, as well as building climate literacy among tourism professionals, are key paths for enhanced climate action.

24. Research and scientific capacity to inform evidence-based climate action in tourism has increased substantially, but major thematic and geographic gaps remain, particularly in many highly vulnerable countries and regions in the Global South. This raises the risk of short-term and maladaptive responses to climate-related risks, and of limited identification and consideration of adverse side-effects of adaptation and mitigation strategies.

"Climate change is at the forefront of issues affecting tourism both now and into the future. This extremely valuable report provides the basis by which the tourism sector can identify not only the actions that need to be taken but also the critical gaps in knowledge that need to be filled. The report should be compulsory reading for tourism policymakers and businesses as well as the tourism academy if the societal value of tourism is to be maintained long-term."

Prof. C. Michael Hall
University of Canterbury, New Zealand, Co-Chief Editor, Current Issues in Tourism

Conclusion

This first tourism sector Stocktake has been based on the best available independent science and global leading expertise from across the tourism sector with the aim of increasing the accuracy, transparency, and relevance of the sector benchmarking process and supporting evidence-based ambition raising and momentum for enhancing sector-wide climate action. The set of 40 metrics identified to assess progress in the sector and extensive new research to fill information gaps related to these diverse metrics represent a framework for future sector Stocktakes. Further development of metrics to assess progress on some key areas of climate action, for example the state of and effectiveness of adaptation actions, are needed to refine this measurement framework. This first Stocktake also identified multiple information gap priorities and the need for new government, industry, and science community data partnerships to evaluate progress in Stocktake 2028.

The Stocktake has identified many areas where progress is occurring and where solutions can be rapidly scaled if sectoral goals are to get back on track and meaningful progress contributions to the Paris Climate Agreement are to be achieved. The trends captured in this Stocktake also highlight how many forms of emission intensive tourism growth are a major impediment to reducing emissions. This inconvenient truth needs to be addressed urgently. Advancing climate resilient tourism development is the collective responsibility of the global tourism community and requires much greater collaboration between international tourism organisations, countries and tourism authorities, the tourism industry and operators, destination communities, civil society, the tourism academy, and tourists. The Stocktake also identified a critical need to assess and advance international dialogue on trans-border impacts of sector climate solutions to avoid unintended consequences and generate maximum positive mitigation and adaptation outcomes, particularly for highly vulnerable countries.

There is an imperative for tourism, like other major emitting and climate-vulnerable sectors, to act decisively to accelerate its climate action. The sector needs to clarify and strengthen its pledges in the Glasgow Declaration on Climate Action in Tourism. Bold leadership and policy innovations, such as the development of standardize carbon labelling for travel and tourism and the incorporation of international aviation and cruise emissions into country NDCs, are needed to foster transformative system changes. To facilitate transformation action, new and stronger inter-sectoral and international climate policy and finance collaborations need to be catalysed. The UNWTO initiative to create tourism climate change focal points in countries represents a vital step forward in realizing strategic new partnerships.

In November 2007, tourism ministers from around the world gathered after the Davos Declaration on Climate Change and Tourism and declared that 'climate change is calling tourism world to a revolution'. As this Stocktake has clearly shown, the imperative for climate action has never been stronger and the time for transformative change is urgently upon us. In five years, the Tourism and Climate Change Stocktake 2028 must demonstrate progress on the many metrics identified in this 2023 Stocktake, including evidence of a sharp emission reduction trend, expanded adaptation and improved adaptive capacity, and a whole-of-sector roadmap to a just transition to climate resilient tourism.

"Following the first tourism and climate change conference in Djerba, we called on leading academic researchers to study the interactions between tourism and climate and presented their exhaustive and independent assessment at the landmark UNWTO Climate and Tourism Conference in Davos in 2007. Since then, numerous tourism stakeholders have taken action to reduce their climate impact, but much more needs to be done. I am delighted to see that the work is now being continued with the same academic rigour and with worldwide collaboration by the Tourism Panel on Climate Change."

Eugenio Yunis
Former Director Environment UNWTO

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TPCC:
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