

# TOURISM DEVELOPMENT IN A CHANGING CLIMATE

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BACKGROUNDS AND PERSPECTIVES ON THE ROLE OF  
TOURISM IN INTERNATIONAL CLIMATE POLITICS



In cooperation with:



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### *Abbreviations in common use:*

ATAG	Air Transport Action Group
EU-ETS	European Emission Trading Scheme
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IPCC	Intergovernmental Panel on Climate Change
LDC	Least Developed Countries
RFI	Radiative Forcing Index
SIDS	Small Island Developing States
UNFCCC	United Nations Framework Convention on Climate Change
UNWTO	United Nations World Tourism Organization
WTTC	World Travel & Tourism Council

## INTRODUCTION

In 2012, the Kyoto Protocol is to be replaced by a new international agreement that has to bring about “Climate Justice”. On a global scale, climate change is a deeply unjust phenomenon. It has been caused by the over-consumption of resources by a small part of the world’s population, mainly in the industrialised countries, while the consequences of climate change have started to threaten many people’s lives in the Global South. It is considered a double challenge to drastically reduce global greenhouse gas emissions in order to still prevent the worst consequences of climate change, and at the same time to implement comprehensive adaptation measures in the regions most affected by the negative impacts of climate change. According to the polluter pays principle, the responsibility in both cases lies with the industrialised countries. Apart from clear statements at the political level, the people in these countries must also give strong impetus for changes in lifestyles.

Keyword „lifestyles“: Tourism is an illustrative example of the prevailing global climate injustice. In the countries of the North, travelling has become an integral part of the personal and professional lives of a large part of the population. Globally, tourism consumption is a privilege of a few. With their emissions from transportation, they contribute disproportionately to climate change. At the same time, it has often been suggested that the economies in many countries of the South are highly dependent on global tourism flows. Would changes in travel behaviour that benefit the climate be counterproductive when it comes to poverty eradication?

This publication provides background information on this complex question which is relevant for both climate and development policies. One aspect is very clear: In tourism policy making, the links between climate change and international development present considerable challenges. Like all the other industries, the tourism sector has the responsibility to substantially reduce its emission intensity. In the post-Kyoto negotiations, there is a need for clear signals from the tourism industry, and for clear targets. In terms of climate justice it is also clear that the costs and structural changes associated with these emission reductions must not be at the expense of the world’s poorest people. While international decision makers in tourism seem to agree on this principle, there are major differences with regard to implementation and priorities. The players in international tourism politics as well as their respective positions will be presented in this publication.

# 1 A PORTRAIT OF TOURISM

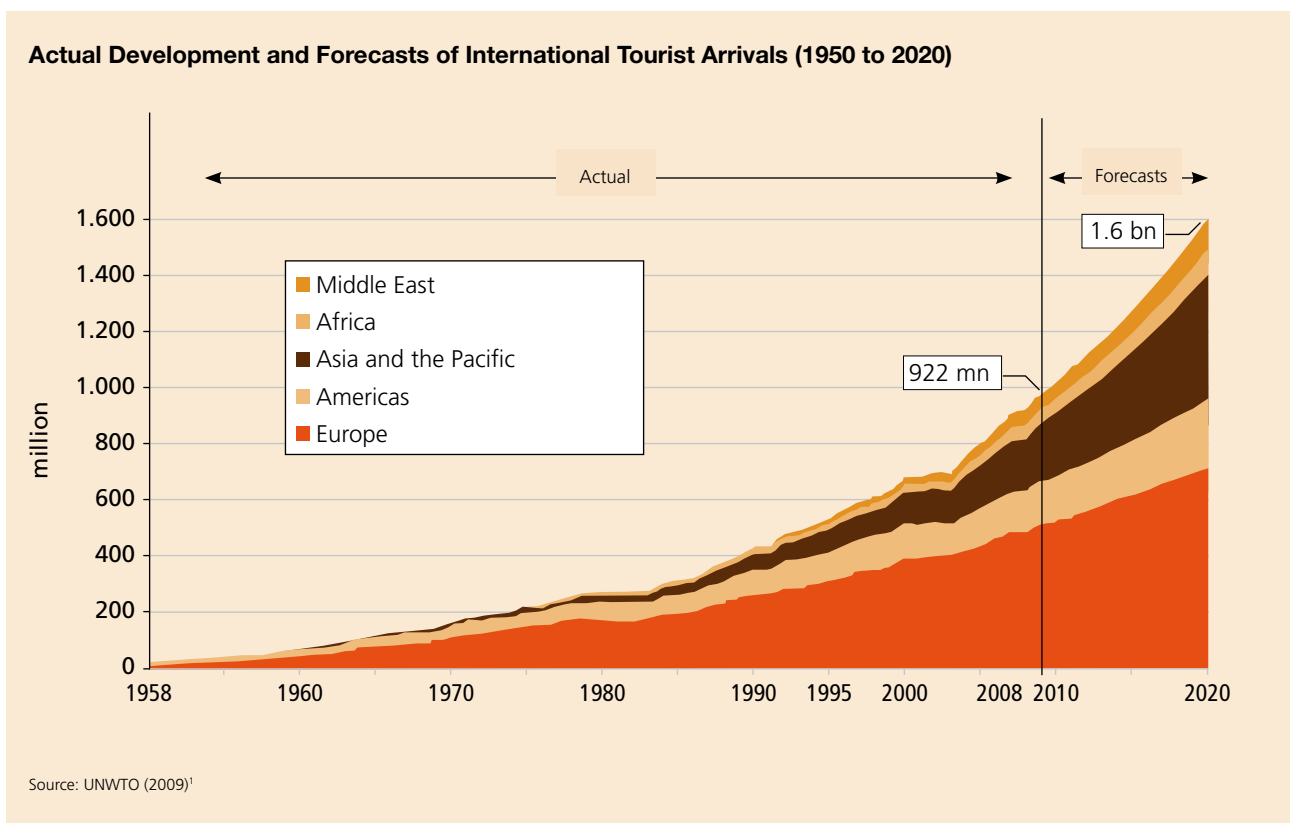
## A PHENOMENON OF AFFLUENT SOCIETIES

Tourism as a social phenomenon is strongly linked to the development of post-industrial societies in the 20th century. It has evolved from a luxury product to a mass product now affordable to a large part of the population in the countries of the North. The rapid growth of tourism demand is attributed to a favourable constellation of economic dynamics, political liberalisation, innovative transport technology, and new values. Especially the latter have played a key role in influencing the ways in which people spend their leisure time. While recreation as a motivation has been losing importance, holidays today are often expressions of personal lifestyles, and a tool for self-realisation. This enhances the role of tourism as

a symbol of social status. A few decades ago, taking a holiday once in a year earned the image of being affluent. In order to achieve the same social status today, one would have to be able to afford several trips – including to exotic destinations. Over the past few decades, the international holiday market has been characterised by a trend towards “hypermobile” demand: more trips, over longer distances and at higher speed.

## ... A GLOBALISED INDUSTRY...

Due to the “democratisation of travel”, tourism has emerged as an important cross-cutting sector of the globalised economy. Today, it has close linkages with other sectors such as energy, construction, transport,







## WHAT IS TOURISM AND WHERE DOES IT TAKE PLACE?

The United Nations define tourism as the activity of „persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited.“<sup>7</sup>

Even though, generally speaking, the term tourism is usually used for **leisure travel**, holiday trips account for only about half of all international tourist arrivals. The remaining trips are for **business, religious or health purposes**, or to **visit friends and relatives**.

Statistically, a differentiation is made between **domestic** and international tourism. **Domestic** tourism refers to travel flows within individual countries. As it is not measured in all countries in the same way, comparable statistical data are not available at the global level. However, the total of all domestic tourist flows is estimated at several times the volume of international travel.<sup>8</sup> **International tourism** refers to travel across national borders and is well covered by statistical data. Most international travel takes place between industrialised countries. In 2005, about 60 percent of all international tourist arrivals were recorded in the highly developed countries. The Least Developed Countries (LDCs) account for only 1.2 percent, but tourism in these countries grows at a faster rate: Between 2000 and 2005, the number of arrivals in the LDCs grew by 48 percent, while the average growth rate in all developing countries and emerging economies was 34 percent, and the global average only 17 percent.<sup>5</sup> Looking at international tourist flows by countries of origin, we see sending markets highly concentrated in the industrialised countries.<sup>1</sup>

agriculture, trade, and communication technology. Tourism as an industry is not restricted to recreational and leisure travel, but also includes business trips or visiting friends and relatives (see box). Today, international tourism alone – which is far less than the total of domestic travel flows – accounts for about 30 percent of global service exports. The number of international tourist arrivals increased from 25 million in 1950 to 924 million in 2008, which corresponds to an average annual growth rate of 6.5 percent. Despite brief setbacks in growth, due to events such as the terrorist attacks in 2001 or the financial and economic crisis in 2008-2009, the World Tourism Organization (UNWTO) adheres to its forecasts predicting that international arrivals will increase to 1.6 billion by 2020.<sup>1,2</sup>

## ... AND PRAISED AS A “DRIVER OF DEVELOPMENT”

Though industrialised countries account for a large majority of international tourist arrivals, emerging economies and developing countries have experienced considerably higher growth rates. In 2005, the latter groups generated about 205 billion US\$ from international tourism, which corresponds to a global share of 30 percent.<sup>5</sup> In addition, the large emerging economies have experienced a considerable increase in domestic tourism: India and China have reported two digit annual growth rates in their domestic travel markets.<sup>3,4</sup> It is hardly surprising that international and national institutions increasingly regard tourism as a driver of economic development. Especially for the group of least developed countries (LDCs), tourism is praised as an effective instrument for poverty alleviation, even though their share in global tourism is still marginal.<sup>5,6</sup>

# 2 THE TRAVEL INDUSTRY IN A CHANGING CLIMATE

At least since the publication of the IPCC's Fourth Assessment Report in 2007, the tourism industry has increasingly been recognising global warming as an important issue. It is assumed that in the coming decades, climate change will have considerable influence on the sector's overall development.<sup>9</sup> Studies have presented an ambivalent picture: On the one hand, tourism with its increasing greenhouse gas emissions is contributing significantly to climate change. On the other hand, it will – especially in the countries of the South – be directly and indirectly affected by the consequences of global warming.<sup>10</sup>

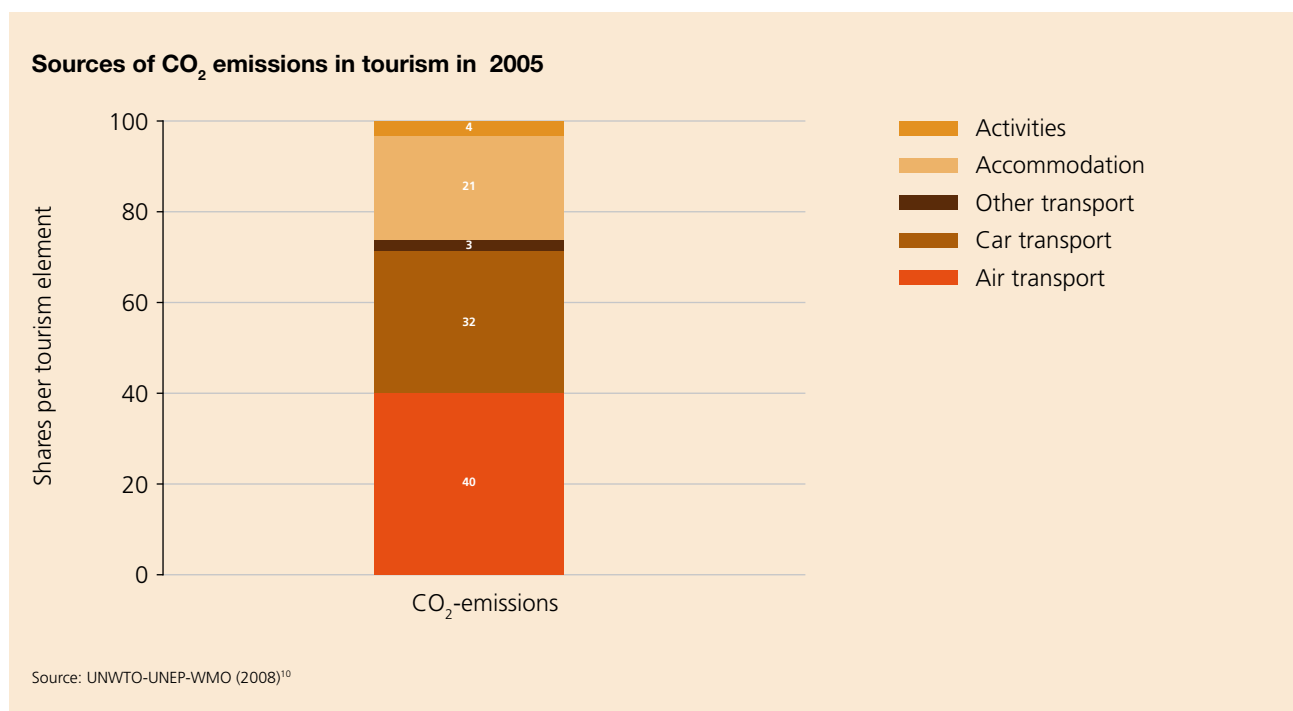
## TOURISM IS A CONTRIBUTOR TO CLIMATE CHANGE

It is estimated that through transportation, accommodation and various activities in the destinations, the tourism sector causes about five percent of global CO<sub>2</sub> emissions.<sup>10</sup> Considering other global war-

ming effects apart from CO<sub>2</sub> raises the contribution of tourism to human-made climate change to 12.5 percent.<sup>1,11</sup>

About two thirds of tourism related emissions can be attributed to air and car transport. Especially air travel is associated with comparatively high environmental costs: Even though it accounts for only 17 percent of all trips, it is responsible for 40 percent of all tourism emissions. This gap is even more evident in the case of long-haul flights. With a market share of only 2.2 percent, long-haul flights cause as much as 16 percent of the sector's emissions. Travel by coach/bus and train, however, contributes only one percent of the sector's emissions, though it accounts for about 16 percent of all trips.<sup>10</sup>

Emissions are very heterogeneous within the tourism sector. They may range from several kilograms to several tons of CO<sub>2</sub> per trip. The most important



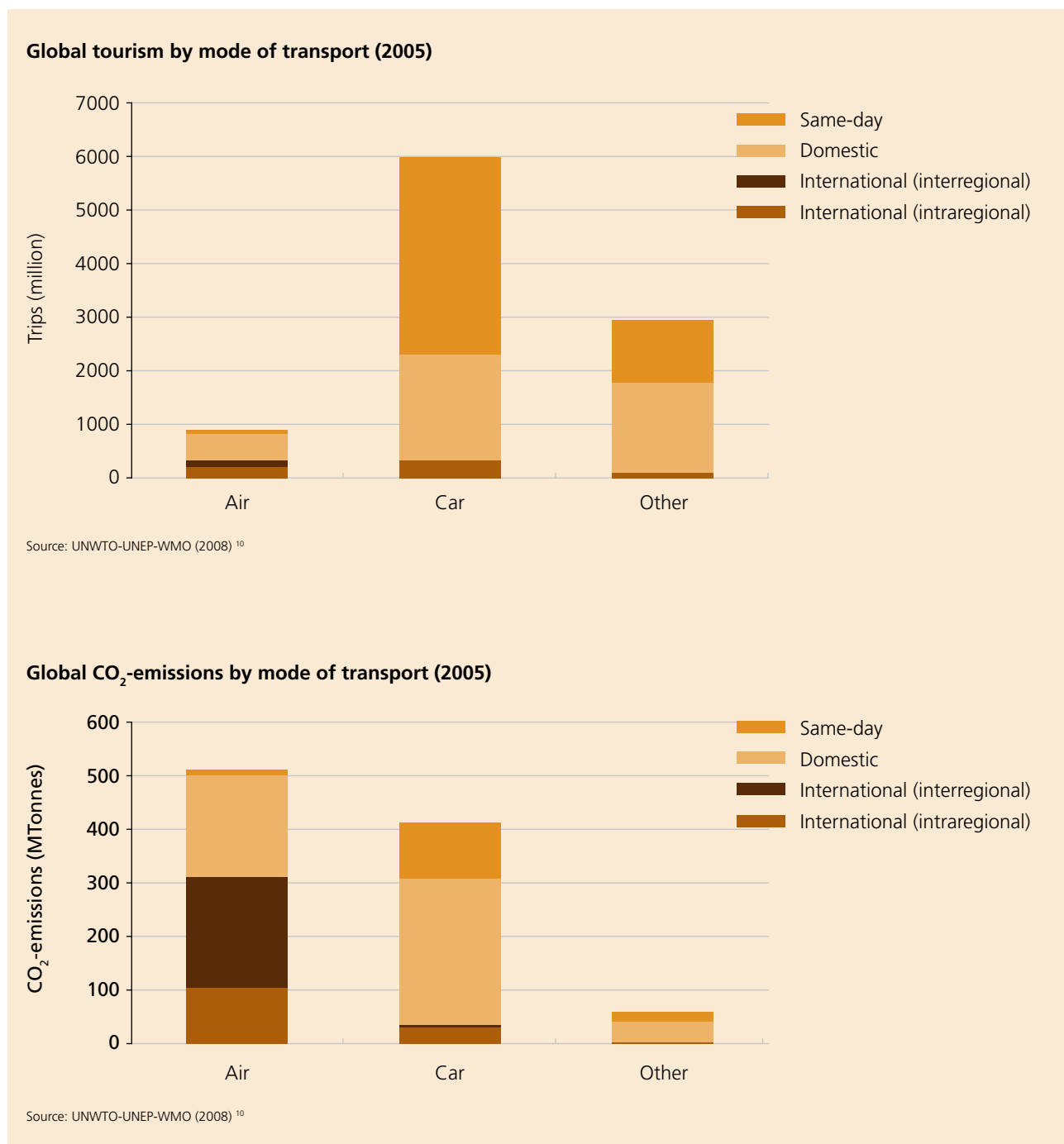
<sup>1</sup> These figures include international and domestic tourism flows as well as one day trips. The gap is due to scientific uncertainties regarding the climate effect of aviation related cirrus clouds. The maximum figure is based on model calculations of 2007, updated with new data from the year 2009.

factors determining emission intensity are the distance travelled between the country of origin and the destination, and the mode of transport chosen. The railways and busses/coaches have a comparatively much better energy balance than aircraft and cars. While air travel causes an average of 350 grams and cars an average of 140 grams CO<sub>2</sub> equivalents<sup>11</sup> per kilometre per person, the railways achieve 30 grams and busses/coaches just 20 grams CO<sub>2</sub> equivalents.<sup>12</sup>

Due to the strong growth forecasts especially in international travel, sector emissions are projected to

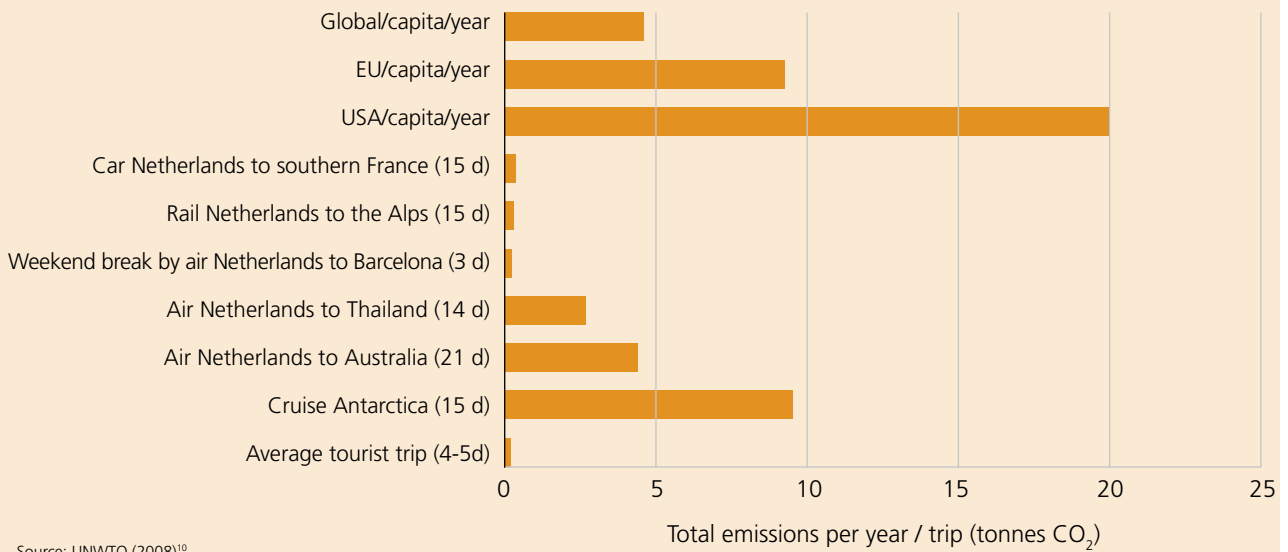
increase 2.5 fold by 2035 (+161 percent). Standard improvements with regard to the energy efficiency of aircraft, cars and hotels have already been factored in. Studies have shown that absolute emission reductions can be achieved only through a combination of several sets of measures<sup>10</sup>:

- **Technological measures** to improve fuel and energy efficiency, to shift to renewable sources of energy and to develop alternative modes of transport.
- **Socio-cultural measures** to achieve social changes in travel behaviour, towards shorter distances



<sup>11</sup> The parameter „CO<sub>2</sub> equivalent“ also takes into account other greenhouse gases such as methane, nitrous oxide, CFC, and ozone. The global warming potential of these gases is converted into a CO<sub>2</sub> equivalent. The emission figures are based on the following load factors: Aircraft 75 %, car 50 %, rail 60 %, bus/coach 90 %.

### Annual per capita CO<sub>2</sub> emissions and emissions caused by various kinds of trips



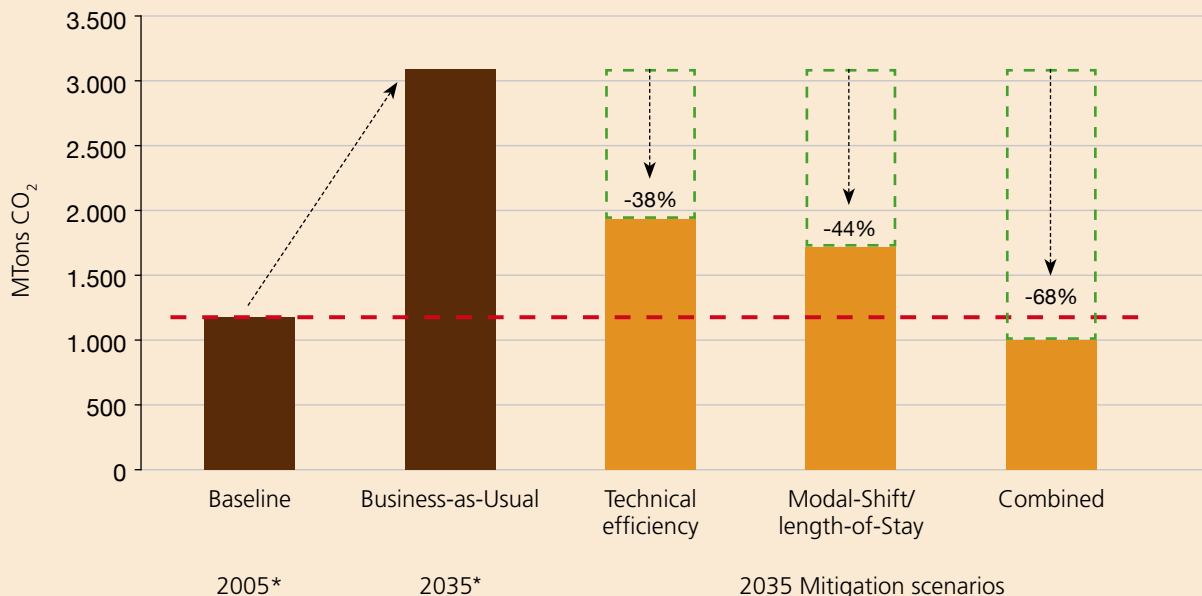
travelled, and fewer trips per person, while increasing the duration of stay at the destination.

- Measures to bring about modal shifts**, from energy intensive modes of transport such as air travel and car to energy efficient modes of transport such as bus/coach and railways.

By making optimum use of the reduction potentials in these fields, the sector's emissions might be slightly reduced by 2035 (-16 percent), as compared to 2005, according to the current state of knowledge.<sup>10</sup>

However, even in this optimistic scenario, tourism will remain far behind the emission reductions recommended by the IPCC, which are necessary in order to stabilise global warming below the dangerous threshold of two degrees (-85 percent between 1990 and 2050).<sup>13</sup> As other economic sectors would thus have to bear a larger part of the reduction burden, the tourism industry will, in the coming years, get under increasing political pressure to explain their position.

### Selected scenarios of the CO<sub>2</sub> reduction potential in global tourism by 2035



\* Excludes same-day visitors; UNWTO-UNEP-WMO (2008)<sup>10</sup>





## **TOURISM IS ALSO AFFECTED BY CLIMATE CHANGE**

The second role that tourism plays in the context of climate change is that of an affected party. Like a couple of other sectors, such as agriculture, insurance, energy and transport, the travel industry is classified as highly climate sensitive. Climate change has a variety of impacts on tourism. For example, changes in climate have direct impacts on the length and quality of the seasons, and thus on the travel behaviour of tourists. On the long term, climate change alters natural landscapes used by tourism, it changes the infrastructure and service chains and it may lead to economic setbacks or mass migration, and thus political instability in the destinations. Political mitigation measures – and changes in mobility patterns associated with these measures – will have an influence on the development of tourism.<sup>10</sup> Especially the latter have created political controversies among the different players.

There will be “winners” and “losers” in these processes of change – within the different market segments, in the destinations, but also in the companies and among employees. Within the tourism system, consumers are the ones most adaptable to change, as they are usually free to choose among destinations and seasons. For many tourism destinations in the South, however, there is very little they can do about the consequences of climate change, as they often lack the financial resources and know-how for the structural adaptation needed.<sup>10</sup>

## **HOLISTIC RESPONSE NEEDED – WITH THE AFFECTED PEOPLE IN MIND**

Tourism is one of the contributors to climate change and at the same time affected by it. In search of political responses it is important to consider both aspects together: Mitigation and adaptation measures must not counteract each other. It needs to be kept in mind that certain forms of tourism contribute to climate change more than others. Therefore, mitigation measures have to be aimed at the respective reduction potentials. Only certain tourism segments will be very negatively affected by climate change.

Among the “losers”, we need to differentiate between those who are economically strong enough to adapt – e.g. certain destinations in the countries of the North or multinational tourism enterprises with highly diversified operations – and those who have little potential for adaptation – e.g. seasonal workers with poor social security in vulnerable island destinations. Adaptation measures and financial support in the travel industry must therefore focus on those people in the tourism system who are already the most disadvantaged and who will be the first to experience the negative impacts of climate change on their economic situation. Therefore, creating a framework for climate justice must be the key task of international tourism policy makers on the way to a post-Kyoto agreement.



# 3 FOCAL POINT: AVIATION

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## AVIATION INDUSTRY PLAYS DOWN ITS IMPACT ON THE CLIMATE

As the major and fastest growing source of emissions in tourism, aviation becomes more and more relevant in the discussions on mitigation. The aviation industry likes to point out that their contribution to global CO<sub>2</sub> emissions is not more than two percent and that their contribution to climate change is relatively small in relation to their economic contribution.<sup>14</sup> However, this figure is based on aviation statistics of 2000<sup>15</sup> – while the sector has grown significantly since then. It also leaves other significant global warming effects unaccounted for, such as aviation-induced contrails and cirrus clouds.<sup>16</sup> In a recent study, IPCC authors conclude that considering the best available estimates for non-CO<sub>2</sub> effects, global aviation contributed 4.9 percent to human-made climate change in 2005.<sup>17</sup> This figure must also be seen against the background that only two percent of the world's population participate in air travel at all.<sup>18</sup>

## CO<sub>2</sub> IS NOT A SUITABLE YARDSTICK

Because of its various parameters, the climate impact of aviation is scientifically measured by so-called "radiative forcing" (RF), which refers to changes in the radiation balance of the atmosphere over time. In order to make it easier to compare aviation to other sources of emission, the IPCC developed the "Radiative Forcing Index" (RFI). It is a multiplier that helps to translate radiative forcing into CO<sub>2</sub> as a measure. According to the IPCC's recommendation, CO<sub>2</sub> emissions need to be multiplied by a factor ranging from 1.9 to 4.7 in order to reflect the actual

climate impact.<sup>15,19</sup> Even though it is still contested whether the RFI will on the long term be usable as a measure in climate policy making<sup>16,III</sup>, it is the best instrument to date to assess the climate impact of aviation.

## QUESTIONABLE HOPES: IMPROVEMENTS IN ENERGY EFFICIENCY AND AGROFUELS

Large parts of the aviation industry have announced the possibility of an absolute reduction of CO<sub>2</sub> emissions by 2035-2040. It may be achieved by improving energy efficiency (continuous fleet and engine renewal) and aviation management, and by using agrofuels. The International Civil Aviation Organization (ICAO) expects aviation emissions to slightly increase until then, but to decrease by 2050 to 50 percent of the emissions of 2005.<sup>20</sup> A similar possible development is being communicated by the International Air Transport Association (IATA), the international aviation lobby.<sup>21</sup> However, ICAO does not provide any scientific background to support this conceptual scenario.<sup>11</sup> Basic important questions regarding the reduction potentials based on energy efficiency and agro fuels therefore remain unanswered. In aviation, the improvements in efficiency have constantly been declining and seem to have reached their technological limits<sup>22</sup>, while the absolute demand for aviation fuel will increase by two to three percent annually.<sup>17</sup> Second and third generation agrofuels (from plants that are ostensibly not in conflict with food production) may be accorded a potential to technically reduce emissions, but it is highly problematic that huge areas are needed to grow the required quantities (see box on agrofuels).

III The RFI at a certain point of time is influenced – like the radiative forcing of persistent substances – by emissions of the past. As the RFI decreases if aviation emissions remain constant over time, it would create a skewed picture if used as a basis for regulatory mitigation frameworks.

## AGROFUELS AS A SOLUTION FOR THE FUTURE?

In the run-up to the 15th Conference of the Parties to the UNFCCC in Copenhagen, ICAO has announced an international initiative to develop agrofuels for the aviation sector.<sup>23</sup> As a long term solution, the industry has been praising „third generation“ agrofuels in particular. These agrofuels are produced from algae or jatropha. Using the example of the jatropha crop, it has been suggested that this plant can be grown on very dry soil and will therefore not be in direct conflict with food production.<sup>24,25</sup>



Critics, however, have pointed out that agrofuels – should they ever be suitable as aviation fuels – will not be available in large quantities until 2020. Adding agrofuels might help to achieve an maximum emission reduction of five percent by 2025.<sup>26</sup> Even though it might under certain conditions make sense to grow jatropha for fuel in a subsistence economy, experts warn against large-scale jatropha cultivation for export purposes. For example, in order to meet the global demand of the aviation sector (as of 2005) by using agrofuels from jatropha, an area of one million square kilometres would be required – corresponding to the size of Germany, France, Holland and Belgium. The demand for cultivable land would double over the next 15 years, leading to land conflicts and food shortages as the world population continues to grow.<sup>11</sup> Even though the requirements of the jatropha plant are rather modest, the yield can be significantly increased with irrigation. Therefore, jatropha will also be grown by farmers on agricultural land if it fetches a higher price than food crops.<sup>27</sup>



# 4 TOURISM IN CLIMATE POLITICS

## TOURISM IS NOT DIRECTLY PART OF UNFCCC NEGOTIATIONS

Political responses to climate change are coordinated at international level under the umbrella of the United Nations Framework Convention on Climate Change (UNFCCC). At the annual conferences of the parties (COPs), the reduction targets for greenhouse gas emissions and the respective country commitments are being negotiated. They are based on the principle of “common but differentiated responsibility” (CBDR) that is to take into account the historical responsibility of industrialised nations. In the negotiations on market-based reduction mechanisms under the Kyoto Protocol, such as the “Clean Development Mechanism” (CDM) or the “Joint Implementation” (JI), basic economic sectors such as industry, energy, transport, agriculture, forestry, construction, water and sewage are addressed. Tourism, which as a cross-cutting sector indirectly causes emissions in these sectors, is usually not addressed explicitly. However, the travel industry as one of the largest global service industries has a political responsibility to contribute in a constructive manner in all of these areas – starting with suggestions for solutions in the transport sector.

## THE TRAVEL INDUSTRY TAKES A POSITION

The World Tourism Organization (UNWTO) plays a central role in integrating tourism into climate politics. After several years of consultations and research, UNWTO adopted the “Davos Declaration on Climate Change and Tourism” in 2007. The declaration is a position paper with recommendations for politicians, business leaders, consumers and researchers. In this declaration, the tourism sector has clearly acknowledged its responsibility with regard to climate change. For example, it recognises the need to reduce sector emissions within the framework of the UNFCCC. However, it also explicitly demands to avoid a disproportionate burden on the sector that might impair its development, or that of any of its important

elements, such as aviation. With special emphasis, the declaration points out that tourism in developing countries is an important contributor to poverty alleviation, so that mitigation measures must not get into conflict with development objectives.<sup>28,29</sup>

## UNWTO IN A CONFLICT OF INTEREST

Due to its history and membership structure, UNWTO is in a politically delicate situation as far as climate change is concerned. As a specialised UN agency, it is committed to the overall objectives of the United Nations. On the other hand, the organisation has historically been an intergovernmental mouthpiece for national tourism authorities, therefore also representing the economic interests of its member countries. In order to meet the various demands, UNWTO has so far been taking fuzzy positions on climate change. It has not yet suggested measurable reduction targets for the tourism sector and its sub-sectors to the UNFCCC, and it does not question the prevailing paradigm of permanent growth.<sup>9,28,29,31,32</sup>

## NO CONSISTENT REDUCTION STRATEGY SO FAR

The World Travel and Tourism Council (W TTC) – the tourism industry’s international lobby – has announced the target of reducing the sector’s emissions by 25-30 percent from 2005 levels by 2020, and by 50 percent by 2035.<sup>33</sup> These targets have been the most ambitious ones in the tourism sector so far. However, W TTC has failed to provide a strategy, including a scientific quantification of reduction potentials, to achieve these targets.<sup>11</sup> The question of how the tourism industry as a whole should achieve this reduction remains unanswered, as the targets suggested by international umbrella organisations of the civil aviation sector – ICAO, IATA and ATAG – fall far short of the W TTC objectives. They envisage halving emissions (from 2005 levels) only by 2050 and suggest an absolute reduction not until 2020.<sup>23,24,25</sup> A group of influential airlines regards the targets presented by



## UNWTO'S MANDATE AND THE DAVOS DECLARATION

The World Tourism Organization (UNWTO) is an intergovernmental agency with a mandate to promote tourism with a view to economic development and social justice, taking into account the interests of developing countries in particular. To that end, UNWTO as a specialised agency of the United Nations has to collaborate effectively with other United Nations organisations, first and foremost with the United Nations Development Programme (UNDP).<sup>30</sup> Apart from 161 full member countries, UNWTO also has 390 partner institutions with observer status, including the "Business Council" with associations from the private sector.<sup>31</sup>

In line with its mandate, UNWTO also represents the tourism sector politically, with regard to climate change, and coordinates its integration into the United Nations roadmap on climate change. In the „Davos Declaration“ of 2007, UNWTO defined the following basic positions on climate change:<sup>28</sup>

■ *Climate is a key resource for tourism and the sector is highly sensitive to the impacts of climate change and global warming, many elements of which are already being felt. It is estimated to contribute some five percent of global CO2 emissions.*

■ *Tourism - business and leisure - will continue to be a vital component of the global economy, an important contributor to the Millennium Development Goals and an integral, positive element in our society.*

■ *Given tourism's importance in the global challenges of climate change and poverty reduction, there is a need to urgently adopt a range of policies which encourages „quadruple bottom line“ of environmental, social, economic and climate responsiveness.*

■ *The tourism sector must rapidly respond to climate change, within the evolving UN framework and progressively reduce its Greenhouse Gas (GHG) contribution if it is to grow in a sustainable manner. This will require action to mitigate its GHG emissions derived especially from transport and accommodation activities, adapt tourism businesses and destinations to changing climate conditions, apply existing and new technology to improve energy efficiency, and to secure financial resources to help poor regions and countries.*



their umbrella organisations as inadequate. Under the „Aviation Global Deal“ (AGD) initiative they demand more ambitious targets.<sup>vi, 34</sup>

## INTERNATIONAL AVIATION NOT REGULATED UNDER THE KYOTO PROTOCOL

As the main source of emissions in tourism, aviation is the most important field of action for mitigation. International aviation is currently excluded from the UNFCCC's binding reduction mechanisms. Under the Kyoto Protocol, in 1997, a special position was accorded to the burning of kerosene. Kerosene, together with marine diesel fuel, belongs to the so-called bunker fuels. As the emissions from international aviation are not clearly attributable to individual states, only domestic flights are being considered under the reduction commitments of individual countries. Another reason for this special regulation is the continuing debate on the "right" way of calculating aviation emissions.<sup>16, 26</sup> (cf. chapter 3)

## NO PROGRESS THROUGH ICAO IN 12 YEARS

At the time when the special regulations on bunker fuels were decided upon, the UNFCCC put the International Civil Aviation Organization (ICAO) in charge of developing a suitable framework for the calculation and reduction of greenhouse gas emissions from its sector. ICAO is the specialised agency of the United Nations in charge of the legal coordination of civil aviation. As over the past 12 years, ICAO has hardly made any progress worth mentioning, its role in mitigation has become contentious. A main criticism is that business associations such as IATA and ATAG have a strong influence on the decision-making processes of ICAO, and that the working groups in charge („CAEP“ and „GIACC“) have been lacking political will. Despite repeated requests by the UNFCCC, ICAO has so far failed to present a binding reduction target including a timeframe for its sector. De facto,

<sup>vi</sup> The AGD Group includes: Air France, KLM, British Airways, Cathay Pacific, Finnair, Qatar, Virgin Atlantic, Virgin Blue, BAA and The Climate Group

## Climate targets and measures suggested by different organisations in comparison

Organisation / Initiative	UNWTO	WTTC	ICAO	IATA	AGD Group
Purpose	UN agency on tourism	tourism industry lobby	UN agency on civil aviation	aviation lobby	association of some airlines for climate change mitigation
Absolute reduction targets suggested (non-binding)	-	50 % by 2035, 25 % - 30 % by 2020	50 % by 2050, stabilisation by 2030	50 % by 2050, stabilisation by 2020	50 % - 80 % by 2050; 0 % - 20 % by 2020
Framework	- only CO <sub>2</sub>	- base year 2005 - only CO <sub>2</sub> - allowing purchase of certificates	- base year 2005 - only CO <sub>2</sub> - allowing purchase of certificates	- base year 2005 - only CO <sub>2</sub> - allowing purchase of certificates	- base year 2005 - only CO <sub>2</sub> - allowing purchase of certificates
Application	tourism sector	tourism sector	civil aviation	civil aviation	civil aviation
Suggested key measures (including adaptation to the consequences of climate change)	<ul style="list-style-type: none"> <li>- integrating tourism under the UNFCCC</li> <li>- financial and technological support for countries of the South</li> <li>- building research and information networks</li> <li>- educational programmes</li> <li>- targets and indicators for the industry</li> <li>- changes in travel behaviour</li> </ul>	<ul style="list-style-type: none"> <li>- CO<sub>2</sub>-balance</li> <li>- local capacity building</li> <li>- awareness raising among customers</li> <li>- greening of the service chain</li> <li>- innovation, provision of capital and Infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>- unlimited emission trading at global level</li> <li>- energy efficiency</li> <li>- aviation management</li> <li>- agro fuels</li> </ul>	<ul style="list-style-type: none"> <li>- unlimited emission trading at global level</li> <li>- energy efficiency</li> <li>- aviation management</li> <li>- agro fuels</li> </ul>	<ul style="list-style-type: none"> <li>- unlimited emission trading at global level</li> <li>- energy efficiency</li> <li>- aviation management</li> <li>- agro fuels</li> </ul>
<p>According to the current state of scientific knowledge, global warming must, on average, not exceed two degrees if extremely dangerous consequences for humanity are to be prevented. According to the Intergovernmental Panel on Climate Change (IPCC), global greenhouse gas emissions need to be reduced by 50 to 85 percent from 1990 levels by 2050.<sup>35</sup> In tourism, however, 2005 is consistently taken as a base year instead of 1990, which would, in absolute terms, result in a much lower reduction commitment.</p>					

As of September 2009. Sources: UNWTO<sup>28,29,32</sup>, WTTC<sup>33</sup>, ICAO<sup>20,23</sup>, IATA<sup>21</sup>, AGD Gruppe<sup>34</sup>

some states, including the EU, no longer recognise ICAO's competence in climate politics. The UK and Australia have demanded that ICAO transfer these tasks back to the UNFCCC.<sup>26,36</sup>

### FROM 2012, AVIATION EMISSIONS ARE TO BE CONTROLLED BY THE EU'S EMISSION TRADING SCHEME

With the decision to integrate aviation into the European Emission Trading Scheme (EU-ETS), the EU has responded to the long-lasting standstill through ICAO. From 2012, the total of all flights to and from an EU airport will be subject to an emissions limit, irrespective of the airline's country of origin. For 2012, this limit has been fixed at 97 percent of the average CO<sub>2</sub> emissions of the period 2004-2006, and for 2013 at 95 percent. Under this scheme, airlines should purchase 15 percent of their emission credits on auction in the form of certificates, while the remaining part will be allocated to them free of charge.<sup>37</sup> From a civil society point of view, this system is still not sufficient. It is being welcomed that flights to and from third states are to be considered. In this respect, the EU has successfully warded off attempts by ICAO and US airlines to weaken the system. However, only CO<sub>2</sub> emissions are taken into account. It

also has to be questioned whether in view of the moderate reduction targets and the generous number of certificates allocated free of charge the aviation industry will make its fair contribution to the EU's reduction efforts (minus 20 – 30 percent from 1990 levels).

### GLOBAL COMMITMENTS IN A POST-KYOTO AGREEMENT ARE FORESEEABLE

The tourism sector's commitments with regard to mitigation have so far been limited to non-binding declarations of intent. There is a considerable mismatch between the reductions communicated by various organisations and the current state of scientific knowledge regarding the emission reductions needed, and regarding the reduction potentials of the measures suggested. Within the framework of the UNFCCC, the international community will probably demand more than declarations of intent in the foreseeable future. In order to achieve the internationally recognised target of limiting the rise in temperature to less than two degrees, none of the important economic sectors can be exempted from significant reduction commitments. Both the G8 and the EU have identified international aviation as an important sector on the way to a post-Kyoto agreement.<sup>38,39</sup>



## TOURISM, DEVELOPMENT AND CLIMATE CHANGE COMPLEXITIES IN THE MALDIVES

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In November 2008, the Maldives made international headlines because the country had, for the first time in its history, democratically elected a president. The new President announced that the country would be likely to disappear because of sea level rise associated with climate change. As a survival strategy, the Maldives proposed to use money derived from their tourism industry to buy land in Sri Lanka, India or Australia as an eventual 'homeland'. That this nation has concluded that they will have to surrender their homeland to the sea because of collective inaction to reduce GHG emissions over the past decade, is a sombre commentary on the state of international mitigation efforts. As a tropical island state, the Maldives can be seen as representative of many Small Island Developing States (SIDS). Tourism is the most important industry, accounting for 28 percent of GDP, and more than 60 percent of the Maldives foreign exchange earnings. More than 90 percent of the government tax revenue is derived from tourism related taxes, and import duties. However, the distribution of income from tourism appears to be skewed.

*„The Maldives became the richest country in South Asia, with average incomes reaching \$4,600 a year. But the wealth created was skimmed off by cronies – leaving a yawning gap between rich and poor. Speedboats and yachts of local multimillionaires bob in the lagoon of the capital’s harbour, while official figures show almost half of Maldivians earn less than a dollar a day“*  
(The Guardian, 10 November, 2008)

Tourists come mostly from Europe (78 percent), entailing high energy use for flights and food imports, transport in the islands (helicopter, speedboats) as well as accommodation (diesel generator-driven electricity production). The flight alone (return) will usually entail emissions of about 2 t CO<sub>2</sub> (corresponding to Frankfurt/Germany to Male 7,940 km journey), i.e. more than half of what could currently be seen as sustainable per capita emissions over a whole year.

A number of key points can be learned from the Maldives. Income derived from tourism can boost average income, although not to levels comparable with developed countries; but the distribution is highly skewed. Furthermore, the development is based on an energy-intensive, high emission tourism sector, which should be considered in the light of recent demands by SIDS for industrialised countries to cut emissions of greenhouse gases by 95 percent by 2050. Implementing such deep emission cuts would clearly also affect long-haul travel by air, and thus the economies of SIDS. This puts the Maldives in a policy dilemma: they can either continue to develop and exploit their energy-intensive tourism system to maximise income at the cost of hastening climate change and thus the eventual demise of their nation, or embark on a less carbon intense development path to become a role model for other countries to follow. The possibility to achieve the rapid and deep emission reductions needed to limit climate change and sea level rise to levels that would allow at least some of the Maldives islands to remain habitable, has perhaps already been lost. So while some may question whether it is prudent or even ethical to support further development of energy-intensive tourism in the Maldives, with no other development alternative and little international resources forthcoming to support the type of adaptation the nation will require (i.e., a new homeland), tourism development is the only way to secure the resources needed to support the eventual relocation of its citizens. This nation's historic and current emissions are not the source of its vulnerability; and the reality is that energy-intensive tourism development is its best option to build adaptive capacity for its population. It is very likely that this policy dilemma will play itself out in many SIDS and other LDCs in the decades ahead.



# 5 MITIGATION AS A THREAT TO DEVELOPMENT GOALS?

*It would be an error to take an overly simplistic approach [...] by saying 'Do not travel far from home and avoid taking planes in order to save several tonnes of carbon emissions!' [...] Most of these long-haul trips are to countries that are home to the planet's poorest populations. We already know that these [...] will be the first victims of warming. [They] would be doubly affected if we also deprive them of the economic contribution of tourism.*

Francesco Frangialli, former UNWTO secretary general in his speech at the „2nd International Conference on Climate Change and Tourism“ (2007)

*When tourism multi-nationals own every element of the chain – from travel agent to tour operator, airline, hotel, and even local ground transportation companies – local people are deprived of a fair share in profits of tourism; indeed, many earn nothing at all.*

Richard Hammond, travel author, in the magazine „Developments“ of the British Department for International Development (DFID) (2005)

## **TOURISM – HIGHLY PRAISED AS A PANACEA**

In the „Brussels Programme of Action“ (POA) for the Least Developed Countries (LDCs) for the Decade 2001–2010“, tourism was mentioned as one of the few sectors in which the LDCs have increased their participation in the global economy.<sup>6</sup> In the UNWTO's mandate, poverty alleviation through tourism development is one of the most important priorities. It is regarded as a contribution to the UN Millennium Development Goals.<sup>30</sup> According to UNWTO, in many developing countries tourism is one of the most important – sometimes even the only – means for economic and social development on a sustainable basis. It has major linkages to other sectors, such as agriculture and crafts.<sup>40</sup> The sector is also characterised by a high labour intensity, a large share of small and medium-sized enterprises in the service chain, and low entry barriers. Furthermore, there are comparative advantages especially for LDCs, due to their unique tourism capital such as landscape, culture, arts and music.<sup>5</sup> In various international and national development strategies, tourism is often praised as an economic, ecological and socio-cultural „panacea“. In line with the trend of the time, tourism development in many emerging economies and developing countries is shaped by neoliberal and strongly growth orien-

ted policies. Accordingly, intergovernmental organisations and governments are pursuing programmes for economic deregulation – in line with the „trickle-down“ theory according to which increased foreign direct investment would provide an impetus for tourism development that would finally also benefit the poorest people.<sup>41,42</sup>

## **FEAR OF NEGATIVE „SPILLOVER EFFECTS“ OF MITIGATION MEASURES**

In its political statements on climate change, UNWTO continues to point out the important role of tourism for the alleviation of poverty – and thus the potential threats to tourism earnings in the global South as a consequence of mitigation measures. In particular, the market access of remote destinations in the least developed countries (LDCs) would be restricted by mitigation measures that are aimed at reducing tourist flows. This also applies to small island developing states (SIDS) that are located far away from the source markets of the global North and are highly dependent on air travel.<sup>29</sup> The possible negative impacts are considered in the UNFCCC negotiations as so-called „spillover effects“. Even though there is a general consensus that mitigation measures must not get into conflict with development objectives,

their real threat to global poverty alleviation must be analysed in a differentiated manner, looking at two basic questions. First, how much does the value added from tourism in the Global South really contribute to poverty alleviation? Second, to what extent would climate regulations in the travel sector have an impact on economic development in these countries?

### MERE ECONOMIC INDICATORS PRESENT A SKEWED PICTURE

Despite all the arguments in favour of poverty alleviation through tourism development, the efficiency of such programmes remains scientifically poorly documented,<sup>41</sup> and in the scholarly literature it has often been questioned. In the destinations, rapidly growing tourism can often lead to considerable environmental damage and to a commercialisation of culture. The economic benefits for local communities often remain far below expectations, due to the reflux of capital back to foreign investors. Furthermore, the praised competitive advantages do not equally benefit all groups of the population and all regions within those countries. Jobs in tourism are traditionally characterised by relatively low salaries, poor social security as well as interruptions during the off-seasons.<sup>43,44</sup> In the destinations of the South, but also in developed countries, tourism often leads to increasingly skewed economic, ecological and/or socio-cultural development, further marginalising disadvantaged groups of the population.<sup>42,45,46</sup> In the political discussion on climate change and development, statistics on tourism income present a rather limited picture of the actual situation.

### HIGH REVENUE LEAKAGES

When assessing the economic benefits of tourism for developing countries, it is important to consider the leakage of revenues. The leakage rate represents the percentage of tourism income that leaks back to other countries through transnational airlines, hotel chains, tour operators or cruise lines as well as the purchase of imported goods and foodstuffs. This money does not benefit the economy in the destinations. A report published by the British New Economics Foundation (NEF)<sup>44</sup> points out that according to the World Bank, leakage rates in destinations of the South can amount to as much as 55 percent. However, NEF has also listed a couple of case studies that point to considerably higher leakage rates. In the case of all-inclusive holidays in Kenya, only 15 percent of the money finally reach the local economy, while indigenous communities such as the Masai miss out completely.<sup>47</sup> For Thailand, Cuba and the Gambia, leakage rates between 70 and 75 percent are reported.<sup>44</sup>

### CLIMATE-RELATED REGULATION WOULD AFFECT GROWTH AND INCOME ONLY marginally

In the political debate on climate change, there is a need to analyse not only the assumed economic benefits of tourism for the poor, but also the extent to which regulation of the aviation sector would actually reduce tourist flows from the North to the South. A study conducted in 2008 analysed the expected decreases in tourist arrivals in ten popular small island developing states, in connection with the integration of aviation into the EU Emission Trading

#### How money leaks away: a Kenyan example (all inclusive holidays)

	Sector	Share of £ 1,- tourist expenditure	Initial share	Tourist supporting imports by Kenya	Dept service payments by Kenya to pay for tourism infrastructure	Final share
UK	Tour operator	20 pence	60 pence	+10 pence	+15 pence	85 pence
	Airline	40 pence				
Kenya	Hotel chain	23 pence	40 pence	-10 pence	-15 pence	15 pence
	Safari company	8 pence				
	Kenyan government	9 pence				
	Local Masai	0 pence				

Source: Leeds DEC & Tourism Concern<sup>47</sup>



Scheme from 2012. The results show that even a relatively high increase in flight ticket prices – the system currently under discussion suggests much lower price increases (see chapter 4) – would not lead to a significant decrease in arrivals in any of the destinations analysed. This is due to the general growth of tourism demand. Only slightly lower growth rates are to be expected.<sup>48</sup> An analysis by NEF came to similar results. It examined the economic impact of a zero growth scenario of air travel from the UK to four popular destinations. In comparison to the income that could be generated from the predicted increase in British arrivals by 2025, a stagnation of the number of British guests would lead to a maximum decrease in turnover of 0.07 percent of GDP in Kenya, 0.17 percent in Thailand, 0.39 percent in the Dominican Republic and 3.42 percent in the Maldives.<sup>V, 44</sup>

### DIFFERENTIATED REDUCTION COMMITMENTS ON AIR ROUTES?

In the context of avoiding economic spillover effects for developing countries, UNWTO has presented a proposal on differentiated climate-related regulation in international aviation for discussion. This proposal includes different reduction targets, depending on the state of development of the countries of origin and destination of the respective air routes. Such a differentiation might look as follows: For flights between industrialised countries, an absolute reduction target would be applied (= a limit to the total amount of CO<sub>2</sub> emissions in tons), for flights between emerging economies a relative efficiency target would be used (= an annual obligation to improve energy efficiency, but no cap on emissions) and for flights between developing countries no target would be applicable (but compulsory CO<sub>2</sub> reporting). For flights between countries with different levels of development, the lesser of the two targets would be applicable.<sup>VI, 32</sup> Accordingly, a flight from Austria to Mexico, for example, would be subject

to an efficiency target, and a flight from Austria to Madagascar would not be subject to any target at all. As most international travel takes place between industrialised countries, this approach would submit most of the flights to absolute reduction targets. However, long haul travel – much of which goes to emerging economies and developing countries – would become relatively cheaper. This might lead to a strategic expansion on these routes. In view of the common lack of distributive justice in these countries, it can be assumed that such a regulation would contribute little to improving the situation of impoverished groups of the population. It would rather continue to accelerate the growth of emission intensive tourism.

### SUSTAINABLE DEVELOPMENT ALLEVIATES POVERTY MORE EFFECTIVELY THAN TOURISM GROWTH

The background presented above shows that demands to curb the growth of (long-haul) travel cannot simply be refuted by pointing out the need to alleviate poverty. On the one hand, climate-related regulation seems to reduce the turnover in the aviation sector far less than often claimed. On the other hand, only a fraction of the tourism income benefits the poor in the countries of the South. Avoiding or weakening mitigation measures seems to have far less potential to effectively alleviate poverty in tourism than other approaches. These include reducing revenue leakages, increasing the average duration of stay, increasing tourists' expenditure in the local value chain, and diversifying the economy to reduce the dependency on tourism in case it is too high.<sup>44</sup> Furthermore, even the share of the tourism income that actually reaches the impoverished population has to be seen in relation to the social, cultural and ecological costs – which will presumably fall back on the people in these countries again in the future.

V All these countries are highly dependent on tourism and have a high percentage of British guests. In the calculation of tourism earnings, both economic multiplier effects (with a factor of 2) as well as revenue leakages (20 – 60 %) were considered.

VI UNWTO has characterised this proposal as a discussion paper. It does not represent an official position on UNWTO's climate policy.



## CORNERSTONES OF A TOURISM POLICY CONSISTENT WITH CLIMATE JUSTICE AND EQUITABLE DEVELOPMENT

Tourism is **one of the world's largest service sectors and a significant contributor to climate change**. Nevertheless, it has not played a major role in climate politics, as the agendas of the international climate negotiations in Bali 2007, Poznan 2008 and Copenhagen 2009 have shown. The aviation sector in particular has for more than a decade been exempted from mitigation-related regulation. It is the main source of the tourism sector's emissions. To date, there are no tangible reduction targets on the negotiating table to mitigate the global warming effects of aviation. However, there is increasing political pressure on the travel and aviation industry to **pay a fair share of the climate-related costs** from 2012, once the post-Kyoto agreement enters into force. These costs include both the costs of mitigation to curb global warming by reducing greenhouse gas emissions, and the costs of adaptation, i.e. to adapt to the consequences of climate change that cannot be prevented, such as natural disasters, food shortages and loss of land due to rising sea levels.

The sector has yet to present tangible suggestions in line with the IPCC's current state of scientific knowledge. The travel industry's position is that it makes an important contribution to poverty alleviation in the Global South and that its growth must not be impaired by mitigation measures. However, the **equation „growth = income = poverty alleviation“ shows a distorted picture**. The tourism arrivals in developing countries account only for a marginal share of global tourism flows. The income it generates rather benefits foreign investors than the local population. Rapid and uncontrolled tourism development is often associated with considerable ecological, social and cultural costs in the destinations. Moreover, mitigation measures would only slow down tourism growth, rather than bringing it to a halt.

The challenge for tourism in the 21st century, both in terms of climate justice and development policy, is to become much more energy efficient. This should be achieved through **structural reforms, cultural changes and technological improvements** at the same time making more effective use of the potential for poverty alleviation. For countries in the Global South that are highly dependent on tourism, **economic diversification** and **holistic sustainable tourism development** are the most important adaptation strategies with regard to climate change. Tourism products have to be designed in such a way as to increase the economic value added for the local population and to reduce the pressure on cultural and ecological resources. Therefore, it is important to also factor in the climate costs, especially those of travel between the tourist's origin and the destination, when calculating the prices of travel products. This should happen on the basis of internationally binding standards. Part of the additional income generated must benefit destination countries, so that they can finance adaptation measures to minimise the impact of climate change.

Since an intact nature and culture as well as political stability are **fundamental for the tourism sector**, and since tourism is classified as highly sensitive to climate change, sustainable and climate-just development is certainly in the travel industry's own basic interest. Tourism policies mainly aimed at the growth of tourism run the risk of undermining the sector's very foundations.

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