Management of energy air transport and tourism in the Mediterranean

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Synthesis

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Carbon dependence: a new challenge for tourism

Global tourism is estimated to account for approximately 5% of all CO_2 emissions and air transport contributes at least 40%. Tourism flows have been growing constantly since the 1970s and are expected to continue to grow, particularly in the Mediterranean basin, further increasing greenhouse gas emissions from transport. However, due to climate concerns and the need to reduce greenhouse gas emissions, there is a sword of Damocles hanging over the air transport sector. Carbon taxes, offset schemes and increasing oil prices are all factors that will contribute to rising airfares and reduced mobility. Tourism is one of the most important economic activities for Mediterranean countries. Thanks to their location at the crossroads of three continents, these countries attract 30% of international inbound tourism.

Mediterranean countries will be affected differently by the constraints faced by the air transport sector. Firstly, the time lag between the development of international tourism in different countries in the region, **has resulted in significant disparities in the distribution of tourism in the Mediterranean area**. Visitors still travel mainly to Spain, France and Italy, making these countries higher contributors to greenhouse gas emissions. However inbound tourism to Southern and Eastern Mediterranean destinations is growing much more rapidly. As inbound countries, NMCs account for 78% of all emissions from international tourism transport for the entire Mediterranean and 75% of emissions from air transport for 80% of visitor arrivals.

International tourism in the Mediterranean has a strong sub-regional character that draws on proximity tourism with mainly European visitors travelling to most destinations. In addition, **domestic tourism is already strong in Northern countries**, and is growing considerably in Southern and Eastern Mediterranean countries when economic growth permits, proving that there is a real aspiration for holidays in these countries.

In terms of tourism transport, **air travel currently represents nearly 51% of international tourist arrivals in the Mediterranean, and the numbers are growing**, while road transport represents 39%. Rail transport is lagging far behind when it comes to international tourism transport in the Mediterranean. In particular, island territories and SEMCs are ever-increasingly dependent on air transport, with relatively few exceptions. It should be noted that there is a very strong correlation between the distance travelled and the mode of transport used. Over 3,500 km, air transport is always used, while for proximity tourism, land transport modes are currently preferred.

Lessons from models

The aim of the study was to analyse the future of tourism flows under the constraint of national and international policies in order to shed light on the issue of carbon and Mediterranean tourism. It uses a specific model called MEDTOUR to observe the change in these flows based on various political-economic variables such as CO_2 price, national taxes and subsidies, as well as investments in infrastructures and technologies, and how they affect average travel times. Scenarios were built to reflect the potential trends of climate and energy policies at the national, regional and international levels that influence transport costs and travel times for various transport modes in each country, resulting in transfers between markets and transport modes.

The results of modelling reveal that **CO_2 emissions from tourism transport are difficult to control, regardless of the scenario**. Even the most extreme scenario does not generate the desired emissions reductions, which is quite alarming.

This can firstly be attributed to economic development in the Mediterranean. **Tourism growth (i.e. flows volumes) results in increased CO_2 emissions from tourism transport, regardless of which policies are put in place**. Furthermore, even in a moderate economic context, the tourism economy continues to grow. However, restrictive climate policies weigh heavily on the income generated by international tourism. The economic activity generated by domestic tourism gains from a context that is tougher in terms of carbon. Finally, SEMCs appear to be somewhat disadvantaged by air transport constraints. It should be

noted, however, that higher taxes become increasingly significant in the most "virtuous" scenarios, opening the way to the potential financing of regional transport policies and especially investments in rail infrastructures.

The introduction of climate policy encourages the growth of domestic tourism and limits inbound tourism, reversing the current trend. This also has a considerable impact on the distances travelled. In the most restrictive scenario, the total distance travelled is more than 20% lower than the "business as usual" scenario.

However, **it appears to be difficult to restrict the use of air transport**. This transport mode is already the most frequently-used mode of transport (50%) for international arrivals and will continue to increase. It is alarming that the less countries are dependent on air transport for inbound tourism now (meaning that alternative transport modes can be assumed), the more the share of air transport increases by 2050. Only an extremely tough policy scenario is capable of reversing the trend to make room for alternative transport modes to increase their share to 15 to 19% of travel. Finally, for domestic tourism, cars remain the dominant mode of transport but lose ground in projections.

How to adapt

This study shows that under the assumption that climate change is taken seriously, countries would face a drastic change in the way tourism is approached, with air transport especially being challenged. They must therefore prepare for such an eventuality by looking for ways to accompany the transition and limit any negative impacts on their economies. Three main levers stand out which, if put to use at a national or international level, could influence the way Mediterranean tourism evolves.

The first lever involves **transport policies, taken on a Mediterranean scale and beyond, and which will directly affect traveller mobility**. Current policies mainly focus on market liberalisation, particularly with increased routes and development of the low-cost sector, which does not limit the use of air transport…

However, the orientations in the Regional Transport Action Plan for the Mediterranean Region 2007-2013 (RTAP) aimed at **optimising traffic management and improving land transport networks** around the Mediterranean basin must be enhanced and strengthened. **Massive investments in high-speed rail** would make it possible to transport tourists from Northern Europe to the Mediterranean coast, provided competition between transport modes is limited through tougher management of air transport focusing on priority use (emergencies, long distances, etc.) and through taxes and subsidies. The **idea of using rail or coach to transport travellers for multiple-leg travel** when air transport is not strictly necessary must also be studied. This said, in addition to national and regional transport policies, the whole chain of operators involved in creating tourism travel packages has a part to play (particularly tour operators and transport providers).

Transport policy could also **support technological progress** for all transport modes. Technical solutions considered as 'outdated' must not be overlooked as they could end up being better suited to the future transportation landscape around the Mediterranean basin. For instance, turboprop aircraft are more efficient in terms of emissions per passenger.

Finally, without maximising the traffic, **improving the passenger load factor** on aircraft optimises the coefficient of greenhouse gas emissions per passenger-kilometre.

All in all, the paradigm of air transport must be changed. In the future, air transport must be considered as a business that, granted, provides society with considerable services, but must be limited in terms of volume due to the substantial impacts that it creates. Consequently, **air transport policy must focus on arbitrating between the reasons for travelling** (business, holidays, affinity) **and markets** (the most economically or socially beneficial).

Next, **the tourism policies in each country** will obviously play an important role. In the Mediterranean, price is the main factor in competition between destinations as the appeal is to generate high volumes at the expense of quality and banking on trends and acceleration in travel modes (short stays). Yet the tourism

development policies that countries put in place can significantly influence the 'carbon content' of this sector but also interestingly enough, its quality and profitability.

To create a tourism sector that is less carbon-dependent firstly means working on which markets are targeted to **focus attention on proximity tourism** when neighbouring countries permit. **Domestic tourism is also a crucial avenue** as it is less sensitive to circumstances. The development of domestic tourism, particularly for SEMCs, also acts as an insurance against stagnating numbers of traditional tourists.

Secondly, the type of tourist offering supported by governments (visa policies, air transport pricing policy based on length of stay criteria, local activities and transportation offered, encouragement of holiday rentals, etc.) will have consequences on the carbon intensity of the stay and transport eco-efficiency. **The promotion of long or very long stays** (retirees, long-term volunteering, combined tours, etc.) must be justified by increased added value **that draws on the need for destinations to undergo a radical image change** and the real promotion of the specific characteristics of each country.

Finally, the **change in travel culture and lifestyles** is a powerful lever that is often ignored and is lacking in specific means for action.

To make tourism that generates less greenhouse gas emissions possible and acceptable, the mechanisms promoting hypermobility must be broken down, as must the tourist mindset that goes along with it. This will undoubtedly involve several factors, from the standard of living of Mediterraneans, their purchasing power and the organisation of their cities and towns, to their outlook on daily activities and their lives as a whole, their reasons for travelling and the place of leisure activities within social systems. In addition, the current imbalance in tourism flows between EU countries and the rest of the Mediterranean must be taken into consideration.

In SEMCs, the propensity to travel should increase with improved economic conditions. In the majority of NMCs, strategies must be aimed at reducing the propensity to travel. These could target living environments, the distribution of free time throughout the year, city planning and leisure activities available within close proximity.

In general, an effort can be made to bring back the appeal of travelling itself. Improving travel comfort is of course important and can be achieved by changing train/bus station layouts, improving services and the quality of information, offering areas to relax, cultural information and travel preparation, etc. Mindsets could thus be changed by integrating transport time without making speed a priority (concept of "slow travel"). This would make it possible for "slower" tourism to emerge where the actual travel time would be considered an integral part of the holiday.

In-depth reflection must be conducted concerning the means, tools and ultimately the cooperation between stakeholders in order to put these various levers in place and implement the abovementioned ambitious strategies.

Firstly, **players in the field** who generally have a short-term decision-making perspective **must acquire a greater awareness of the issues at stake**. It must also be kept in mind that the situations of different destinations across the Mediterranean region are very varied, with mature destinations, emerging destinations and upcoming destinations.

A great number of stakeholders must be mobilised and coordinated. In the private sector, **transport operators** are obviously central figures along with **tour operators and travel agencies**, which are in the front line in terms of developing new products and influencing demand. To a lesser extent, **the restaurant, accommodation and leisure industry** can also become involved in these strategies. Trade and labour organisations are able to take collective initiatives that bring the carbon constraint into the picture and are an essential route for raising awareness and bringing innovation to tourism.

Governments and their administrations have a role that is essential on two levels. Firstly, regulations and public policies must drive the necessary changes in each country. Secondly, governments also have an influential role in international policies. Local governments act as the relay between government tourism policies and can also play a key role in the development of transport infrastructures and services.

Marketing and promotion bodies at different levels (national, regional, local) depending on the country, have an important role to play in selecting target markets and the products offered by local stakeholders.

On an international scale, **international lending institutions**, whether through bilateral cooperation, decentralised cooperation or other international bodies, must redirect their investment choices, especially when it comes to major transport infrastructures (particularly towards high-performance railway routes between neighbouring countries). **Development and environmental NGOs** mainly have a role in raising awareness and providing support.

In the end, one of the **keys to working towards lower greenhouse gas emissions from tourism lies in Mediterranean cooperation** in all areas. This means creating a regional outlook for Mediterranean tourism as well as regional transport policies, and above all, developing a coordinated approach to international negotiations concerning air transport regulation mechanisms and emissions reduction.