

**SUSTAINABLE TRAVEL IN AN ERA OF
DISRUPTION: IMPACT OF COVID-19 ON
SUSTAINABLE TOURISM ATTITUDES**

**EUROPEAN
TRAVEL
COMMISSION**



SUSTAINABLE TRAVEL IN AN ERA OF DISRUPTION

Assessing the impact of the COVID-19 pandemic on
travellers' sustainable tourism attitudes
and projected travel behaviour

A report produced for
the European Travel Commission
by CELTH, EFTI and Breda University
of Applied Science

Brussels, January 2022

ETC Market Intelligence Report

SUSTAINABLE TRAVEL IN AN ERA OF DISRUPTION

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Cover: Woman jumping in front of waterfalls during daytime

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Foreword

The severe impact of the COVID-19 pandemic on the wider tourism economy has forced the tourism sector to emerge in a more sustainable, innovative and resilient way to build back better. As the European tourism economy navigates the path to recovery, it has become crucial that the sector considers its present and future economic, social and environmental impacts.

Supporting the sustainable tourism recovery requires that a systemic approach is in place, involving not only all parties in the tourism value chain, the supply-side, but also the active participation of consumers, the demand-side. The turmoil brought by the COVID-19 outbreak has fundamentally shifted people's lives; the way they live, and work, their education, social interactions, and travel as we know it. Although consumers' adoption of a sustainable behaviour in tourism has been growing in the past years, research has shown that the global pandemic has driven more sustainable travel trends. Generally, travellers seem to be adopting greener options and paying closer attention to their impact on the environment and local communities. Travelling closer to home, avoiding crowded destinations and seeking more authentic and immersive experiences have become some of the emerging trends driven by the pandemic.

However, the willingness to adopt a more sustainable travel behaviour expressed by consumers does not always materialise, while these changes are still difficult to predict. It has therefore become imperative to better understand the gap between people's sustainable values and their related actions, and to explore approaches to minimise this discrepancy.

We believe that this study will support European destinations in better understanding consumers' attitudes in the pandemic era, and more specifically the extent to which tourists are ready to make concessions and adopt more sustainable approaches while travelling. By exploring this 'value-action gap' ETC expects to support destinations and the wider tourism sector in the transition towards a more sustainable tourism ecosystem.

Understanding travellers' behavioural trends and expectations in a pandemic world will become paramount to improving customer experiences, while considering the principles of a sustainable tourism recovery and ensuring the sector's resilience in both the short- and long-term. Today there is an opportunity to challenge traditional tourism models and strategies and define ambitious goals to build the sector for tomorrow.

Luís Araújo

President, European Travel Commission (ETC)



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This study is the result of a joint effort of the European Travel Commission (ETC), the Centre of Expertise in Leisure, Tourism and Hospitality (CELTH), the European Tourism Futures Institute (ETFI) at NHL Stenden University of Applied Sciences and the Centre for Sustainability, Tourism & Transport (CSTT) at Breda University of Applied Sciences.

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Key findings

- Pre-pandemic, current and projected travel behaviour of the respondents do align, indicating a very limited impact of the pandemic on the likelihood of adopting more sustainable travel behaviour in the future
- The value orientation, belief and norm patterns of the respondents proved to be good predictors of travel behaviour pre-COVID-19 and the projected travel behaviour
- The analysis of pre-pandemic, current and projected travel behaviour, value orientation, belief and norm patterns revealed four distinct clusters. The four clusters are the following:
 1. Frontrunners: Low-footprint travellers with the highest likelihood of adopting sustainable travel behaviour in the future. The cluster with the strongest biospheric and altruistic value orientation.
 2. Comfortable Crowd: Habitual low-footprint travellers with interest in alternative destinations in ones' proximity and in travelling in low season. The cluster members have weaker biospheric value orientation than the Frontrunners.
 3. Entitled Stewards: Medium-footprint travellers who are less likely to compromise on location and time of travel but willing to adjust otherwise. The cluster members have weaker biospheric and altruistic value orientation than the Frontrunners and the Comfortable Crowd.
 4. Laggards: Habitual high-footprint travellers with the lowest level of likelihood for considering sustainable alternatives in the future. The cluster with the weakest biospheric and altruistic value orientation.
- Differences can be observed in the phases of the customer journey where travellers are more likely to consider alternative options
- Overall, travellers are most likely to adopt sustainable practices in the behavioural category of interacting with the local community and immersing in local life, learning about the local traditions and trades, buying local products and choosing locally owned restaurants while in the destination
- The travellers generating the lowest carbon footprint are most aware of environmental pressures and are most willing to change their behaviours, however, as their footprint is already low, focusing on behavioural change in this segment is the least impactful.
- The laggards, with by far the highest carbon footprint have no intrinsic desire to adopt sustainable travel practices, however, changing their behaviour would be the most effective in terms of reducing their carbon footprint
- Constraints found to have a significant impact on the likelihood of adopting more sustainable travel practices in the future are money and time



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INTRODUCTION

Travel and tourism, as a key driver of socio-economic development, contributes to global employment, and fosters connectivity and regional integration. Due to the multiplier effect, tourism has a direct or indirect impact on a range of other sectors¹. It enhances economic inclusion, as 80% of the enterprises involved in tourism are micro, small and medium-sized (MSMEs).² Prior to the COVID-19 pandemic, considering the direct, indirect and induced effects, tourism's contribution to the global GDP was 10.4%, 1 in 4 of all new jobs globally was created in travel and tourism and the sector represented 6.5% of global exports.³ Between 2011 and 2019, tourism growth outpaced the global economy and was expected to create 100 million new jobs in the next ten years.⁴ This, however, is now put at risk.

Throughout history, travel and tourism proved to be a resilient industry that had the capability to bounce back after natural disasters, economic crises, terrorist attacks and other shock events. The COVID-19 pandemic, however, has created an unprecedented situation having 5 times the impact of the 2008 financial crisis.⁵ As one of the hardest hit industries, the restrictions related to travel had immense impacts on the livelihoods of communities. The sector's contribution to global GDP dropped to 5.5%, representing a 49.1% decline. Visitor spending fell significantly amounting to a 45% decline in domestic and 69.4% decline in international tourism.⁶ As the World Travel and Tourism Council (WTTC) estimates, 62 million jobs were lost in 2020⁷. Since travel and tourism is a key contributor to employment of women, youth and unskilled workers^{8,9}, and MSMEs make up the majority of the enterprises, those being the most vulnerable were highly affected. According to Euromonitor's forecasts, it is unlikely that the sector would reach pre-crisis spending levels before 2024, with the worst-case scenario projecting a delay until 2026.¹⁰

Nevertheless, while the COVID-19 pandemic brought travel and tourism to a halt, it also acted as a catalyst and accelerated trends that have long been at the centre of attention, such as the growing awareness of sustainability and calls for a transition towards a climate-neutral economy¹¹.

Due to travel restrictions and other confinement measures, the world reversed into a so-called zero state allowing the impacts of travel and tourism to be observed more accurately.

¹ https://www.wto.org/english/res_e/reser_e/ersd202011_e.htm

² Poole J. (2020) as cited in https://www.wto.org/english/res_e/reser_e/ersd202011_e.htm

³ <https://wtcc.org/Research/Economic-Impact>

⁴ <https://wtcc.org/Research/Insights-Publications>

⁵ <https://wtcc.org/Research/Economic-Impact>

⁶ <https://wtcc.org/Research/Economic-Impact>

⁷ <https://wtcc.org/Research/Economic-Impact>

⁸ World Travel and Tourism Council. (2019). Travel and tourism: Generating jobs for youth.

⁹ World Travel and Tourism Council. (2021). Travel and tourism as a catalyst for social impact

¹⁰ <https://go.euromonitor.com/white-paper-travel-211103-wtm-travel-rewired.html>

¹¹ World Travel and Tourism Council. (2021a). Towards destination stewardship. Achieving destination stewardship through scenarios & a governance diagnostics framework



The role of tourism in the transition towards a green economy therefore has once again come to the forefront. Limited mobility, amongst other restrictions, has led to a series of temporary positive impacts such as improved air quality, and global CO₂ emissions are estimated to have dropped by 7% compared to 2019 levels¹². Wildlife regained its territories, marine ecosystems went through regeneration processes and landscapes started to recover from decades of overuse. Furthermore, residents of destinations that suffered from overtourism prior to the pandemic reclaimed their living space as noise pollution, overcrowding and other nuisances dropped.

THE ROAD TOWARDS A MORE SUSTAINABLE TOURISM INDUSTRY

The unprecedented situation brought by the pandemic strengthened global calls for the re-evaluation of travel and tourism and its contribution to a more resilient future. In response to these calls, cross-level and cross-sector stakeholder collaboration has strengthened. As of October 2021, 34 travel and tourism businesses joined the Science based Target Initiative (SBTi)¹³ and 39 travel and tourism businesses have signed up for the Race to Zero campaign¹⁴. Other examples of joint efforts include the *Future of Tourism Coalition*¹⁵, a coalition of six NGOs and *Tourism Declares a Climate Emergency*, a global collaboration of over 400 tourism enterprises and organisations¹⁶. The Glasgow Declaration on Climate Action in Tourism was launched at COP26 in November 2021¹⁷. Regarding the aviation sector, the French government banned short-haul flights, while Spain, Germany and Austria are considering taking the same steps.¹⁸ Interestingly, the European Investment Bank's climate survey showed that 62% of Europeans would be in favour of such measures and 72% would support a carbon tax.¹⁹ However, a study from Greenpeace²⁰ found that 34% of the busiest short-distance flights in the EU have train alternatives where the travel time remains under 6 hours. This means a significant opportunity for the tourism sector to promote a shift from air to rail, starting with these connections. Even a part of the flights with rail alternatives longer than 6 hours can still be used by tourists. Globally, a zero-emissions scenario may involve a mix of reduced distances (a shift from long-haul to medium-haul and medium-haul to short-haul) and technologies, such as synthetic e-fuels, the most sustainable alternative fuels (SAF) of the

¹² Le Quéré, C., Peters, G. P., Friedlingstein, P., Andrew, R. M., Canadell, J. G., Davis, S. J., Jackson, R. B., & Jones, M. W. (2021). Fossil CO₂ emissions in the post-COVID-19 era. *Nature Climate Change*, 11(3), 197–199.

¹³ WTTTC (2021). A net zero roadmap for travel and tourism. Proposing a new target framework for the travel and tourism sector

¹⁴ <https://unfccc.int/climate-action/race-to-zero-campaign>

¹⁵ <https://www.futureoftourism.org/>

¹⁶ <https://www.tourismdeclares.com/>

¹⁷ <https://www.unwto.org/news/the-glasgow-declaration-an-urgent-global-call-for-commitment-to-a-decade-of-climate-action-in-tourism>

¹⁸ <https://www.euronews.com/travel/2021/11/10/convenient-cheap-and-killing-the-planet-why-short-haul-flights-are-still-so-popular>

¹⁹ <https://www.eib.org/en/infographics/ban-on-short-distance-flights>

²⁰ <https://www.greenpeace.org/eu-unit/issues/climate-energy/45901/research-shows-one-third-of-europes-busiest-flights-have-train-alternatives-under-six-hours/>



whole range of SAFs and, in the longer-term, replacing current kerosene-based aircraft by fuel cell-electric aircraft²¹

Besides the rising call for a shift towards net zero, digital and technological innovation has accelerated as the sector was responding to health and safety issues by developing contact-free journeys. Online sales reached unprecedented levels, amounting to 5 years worth of growth during the crisis²². Moreover, government interest in destination governance has increased and new investment schemes emerged to aid the tourism recovery processes. According to the World Trade Organization (WTO), governments have provided financial support for travel and tourism businesses in various forms, such as salary replacement schemes, upskilling and reskilling of employees, postponement or exemption of tax payment and social security obligations, soft or interest-free loans, financial liquidity and cash flow assistance and occasionally financial support for destination marketing campaigns.²³

While restarting the industry is a major concern, long-term goals, such as the ones outlined above regarding climate action, are crucial for rebuilding the industry in a more sustainable and resilient way. As Euromonitor International's Voice of the Industry Survey proves, actions are being taken not only by the third sector and governments, but by businesses themselves. According to the survey, in Europe, 57% of the businesses involved with travel are engaged with the United Nations Sustainable Development Goals (SDGs). Among these businesses 58% planned to implement sustainability initiatives in 2021, representing a 2.9% increase compared to 2020 while 53.3% of the businesses stated that they were eager to follow the principles of sustainability in their product development, pointing to an upward trend (9.5% increase 2020-2021).

Although the industry has made attempts to form a united front to enable building back better, and a range of new initiatives have been taken to aid the shift towards net zero, the results are yet to be seen. However, it is highly unlikely that they will succeed without the commitment of travellers.

WHAT ARE TRAVELLERS WILLING TO DO TO AID THE TRANSITION TOWARDS A MORE SUSTAINABLE TOURISM INDUSTRY?

Although a temporary 7% decrease in CO₂ emissions globally is a remarkable achievement, to reach the objectives outlined in the Paris Agreement²⁴, greenhouse gas emissions need to be reduced by 7.6% annually²⁵. Maintaining the lifestyle changes that were required in the fight against the COVID-19 pandemic is highly unlikely. Advancing towards net zero therefore is only possible with the large-scale adoption of sustainable consumption and production

²¹ <https://pure.buas.nl/en/publications/zero-co2-emissions-aviation>

²² <https://go.euromonitor.com/white-paper-travel-211103-wtm-travel-rewired.html>

²³ https://www.wto.org/english/res_e/reser_e/ersd202011_e.htm

²⁴ <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

²⁵ <https://www.un.org/en/climatechange/science/key-findings>



patterns. Thereupon, the question of what role travellers can play in the transition towards a climate neutral, green and inclusive travel and tourism industry is key to explore²⁶.

The European Travel Commission (ETC) has been monitoring sentiment for domestic and intra-European travel since September 2020²⁷. The large-scale studies showed that travel intention is gradually increasing, while risk perception is dropping due to vaccination and health protocols. The latest ETC research²⁸ found that those planning a trip before March 2022 increased to 66% signalling a positive trend. Furthermore, Eurostat²⁹ found that the number of commercial flights had increased significantly in August 2021, indicating a growing demand. Without a doubt, understanding the intention and willingness to travel as well as the factors that influence risk perception is vital to restarting the industry. Economic recovery is a key concern for most travel and tourism businesses. Nonetheless, it is increasingly acknowledged that for long-term success, the well-being of the planet and people is crucial³⁰. Therefore, returning to 'business as usual' should be avoided.

As concluded in ETC's Handbook on Encouraging Sustainable Tourism Practices³¹, even though consumers are aware of the consequences of their actions and understand that they can make a difference, the 'value-action gap' remains a challenge. Willingness to adapt more sustainable forms of travel does not mean that travellers will act accordingly. Consequently, enhancing our understanding of the gap, as well as finding ways to overcome the discrepancy between people's value orientations, beliefs and their actions is of great importance and necessary to achieve long-term behavioural change.

VALUES, BELIEFS, NORMS AND CONTEXTUAL FACTORS INFLUENCING SUSTAINABLE TRAVEL BEHAVIOUR

The value-belief-norm theory of environmentalism³² is a widely used framework in research focusing on sustainable attitudes and behaviours. The framework proved to be a good predictor of various types of behaviour on the spectrum of sustainability³³. It suggests that the value orientation of people, their general beliefs regarding the consequences of their actions and their ability to mitigate negative implications can foster the feeling of moral obligation to act in a sustainable manner³⁴.

²⁶ For a glossary of definitions commonly associated with sustainable tourism see ETC's Handbook on encouraging sustainable tourism practices (2021)

²⁷ <https://etc-corporate.org/publications/>

²⁸ <https://etc-corporate.org/reports/monitoring-sentiment-for-domestic-and-intra-european-travel-wave-9/>

²⁹ <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20210914-1>

³⁰ Polman, P., & Winston, A. (2021). The net positive manifesto. Is the world better off because your company is in it? Harvard Business Review

³¹ <https://etc-corporate.org/reports/handbook-on-encouraging-sustainable-tourism-practices/>

³² Stern, P. C. (2000). Toward a Coherent Theory of Environmentally Significant Behaviour. *Journal of Social Issues*, 56(3), 407–42.

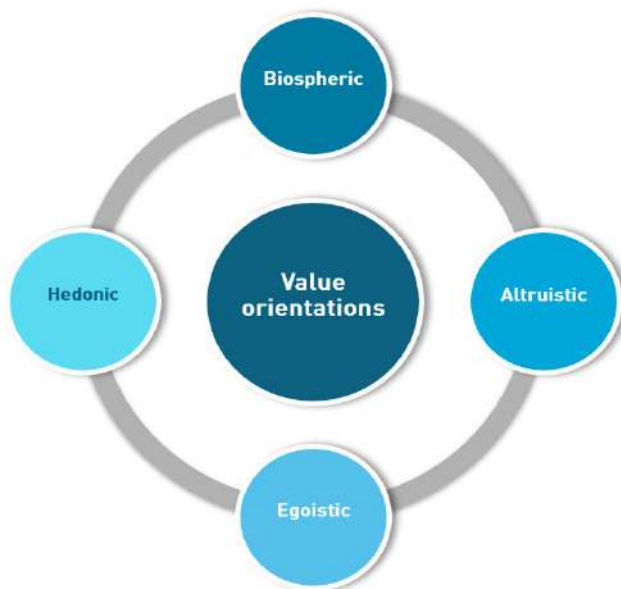
³³ Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of Environmental Psychology*, 29(3), 309–317.

³⁴ Lind, H. B. (2015). The value-belief-norm theory, personal norms and sustainable travel mode choice in urban areas. *Journal of Environmental Psychology*, 44, 119–125.



Values can be defined as goals in life that people strive to achieve. They are deep-rooted, relatively stable and may influence one's beliefs and behaviour³⁵. Four types of value orientations have been defined: biospheric (e.g. respect for and protection of the environment), altruistic (e.g. valuing the well-being and fair treatment of humanity), egoistic (e.g. valuing authority, influence over others and caring for one's possessions and resources) and hedonic (e.g. valuing joy, pleasure and comfort)³⁶. The more strongly people endorse a specific value, the more likely they are to act accordingly. While values can be measured in different ways, for this research, the measurement instrument of Bouman et al. (2018) was used, including a total of 17 statements³⁷.

Figure 1. Value orientations³⁸



One's value orientation, however, is an indirect indicator of behaviour, therefore, additional factors need to be taken into consideration, such as one's beliefs and norms. Environmental beliefs are thoughts regarding two aspects: awareness of the consequences of human behaviour on the natural environment and ascription of responsibility referring to one's ability to prevent or contribute to undesirable consequences. Norms refer to the feeling of moral obligation to act in a pro-environmental manner³⁹.

³⁵ Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, 25, 1–65.

³⁶ Stern, P. C., Dietz, T., & Guagnano, G. A. (1998). A brief inventory of values. *Educational and Psychological Measurement*, 58(6), 984–1001.

³⁷ Bouman, T., Steg, L., & Kiers, H. A. L. (2018). Measuring Values in Environmental Research: A Test of an Environmental Portrait Value Questionnaire. *Frontiers in Psychology*, 9, 564.

³⁸ Stern et al., 1998

³⁹ Ghazali, E. M., Nguyen, B., Mutum, D. S., & Yap, S.-F. (2019). Pro-Environmental Behaviours and Value-Belief-Norm Theory: Assessing Unobserved Heterogeneity of Two Ethnic Groups. *Sustainability*, 11(3237), 1–28.



While one's values, beliefs and norms may be good predictors of pro-environmental behaviour, contextual factors play a key role. Factors and conditions controlling behaviour range from social norms to available resources, such as time and money. In order to understand and address the 'value-action gap' such constraints to sustainable behaviour need to be considered.

For the complete list of value, belief, norm and constraint statements please see the methodological annex.

REPORT OUTLINE

The purpose of this study is to enhance the understanding of the 'value-action gap' in the context of travel and tourism, thereby strengthening the efforts of NTOs, DMOs and tourism businesses in the transition towards a more sustainable and resilient future. The report presents the findings of a large-scale study across five European countries - Germany, the UK, France, Italy and the Netherlands (for information about the sample, and detailed information about the methodology please see the appendix). The survey focused on the pre-pandemic and forthcoming travel plans of Europeans, the potential impact of the pandemic on their projected behaviour, the behavioural constraints that would keep them from adapting sustainable travel practices as well as statements related to the underlying value system, beliefs and norms that are likely to guide travellers' actions. The country-specific data is presented in chapter 2.

Based on the analysis of the data, an attempt was made to cluster the survey participants. The cluster profiles depict four distinct market segments based on the value orientation, belief and norm patterns as well as past and projected travel behaviour. Market segmentation based on value orientation and behavioural patterns therefore is proposed in this study. Understanding the drivers behind travellers' choices could potentially enable the development of targeted and more efficient strategies to increase the uptake of sustainable tourism offers. It must however be noted that travellers are increasingly flexible, therefore the clusters should not be considered rigid categorisations and crossing may be possible amongst clusters that represent similar value orientations.

One of the main arguments for considering such an approach towards traveller profiles is that similarly to previous studies, this research has proved that values are good predictors of the behaviour of travellers. When looking at the 'value-action gap', travellers can be differentiated based on the extent to which they are willing to adopt sustainable practices and the phases of the customer journey where they are happy to consider alternative options. In chapter 3 the four profiles are introduced in detail, including an assessment of market opportunities, implications and possible targeting strategies. The actions listed in section 3.4 should be considered as additions to strategic destination development and management strategies that follow the key principles of sustainability.



In chapter 4, consideration is given to strategies that lie outside of the authority of NTOs/DMOs and tourism businesses. While these stakeholders play a key role in steering travellers towards sustainable alternatives, their efforts much depend on the necessary infrastructure in place. Therefore, an overview of EU-level initiatives that may positively influence sustainable mobility, with a focus on passenger transport, are provided. Such developments may serve as good indicators for the evolution of the four identified segments.



A scenic view of a Venetian canal, likely the Grand Canal, featuring gondolas, historic buildings, and a church tower in the background. The image is split horizontally, with the top half showing a close-up of a building facade and the bottom half showing the canal scene.

CHAPTER 1

PRE-COVID-19 TRAVEL BEHAVIOUR IN EUROPEAN COUNTRIES



1. PRE-COVID-19 TRAVEL BEHAVIOUR IN FIVE EUROPEAN COUNTRIES

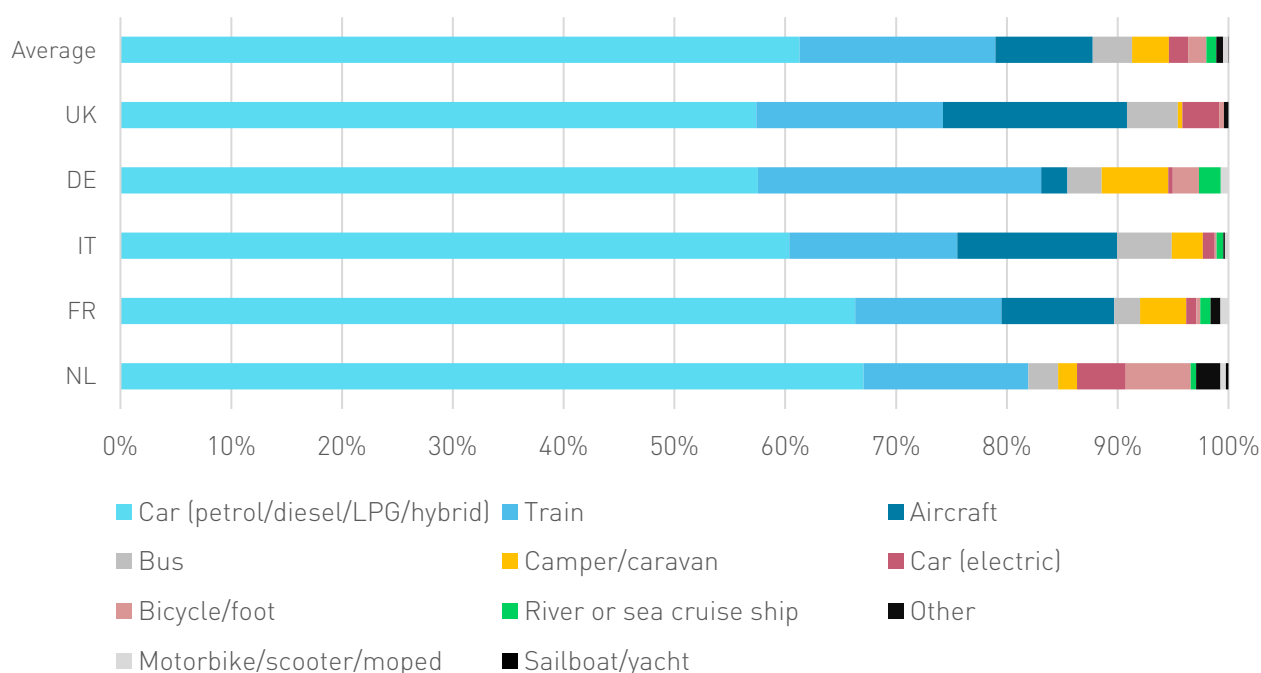
In addition to recent studies that focused on travel intention and risk perception in the midst of the COVID-19 pandemic, the current study aimed to uncover the impact the pandemic may have had on travellers' understanding and appreciation of sustainability and the extent to which they are willing to adopt more sustainable travel practices in the future. In section 2.1, information is provided about domestic and international overnight trips taken for leisure purposes in 2018 and 2019 in the five countries analysed (UK, Germany, Italy, France and the Netherlands).

1.1 PRE-COVID-19 TRAVEL BEHAVIOUR BY COUNTRY

1.1.1 Chosen mode of transportation for domestic and international overnight trips for leisure purposes

Domestic holiday trips are mostly done by non-electric cars. In all countries the share of this transport mode is larger than 50%. In the United Kingdom, Italy, and France, trains and aeroplanes share second place, where each of these transport modes is responsible for around 15% of domestic trips. In Germany and the Netherlands, trains are the most popular transport mode after cars, with a market share of around 25% and 15% respectively.

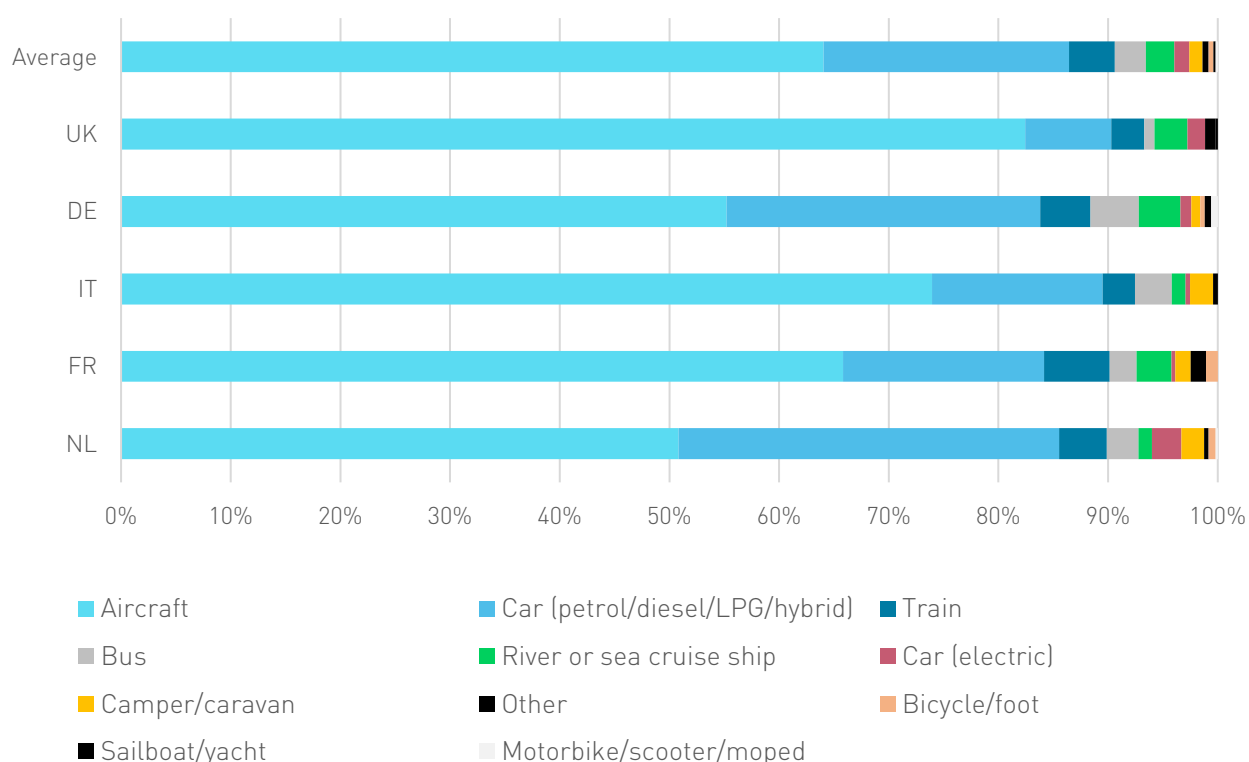
Figure 1. Mode of transportation - Domestic overnight travel for leisure purposes by country, sorted by size of shared of 'average'





Although non-electric cars are the most popular travel mode for the domestic travel market, aeroplanes dominate the international travel market. The share of this transport mode varies between around 50% in the Dutch market, to over 80% in the British market (mostly because it is an island nation). The second most popular transport mode for international trips is the non-electric car, which is relatively more popular in the countries where the aeroplane has a slightly smaller share (Germany and the Netherlands).

Figure 2. Mode of transportation - International overnight travel for leisure purposes by country, sorted by size of shares of 'average'

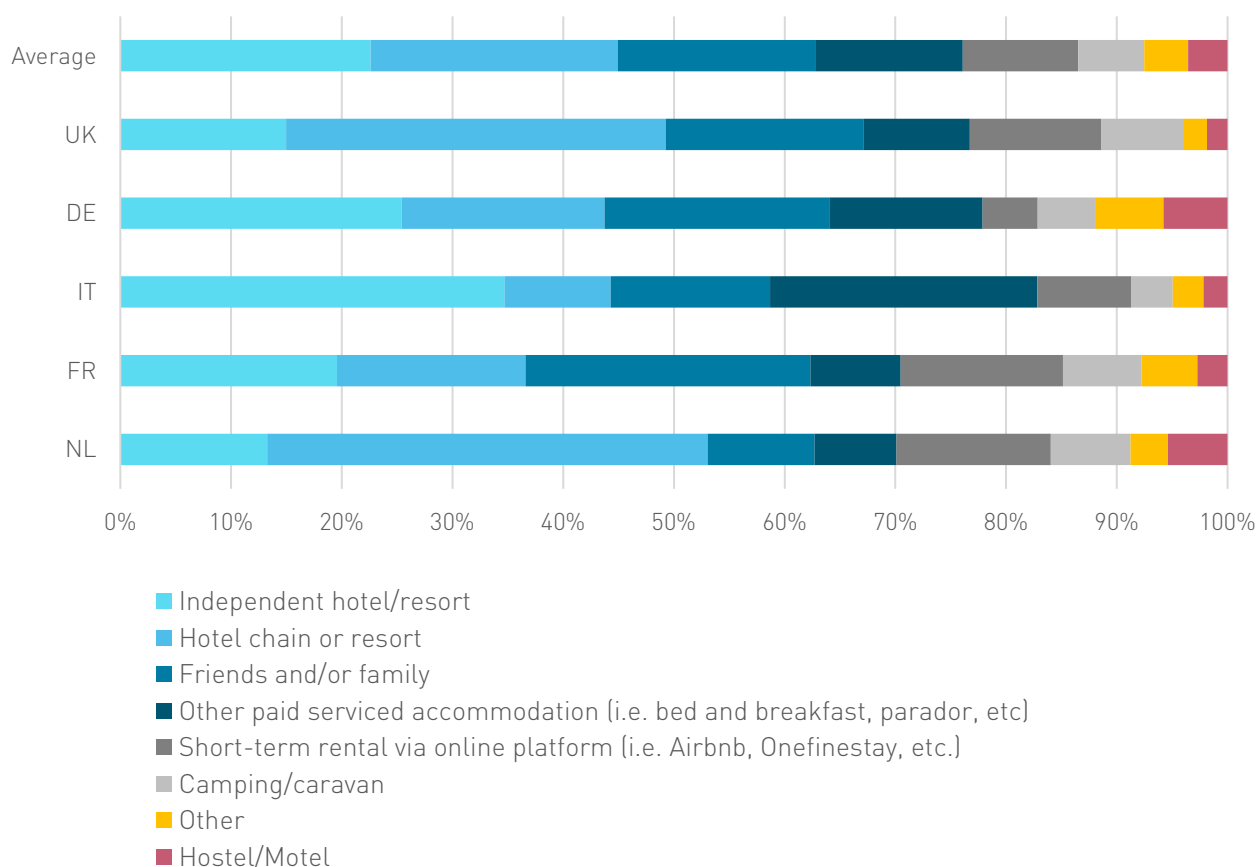




1.1.2. Chosen type of accommodation for domestic and international overnight trips for leisure purposes

In general, there is a relatively even spread in all five domestic markets in regard to the preferred type of accommodation. Chain and independent hotels make up the largest share of accommodations in domestic trips, but apart from hostels/motels, every other accommodation type makes up around 10% of the domestic travel market. Compared to the international market, it seems as if domestic tourists are more comfortable opting for other accommodation types rather than hotels.

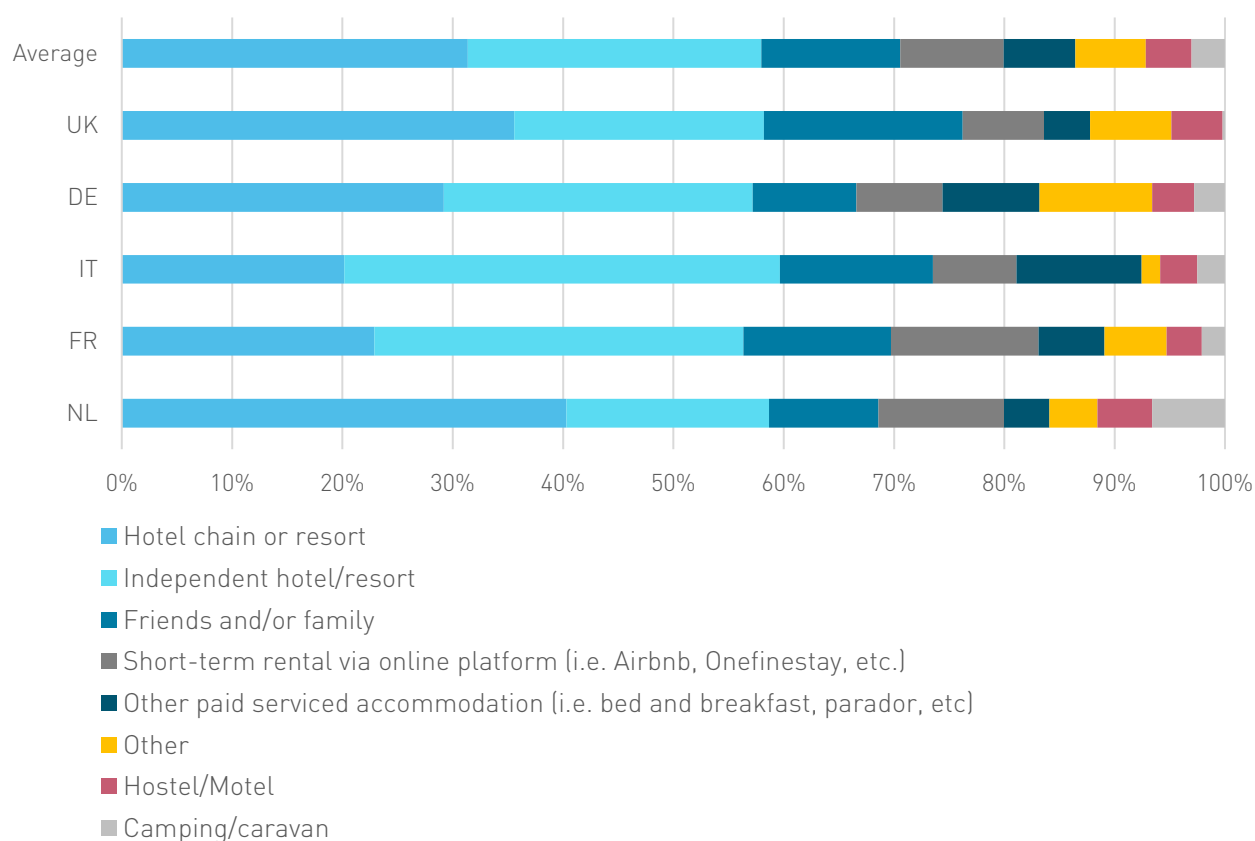
Figure 3. Type of accommodation - Domestic overnight travel for leisure purposes by country, sorted by size of shares of 'average'



Hotels dominate the international travel market in all five countries. Hotel chains and independent hotels make up more than half of the international trips, where chain hotels are a more common choice in the Dutch outbound market and independent hotels in the Italian outbound market. In the other three markets, the shares of chain and independent hotels are more evenly distributed.



Figure 4. Type of accommodation - International overnight travel for leisure purposes by country, sorted by size of shares of 'average'

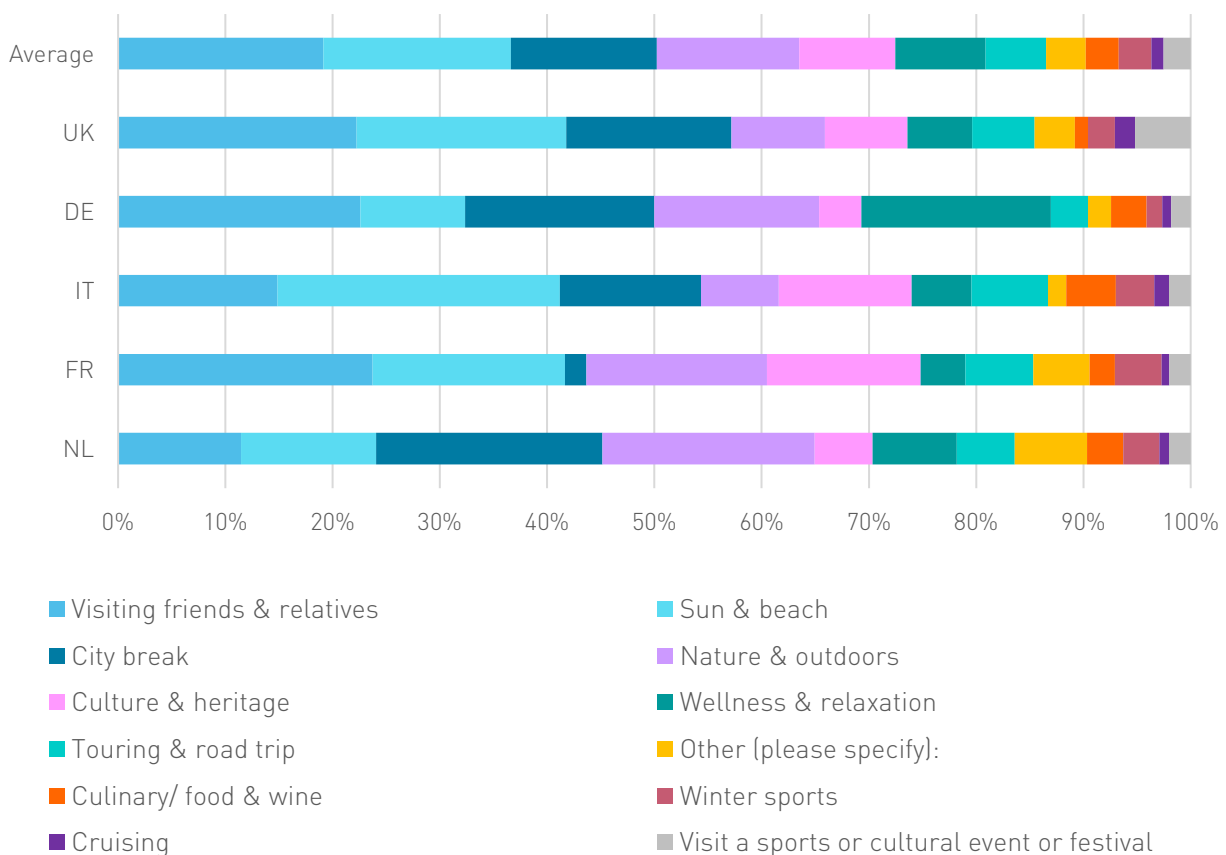




1.1.3. Purpose of domestic and international overnight leisure trips

As can be seen in Figure 6, there is a rather even distribution of domestic trips by leisure purpose. However, some differences between countries can be observed. The share of 'visiting friends & relatives' of the British, German, and French markets are relatively large. Domestic 'sun & beach trips' are relatively popular amongst British, Italian and French tourists, whereas domestic 'city breaks' are more popular amongst German and Dutch tourists.

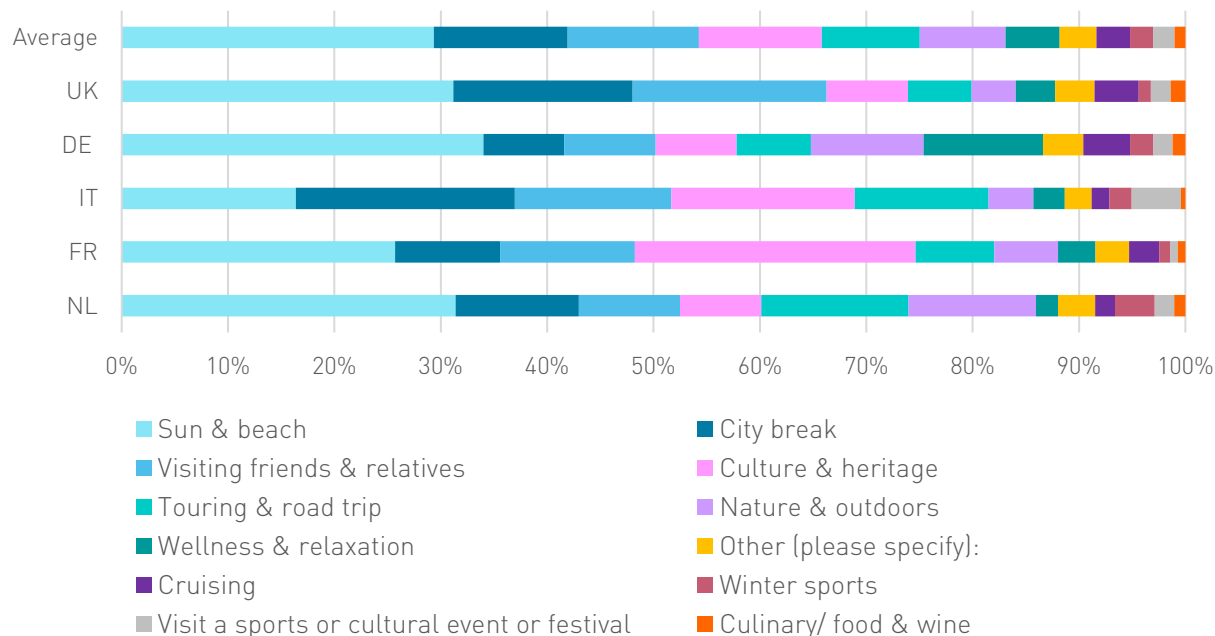
Figure 5. Purpose of trip - Domestic overnight travel for leisure purposes by country, sorted by size of shares of 'average'



Opposite to the rather even distribution of domestic trip purposes, international trips are dominated by 'sun & beach' holidays, with an average share of 25% across the different source markets. A smaller share of 'nature & outdoors' and 'visiting friends & relatives' can be observed, relative to those of domestic trips. Overall, the shares of 'culture & heritage' and 'touring and road trip' trip purposes are larger for international trips than for domestic trips. Interestingly, while domestic 'sun & beach trips' for the Italian market are the most popular trip purpose (and as compared to other countries), this share is the smallest for international trips, compared to the other countries.



Figure 6. Purpose of trip - International overnight travel for leisure purposes by country, sorted by size of shares of 'average'



1.1.4. Level of relative emissions generated per traveller based on country of origin

Figure 8 shows a large difference between the average emissions of a domestic and an international trip. As described in the methodological annex, the per-trip emissions of a domestic trip are the same for every country, and every trip should therefore only be used in comparison with international trips. The average emissions of an international trip made by a French tourist are much higher than those of a Dutch tourist, as the relative share of intercontinental trips of the total international trips is higher (thus higher emissions) as can be seen in Figure 9.

Figure 7. Emissions per trip by country (in kg CO2)

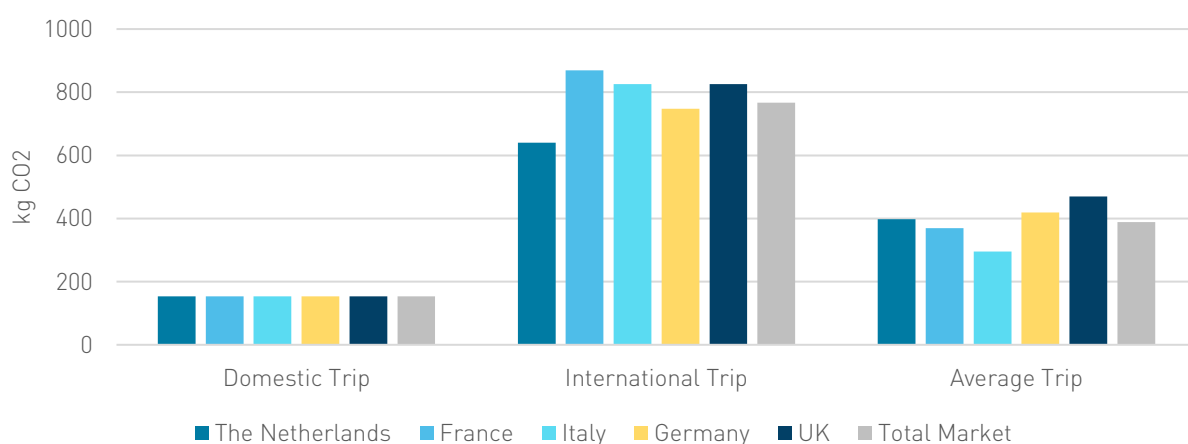
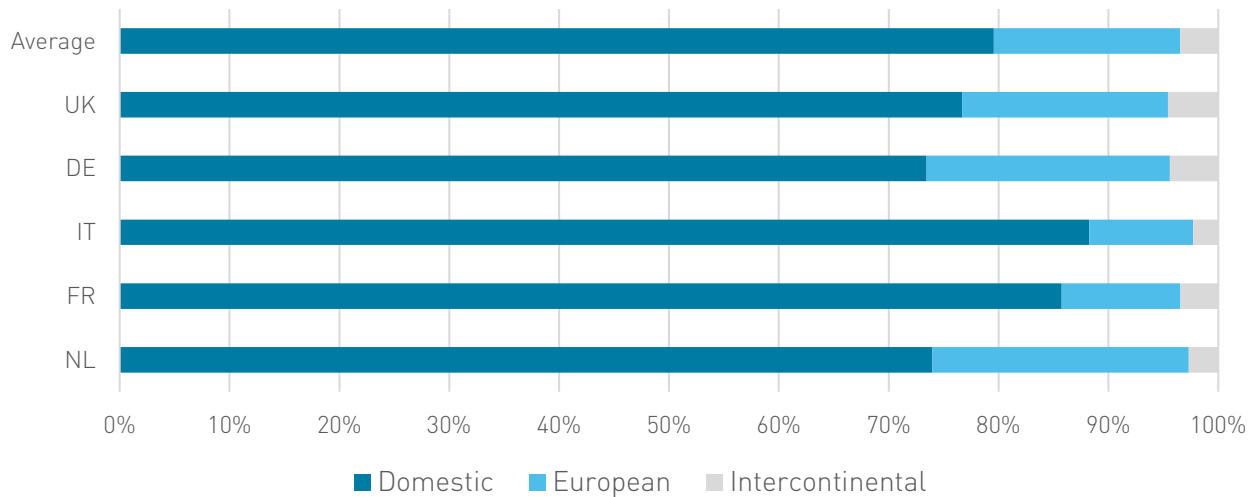


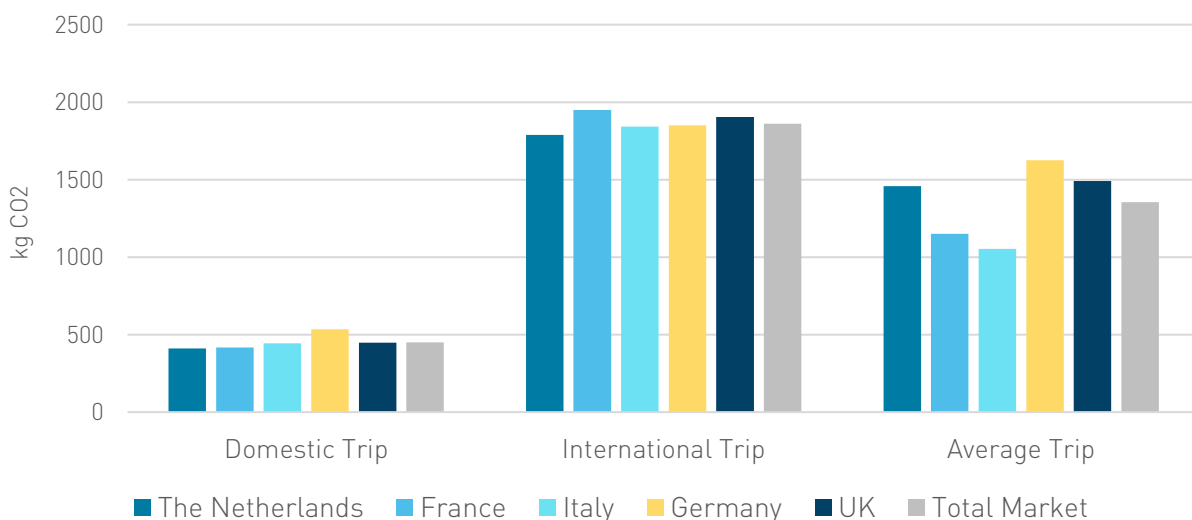


Figure 8. Shares of trips by destination type, sorted by country



When looking at the average emissions per person (of all domestic and international trips in 2018-2019), it can be seen that German tourists have a relatively large footprint, which is due to a larger average number of domestic trips. The relatively large share of intercontinental trips of French tourists' international trips, makes for slightly larger average emissions of international trips. However, since the figures for both domestic and international trips take the average of travellers who made a domestic or international trip, the average total emissions of French travellers are relatively low. It seems that for this country, an international trip often equals an intercontinental trip, whereas the majority of trips are taken domestically. Furthermore, it can be observed that Italian tourists have the lowest average footprint.

Figure 9. Emissions per person by country (in kg CO₂)

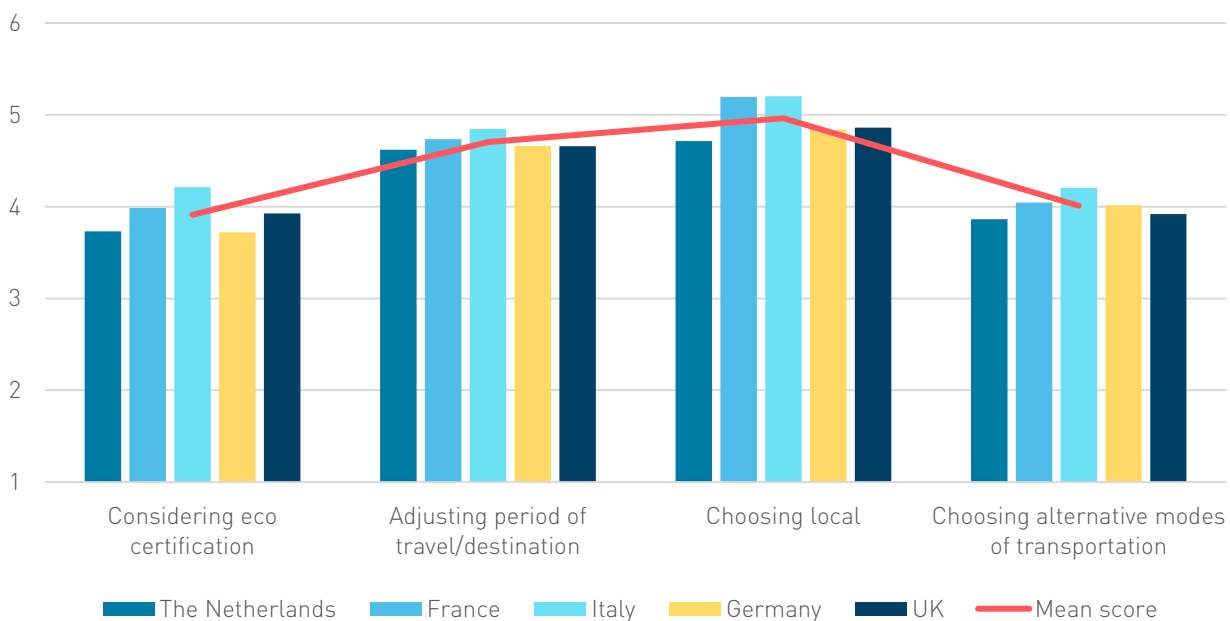




1.2 PROJECTED TRAVEL BEHAVIOUR BY COUNTRY

The projected travel behaviour of the respondents is in line with their pre-COVID-19 travel behaviour, indicating a very limited impact of the pandemic on the likelihood of adopting more sustainable travel practices in the future. Across the four behaviour categories, as shown in figure 11, there is a modest willingness to adopt more sustainable practices in the future. Travellers are most likely to adopt sustainable practices in the category of interacting with the locals, immersing in the local life, learning about local traditions, buying local products and choosing locally owned businesses, while a change in transport mode and opting for eco-certified organisations are less popular options. Between countries, the scores across the behavioural categories show the same situation. Out of the five source markets, Italian tourists are most willing to adopt various sustainable travel practices, while Dutch tourists are the most hesitant.

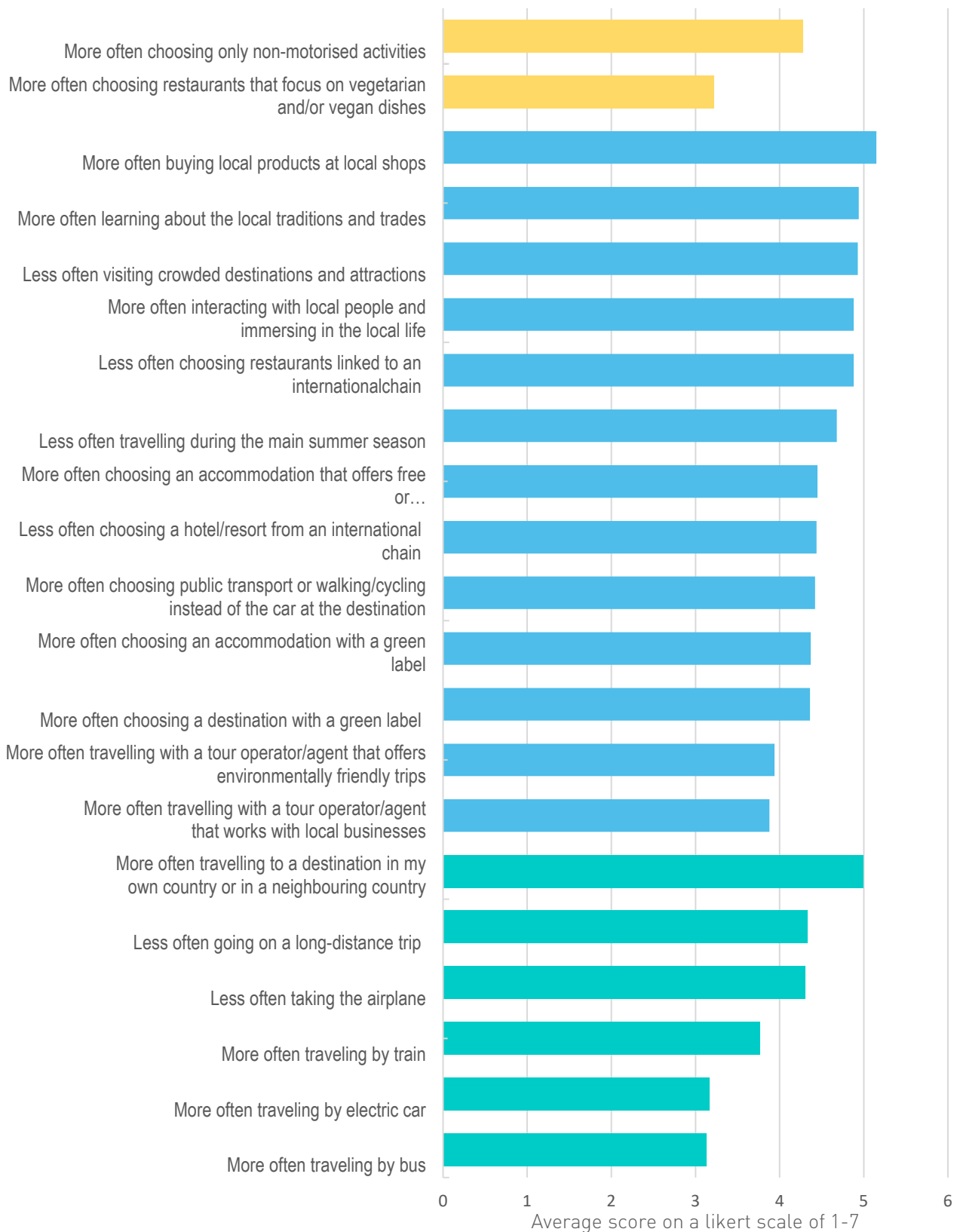
Figure 10. Projected travel behaviour per category by country



To better understand the potential effects of the behavioural change on CO₂ emissions, figure 12 shows the likelihood of adopting various practices and the impact these actions may have in terms of reducing one's footprint. The colours of the bars indicate the importance of the different choices for minimising the amount of CO₂ emissions generated. Green indicates high impact, blue medium impact, and yellow low impact. The Likert scale ranges from 1=not likely at all to 7=extremely likely to adopt the given practice.



Figure 11. Likelihood of adopting sustainable travel practices



A person with long blonde hair is sitting in an orange hammock, looking at a waterfall in a lush green forest. The person is wearing a red top and has their arms outstretched. The waterfall is cascading down a rocky cliff face, surrounded by dense tropical vegetation. The scene is captured from a low angle, looking up at the person and the waterfall.

CHAPTER 2

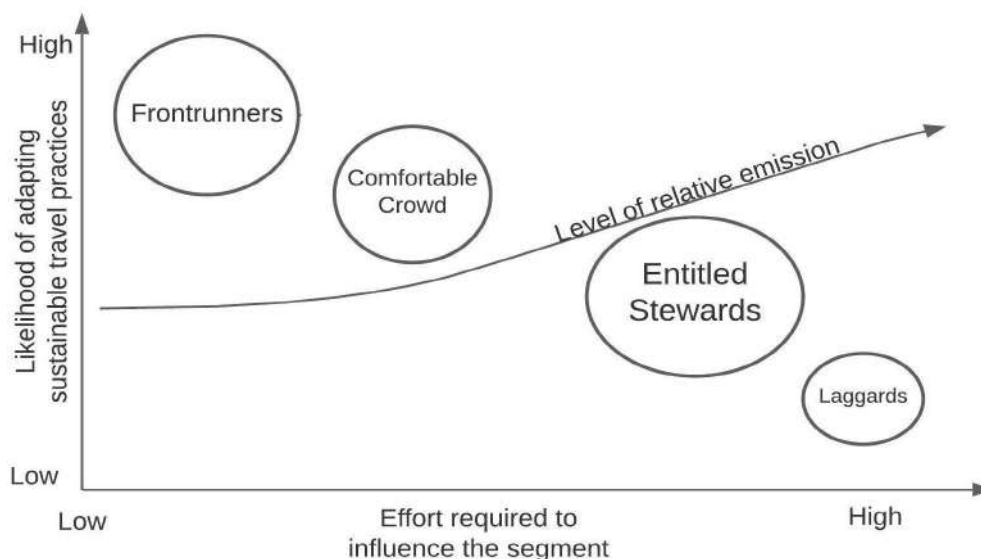
MARKET SEGMENTATION BASED ON VALUE ORIENTATION AND BEHAVIOURAL PATTERNS



2. MARKET SEGMENTATION BASED ON VALUE ORIENTATION AND BEHAVIOURAL PATTERNS

As value orientation, norms and beliefs proved to be good indicators of behavioural change, further analysis of the data set focused on building traveller profiles for European travellers based on the **value orientation**, **beliefs** (awareness of the consequences of one's actions and ascription of responsibility) and **norm patterns**, past travel behaviour (pre-COVID-19), level of relative emissions (based on past overnight trips for leisure purposes) and projected travel behaviour. The analysis of the data revealed four clusters representing distinct market segments across the five countries studied in the research (Germany, the UK, Italy, France and the Netherlands). While factors and conditions, such as social norms, habits, environmental awareness and personal preferences may act as constraints to adopting more sustainable travel practises, *available time* and *money* were the only elements that appeared to significantly influence future travel choices. This is in line with the findings of Skyscanner⁴⁰, where price is named as the leading factor influencing bookings. To aid the work of DMOs/NTOs and tourism businesses in targeting the individual clusters, implications, market opportunities and potential strategic actions are presented.

Figure 12. Likelihood of adapting sustainable travel practices vs efforts required to influence the segment and level of relative emission⁴¹



⁴⁰ Skyscanner (2021). Skyscanner Horizons. Emerging traveller behaviour as the world reopens

⁴¹ the size of the bubble indicates the size of the clusters within the sample - Frontrunners : N=426, Comfortable Crowd: N=318, Entitled stewards: 560, Laggards: N=231



2.1 CLUSTER PROFILES AND DEMOGRAPHICS

Frontrunners

Value orientation and behavioural patterns

- Strongest biospheric and altruistic values across clusters
- Strong awareness of consequences of actions
- Lowest level of relative emissions generated per cluster member for all trips reported between 2018-2019
- Highest likelihood of adopting responsible forms of travel in the future across the clusters
- Do not feel fully obliged to act responsibly

Demographic characteristics

- 48% male, 52% female
- 38% aged 55+, 35% aged 35-54
- 50% are married or in a domestic partnership, 25% single
- 30% couples without children
- 22% hold a masters degree, 20% have bachelors degree, 20% have postsecondary non-tertiary education
- 25% Italian, 21% UK, 21% French

Comfortable Crowd

Value orientation and behavioural patterns

- Strong altruistic and hedonic, but weaker biospheric value orientation
- Good level of awareness of the consequences of their actions
- Second lowest level of relative emissions per cluster member for all detailed trips reported between 2018-2019
- In the future, less likely to choose alternative travel modes, consider eco-certification or choose independent service providers, but likely to travel to closer destinations (proximity tourism) more often and/or during the off-season
- Do not feel fully obliged to act responsibly

Demographic characteristics

- 51% male, 50% female
- 59% aged 55+
- 65% are married or in a domestic partnership, 45% live as couples without children (they are likely to be empty nesters)
- 19% hold postsecondary non-tertiary education, 19% bachelor, 18% have masters degree
- 25% French, 21% German, 20% Dutch

Entitled Stewards

Value orientation and behavioural patterns

- Weaker altruistic and biospheric value orientation than the *Frontrunners* and the *Comfortable Crowd* and relatively strong hedonic value orientation
- Good level of awareness of the consequences of their actions
- Second highest level of relative emissions per cluster member for all detailed trips reported between 2018-2019
- In the future, less likely to compromise on location and time of travel, but shows a moderate level of willingness to adjust otherwise
- Do not feel fully obliged to act responsibly

Demographic characteristics

- 51% male, 49% female
- 38% aged 35-54, 34% aged 55+
- 51% are married or in a domestic partnership
- 31% couple without children, 25% family with children below 18
- 21,4 % hold a masters degree, 22% have postsecondary non-tertiary education, 20% have a bachelor's degree
- 23% German, 21% Italian, 19% French

Laggards

Value orientation and behavioural patterns

- The most challenging segment in terms of adopting sustainable travel practices
- Highest level of relative emissions per cluster member for all detailed trips reported between 2018-2019
- Lowest level of interest and likelihood across the clusters for considering sustainable alternatives more often in the future
- Lower levels of awareness of the consequences of their actions and ascription of responsibility
- Feeling of moral obligation to act responsibly is the lowest across the clusters

Demographic characteristics

- 50% male, 50% female
- 44% aged 55+, 34% aged 35-54
- 55% married or in a domestic partnership, 20% single
- 39% couple without children
- 22% have upper secondary education, 20% have bachelor's degree
- 29% Dutch, 24% UK, 21% German



2.1.1 Value orientation

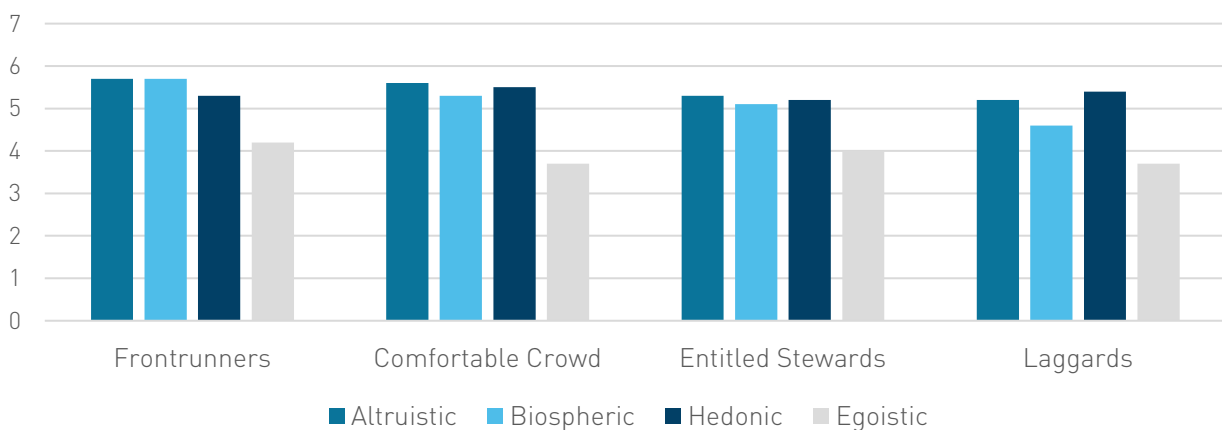
As it can be seen in the profiles, the dominant value orientation of the cluster profiles shows differences. *Frontrunners* hold the strongest biospheric ($M=5.7$, $SD=1.1$) and altruistic ($M=5.7$, $SD=1.1$) values, while the *Laggards* scored the lowest on these items (biospheric value orientation $M=4.6$, $SD=1.2$; altruistic value orientation $M=5.2$, $SD=1.1$). In line with the value orientations, the Frontrunners proved to have the strongest pro-environmental behaviour amongst the clusters and had the lowest level of emissions during past trips, while the Laggards showed the lowest likelihood of adopting sustainable forms of travel in the future, and similarly had the highest level of emissions during their past trips.

Although, there is no significant difference regarding the altruistic value orientation of the Frontrunners and the *Comfortable Crowd*, the biospheric values ($M=5.3$, $SD=1.0$) are somewhat weaker in the second segment, suggesting slightly lower levels of concern for the natural environment, as demonstrated in the following section in terms of the likelihood of adopting alternative modes of transportation. Regarding the biospheric value orientation, the *Entitled Stewards* and *Comfortable Crowd* share similarities.

The Entitled Stewards have weaker altruistic ($M=5.3$, $SD=1.0$) and biospheric ($M=5.1$, $SD=1.0$) value orientation than the Frontrunners and the *Comfortable Crowd*, but they do have stronger biospheric values than the Laggards which gives this segment stronger market potential for sustainable offers.

Interestingly, all groups endorse hedonic values indicating preferences for comfort and pleasure. However, they remain neutral regarding egoistic values, meaning the respondents do not identify with individuals who care for exercising control over others' actions, being influential, autocratic and overly concerned.

Figure 13. Mean score per value orientation by cluster

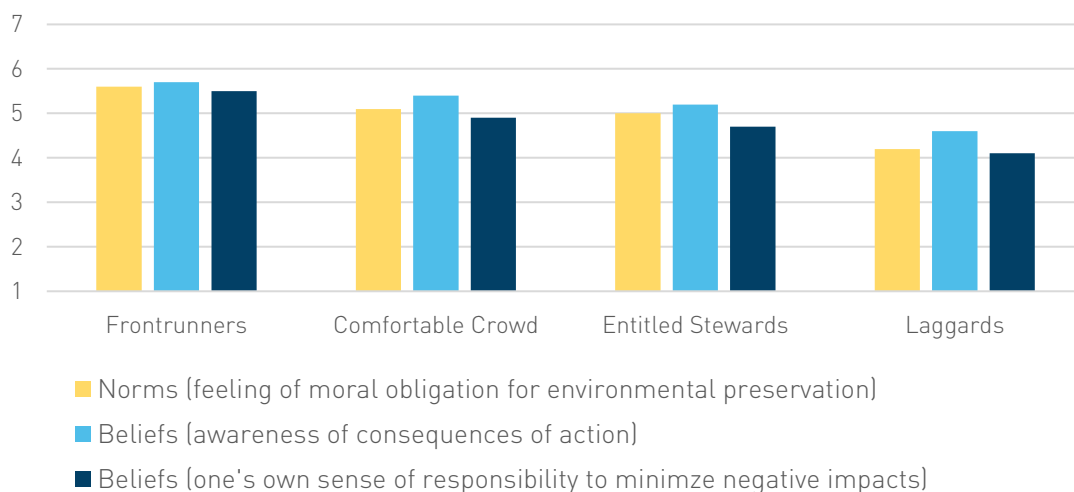




2.1.2 Beliefs and norms

As can be seen in Figure 15, while most cluster members tend to have a relatively good level of awareness of consequences of actions as the majority agreed or somewhat agreed with the statements related to the impacts of travel behaviour on the natural and social environment, none of the clusters felt fully obliged to act in an environmentally friendly way. Overall, the Frontrunners showed the highest level of awareness and responsibility to act in a sustainable manner, while the Laggards remained behind. It must be noted that no significant differences can be observed between the Comfortable Crowd and the Entitled Stewards in terms of their feeling of moral obligation for environmental preservation, the level of awareness of the consequences of their actions and sense of responsibility to minimise negative impacts resulting from their travel behaviour.

Figure 14. Mean score per norms and belief statements by cluster



2.2 PRE-COVID-19 TRAVEL BEHAVIOUR BY CLUSTER

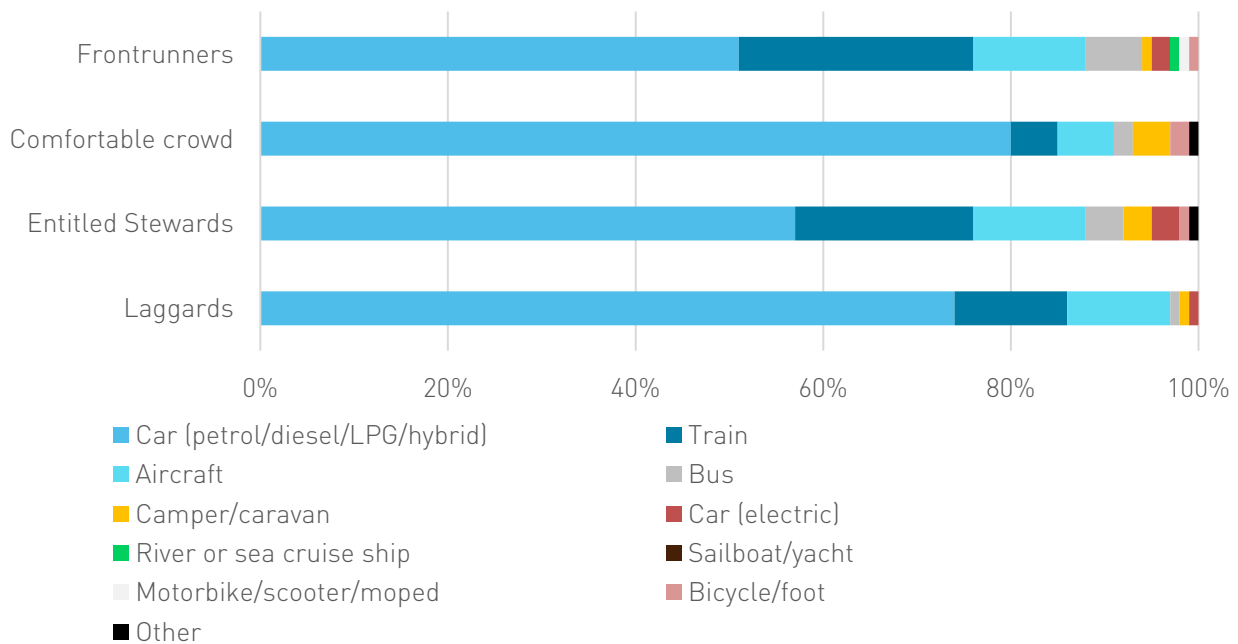
The value orientations of the cluster members proved to be good predictors of travel behaviours. In the following section these aspects are reviewed in detail.

2.2.1. Chosen mode of transportation for domestic and international overnight trips for leisure purposes

Looking at past travel behaviour, it can be seen that cars were the most chosen option for domestic overnight trips amongst all four clusters. However, while 80% of the Comfortable Crowd opted for cars, only 51% of the Frontrunners chose this mode, while 25% travelled by train. Although it must be noted, that while train as an alternative was by far the most popular amongst the Frontrunners, 12% of this segment still reported that they travelled by aeroplane.

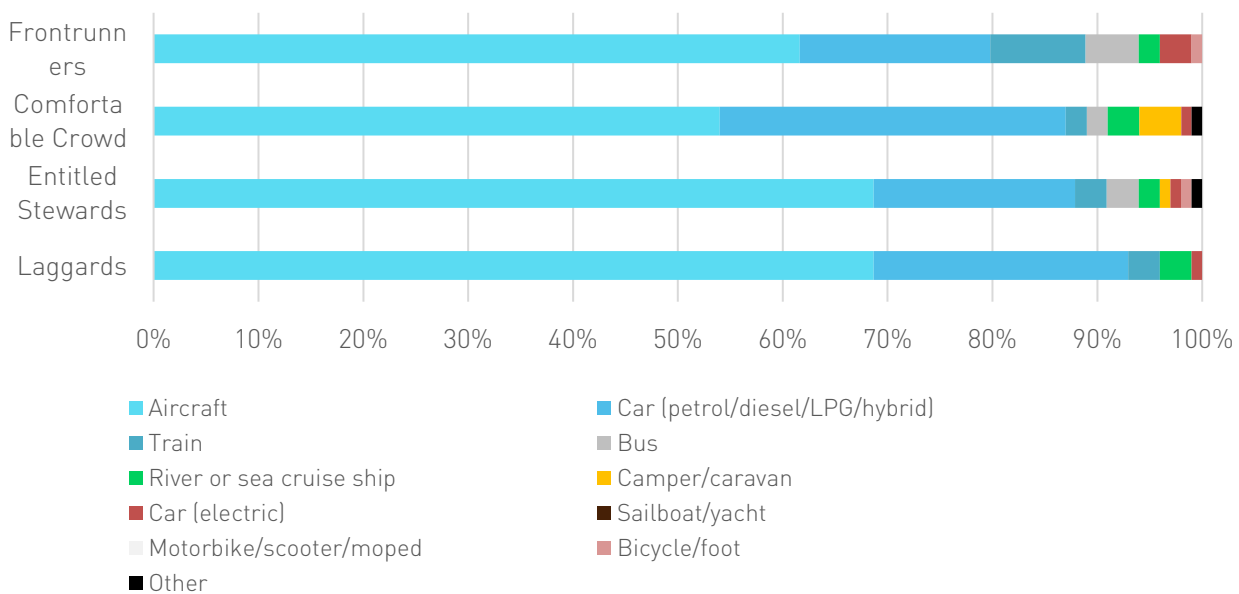


Figure 15. Mode of transportation - Domestic overnight travel for leisure purposes by cluster



Looking at the international trips, aeroplanes were the preferred option among all clusters. While 54% of the Comfortable Crowd travelled by aeroplane, 33% chose cars, meaning that the share of those who travelled by aeroplane is the lowest in this segment. The highest share of those taking aeroplanes was amongst the Laggards with 68%. While trains remained an unfavoured option, 9% of the Frontrunners did choose this mode of transportation, indicating higher potential among this segment.

Figure 16. Mode of transportation - International overnight travel for leisure purposes by cluster

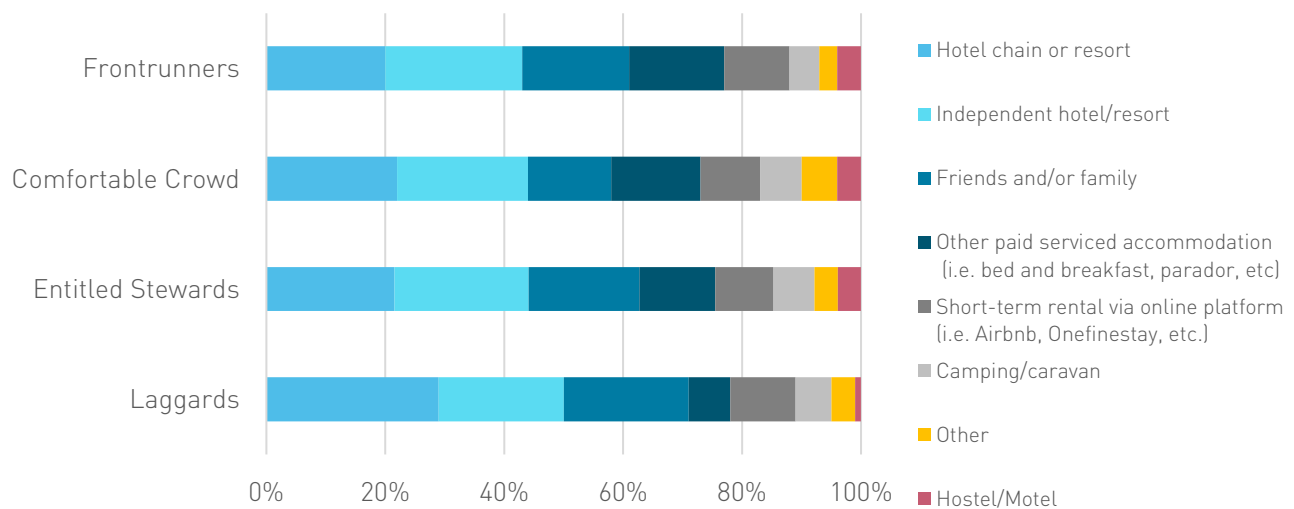




2.2.2. Chosen type of accommodation for domestic and international overnight trips for leisure purposes

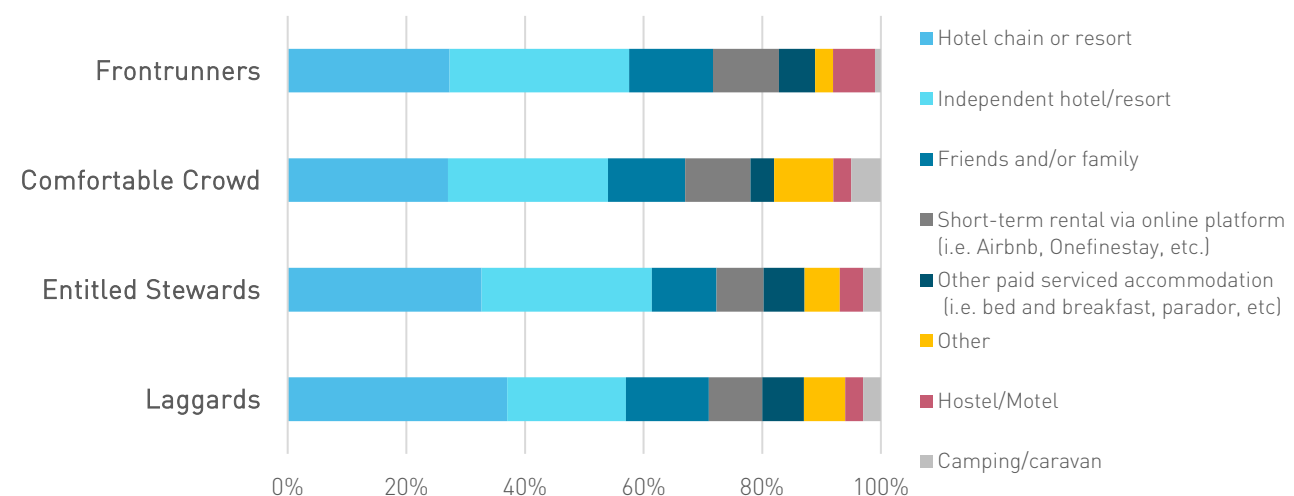
While the share of independent hotels and resorts for domestic overnight stays was equal to or higher than the international hotel chains in all segments, the Laggards leaned slightly more towards international hotel chains and resorts with 29% opting for this type of accommodation.

Figure 17. Type of accommodation - Domestic overnight travel for leisure purposes by cluster



Looking at the international trips, the percentage of Laggards staying at international chains was even higher at 37%. Invariably, for the Frontrunners, independent hotels outpaced international chains as 30% of this group opted for them.

Figure 18. Type of accommodation - International overnight travel for leisure purposes by cluster

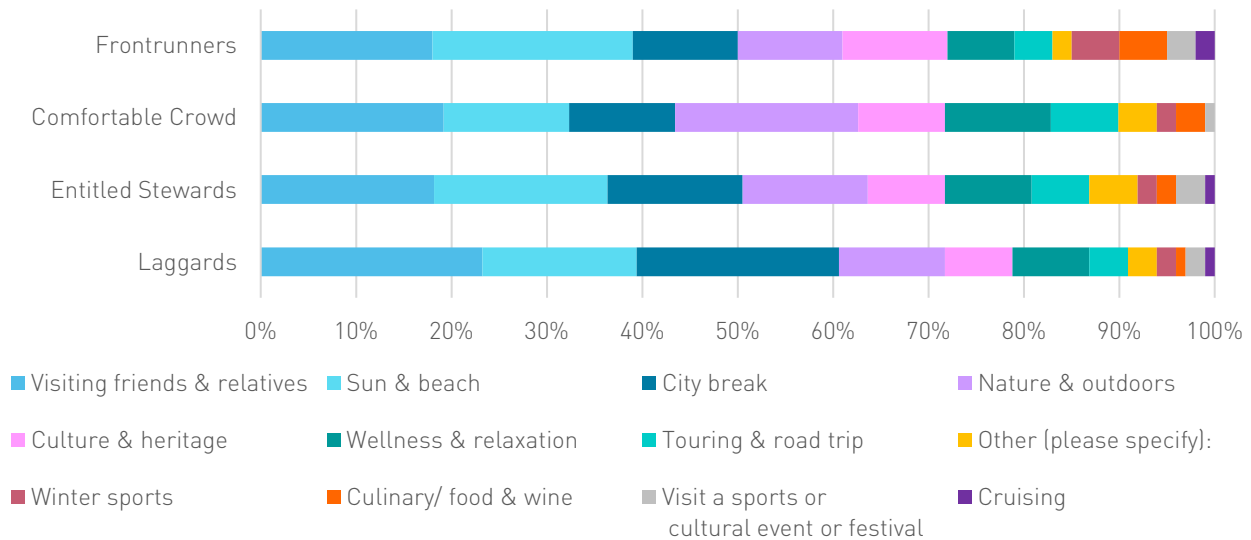




2.2.3. Purpose of domestic and international overnight leisure trips

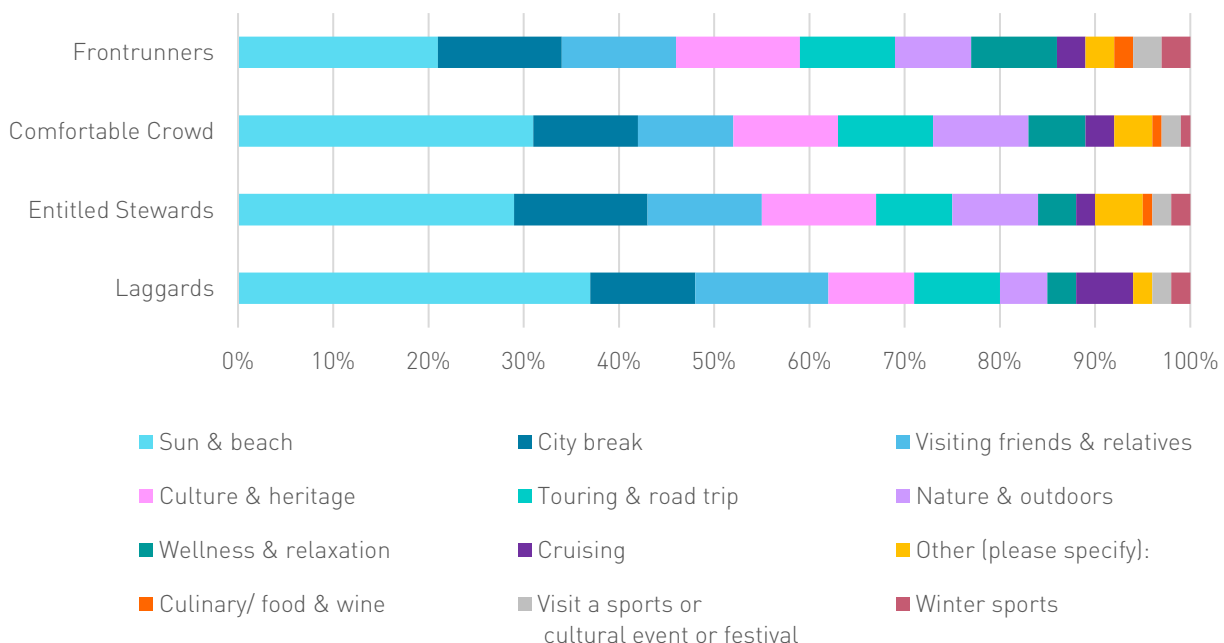
'Visiting friends and family' was one of the main purposes of domestic overnight trips taken for leisure purposes among all clusters. However, while 21% of the Frontrunners enjoyed 'sun & beach' holidays, 19% of the Comfortable Crowd chose 'nature and outdoors' activities and 21% of the Laggards enjoyed city breaks.

Figure 19. Purpose of trip - Domestic overnight travel for leisure purposes by cluster



Looking at the international trips, Frontrunners engaged most with different activities, other than the typical 'sun & beach' holidays, however, sun & beach holidays are still the most preferred option.

Figure 20. Purpose of trip - International overnight travel for leisure purposes by cluster

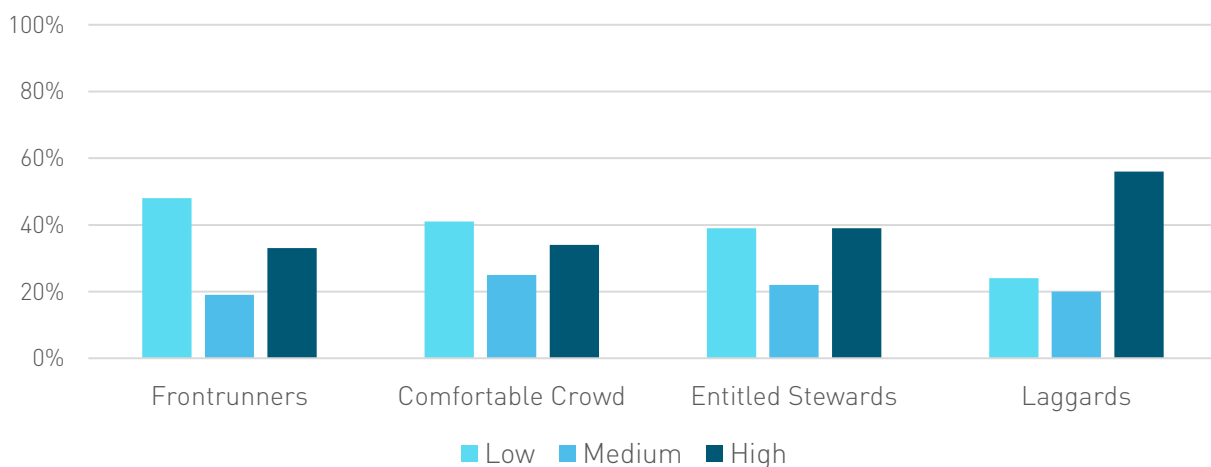




2.2.4. Level of relative emissions per cluster member

Looking at the relative level of emissions per cluster member based on reported trips between 2018 and 2019, it can be seen that close to 50% of the Frontrunners cluster belong in the low emission zone, however, it must be noted that the other half of the members went on trips with medium and high emission levels leading to an average of 1,057kg CO₂ emissions per cluster member (based on detailed trips reported). Close to 60% of the members of the Comfortable Crowd belong in the medium to high emission zone, with average CO₂ emissions of 1,181kg per cluster member (based on detailed trips reported), slightly higher than in the segment of the Frontrunners. The analysis of past travel behaviour revealed that 61% of the Entitled Stewards belong in the medium and high emission zones, representing the second highest level of emissions amongst the clusters with an average of 1,470kg CO₂ emissions per cluster member (based on detailed trips reported). Lastly, the Laggards had the highest proportion of members with a high level of relative CO₂ emissions (M=1,857kg/cluster member, based on detailed trips reported). This may be explained by the fact that over 70% of this segment opted for using cars for domestic trips, while for international trips 68% used aeroplanes, followed by cars (24%).

Figure 21. Ratio of cluster members in the low, medium and high emission zones



2.3 PROJECTED TRAVEL BEHAVIOUR BY CLUSTER

The projected travel behaviour of the respondents is in line with their value orientations, their responses to the belief and norm statements, and most importantly their pre-COVID-19 travel behaviour, indicating a very limited impact of the pandemic on the likelihood of adopting more sustainable travel practices in the future. However, the analysis revealed that while most respondents show willingness to adopt more sustainable travel practices in the future, the extent to which they are willing to do so differs. The Frontrunners have the strongest potential in all four behaviour categories (adjusting period of travel/destination, choosing local, considering eco-certification, choosing alternative modes of transpiration), while the

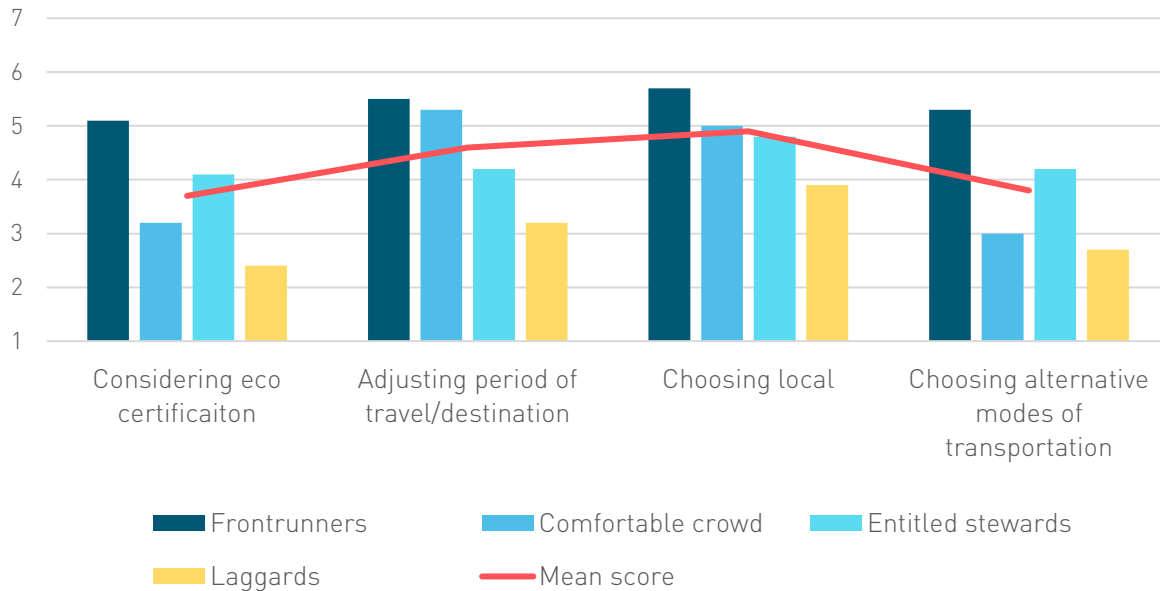


Laggards scored the lowest in all aspects. Overall, as can be seen in figure 23, travellers are most likely to adopt sustainable practices in the category of interacting with the local community and immersing in local life, learning about the local traditions and trades, buying local products and choosing locally owned restaurants. Travellers are least likely to opt for alternative transportation modes or consider booking with eco-certified service providers. Furthermore, differences can be observed in the phases of the customer journey where travellers are more likely to consider alternative options. Understanding these differences may help to develop targeted actions to increase the uptake of sustainable travel products and to achieve behavioural change. Emphasising behavioural change is crucial, as it has been scientifically proven that offsetting schemes are insufficient to tackle the climate emergency. Furthermore, the low price of compensating CO₂ emissions creates the impression that it is relatively easy and cheap to neutralise one's carbon footprint.

The following graphs represent the mean scores per behavioural category indicating the likelihood of cluster members adapting sustainable practices in the respective categories. The following section will analyse the projected travel behaviour per cluster.

Figure 22. Mean score per category of projected behaviour by cluster

Likert scale from 1=not likely at all to 7=extremely likely



2.3.1 Frontrunners

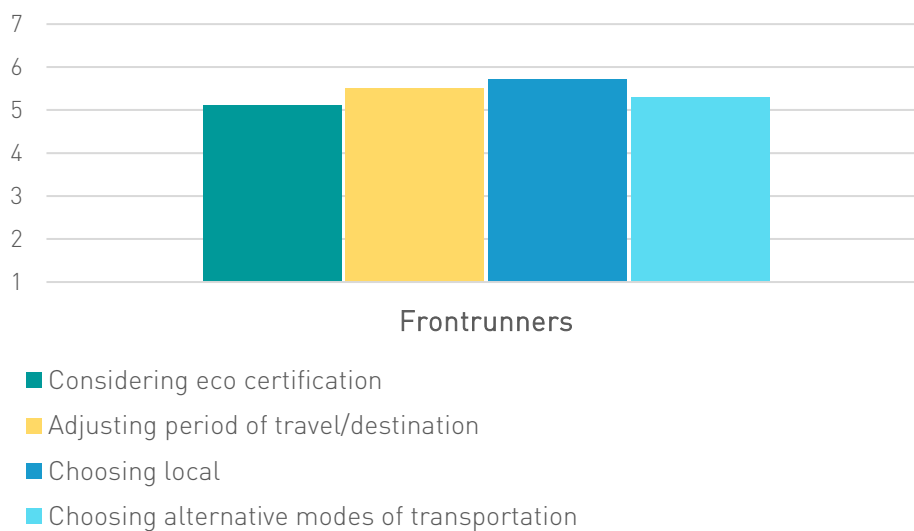
As can be seen from the graph, this segment demonstrated the strongest potential for considering alternative destinations in one's proximity, travelling during shoulder months and purposefully choosing eco-certified service providers, such as accommodation providers, tour operators and agents. They are likely to search for destinations with ecolabels. This cluster is the most likely to opt for independent hotel chains and locally owned catering facilities, as



their past behaviour also demonstrated. Authenticity and guest-host interactions are likely to play a key role in their future customer journeys as they showed the highest level of interest in maximising their socio-cultural and socio-economic impacts. The Frontrunners showed the highest level of willingness to more frequently consider alternative modes of transportation in the future. This is likely when we consider that train travel for both domestic and international trips taken in the past was the most popular among this segment, in comparison to the other clusters.

Figure 23. Frontrunners: mean score per category of projected behaviour

Likert scale from 1=not likely at all to 7=extremely likely



2.3.2. Comfortable Crowd

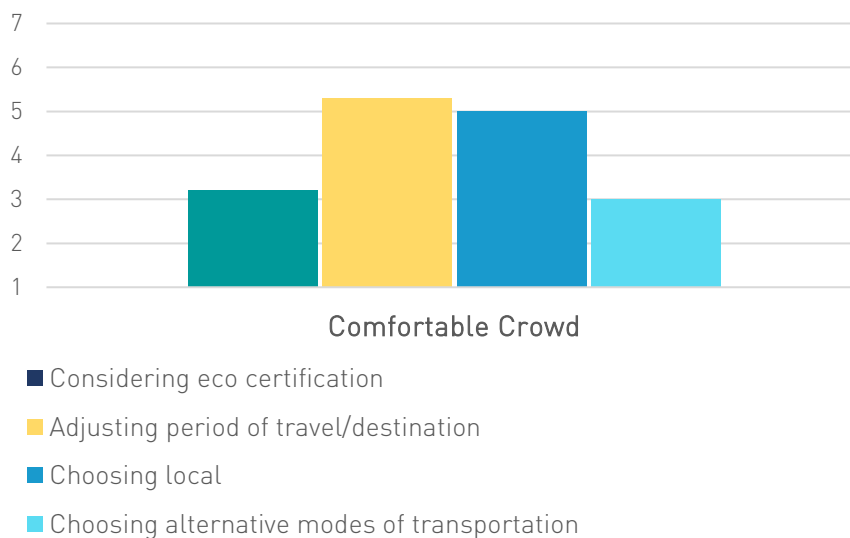
This segment showed above average interest in opting for trips within their region or country. They consider alternative, short-haul itineraries appealing, leading to fewer trips by aeroplane. Visiting crowded destinations/sites is less attractive for this segment making emerging destinations and less popular sites a viable option. Travelling off-season is considered as a potential alternative as shown in the graph below, further reducing the contribution to overcrowding and visitor pressure at the destination. While the Comfortable Crowd is more open to adopting alternative options at an early stage of the customer journey, such as the choice of destination and time of travel, at later stages they are less willing to switch to sustainable practices (e.g. choosing locally owned businesses and local products, opting for eco-certified service providers, using non-motorized vehicles to get round in the destination, etc.). As comfort plays a key role (strong hedonic value orientation), they lean towards international hotel chains. This segment is less likely to opt for alternative modes of transportation, such as train or bus, potentially leaving the car as the favoured option for



future trips (80% opted for this mode of transportation on past trips). In terms of guest-host interactions and positive socio-cultural impacts, such as respect for the locals, learning about local traditions and trades, immersing in local life and purchasing local products, this segment showed interest slightly above the average, suggesting potential for increasing the positive socio-cultural and socio-economic impacts at a destination.

Figure 24. Comfortable Crowd: mean score per category of projected behaviour

Likert scale from 1=not likely at all to 7=extremely likely



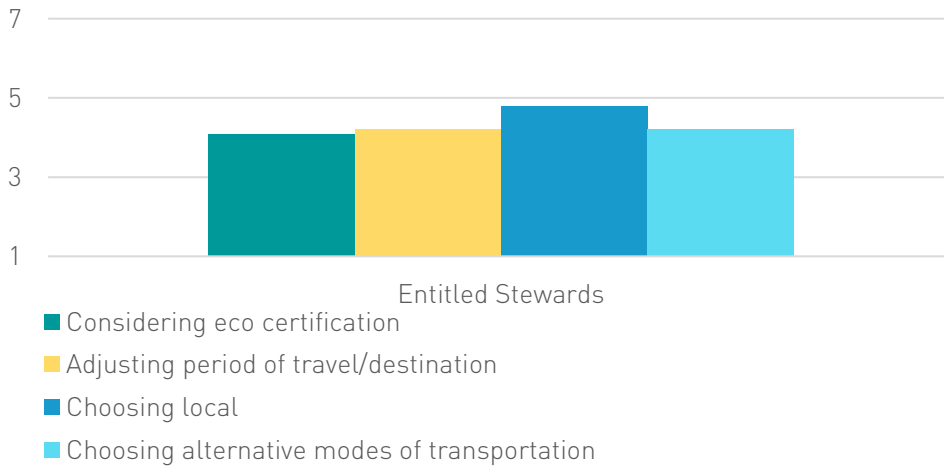
2.3.3. Entitled Stewards

While the Comfortable Crowd is more likely to consider alternatives at the beginning of the customer journey (choice of travel period and destination), this group leans towards sustainable alternatives further down the customer journey, while being at the destination. As can be seen in the graph, the level of willingness to opt for alternative destinations in one's proximity or to travel off-season is below average, however still higher than the score of the Laggards. Consequently, these travellers are less likely to travel less often to other world regions and/or to travel by aeroplane. While the aeroplane may remain the preferred mode of transportation, given the nature of trips favoured by this segment, once at the destination, public transportation or other non-motorised vehicles seem to be a viable alternative. This segment is likely to look for eco-certified service providers and destinations with ecolabels. Interest in guest-host interactions and authentic, immersive experiences is slightly above average, demonstrating a moderate level of likelihood in engaging with the local communities. As authenticity is somewhat valued by this segment, there is some willingness to opt for independent hotels and locally owned restaurants.



Figure 25. Entitled Stewards: mean score per category of projected behaviour

Likert scale from 1=not likely at all to 7=extremely likely

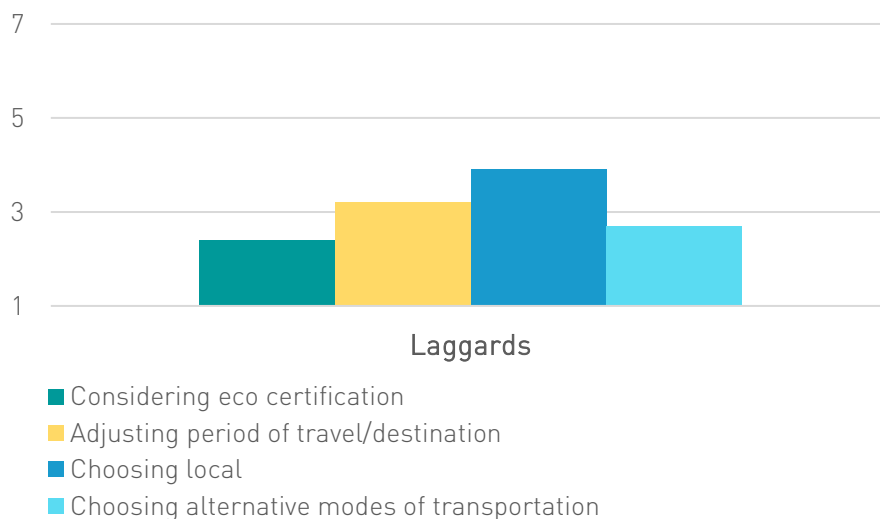


2.3.4. Laggards

In terms of projected behaviour, this group puts the least emphasis on choosing eco-certified service providers or destinations with an ecolabel. Furthermore, their trust remains with well-known, international hotel and restaurant chains (this group showed the strongest preference for international chains in their past trips). The Laggards are the least likely to compromise on their destination choice and the time of travel. Considerations given to the socio-cultural and socio-economic impacts of their actions, such as guest-host interactions, learning about the local culture, habits and values, contributing to the local economy by purchasing local products remain below average. The likelihood of opting for alternative, more sustainable modes of transportation is the lowest in this segment as comfort plays an important role.

Figure 26. Laggards: mean score per category of projected behaviour

Likert scale from 1=not likely at all to 7=extremely likely





2.4 MARKET OPPORTUNITIES AND STRATEGIC ACTIONS

Based on the analysis of pre-pandemic, current and projected travel behaviour, the belief and norm statements as well as the value orientations of the respondents, implications for the industry and the related market opportunities were assessed. The market opportunities are linked to a range of strategic actions that DMOs, NTOs or tourism businesses can take to stimulate behavioural change. As a DMO/NTO or tourism business, it is recommended to develop a good understanding of the travel decision making process, the behavioural patterns along the travel journey and the changes travellers are willing to make. Based on this understanding, the strategic recommendations below may serve as guidance to implement targeted actions. For instance, one may want to focus on a segment that is likely to opt for alternative destinations and to travel off-season, or one may tailor its efforts by following a more holistic approach and choosing strategies from multiple clusters.

2.4.1 Frontrunners

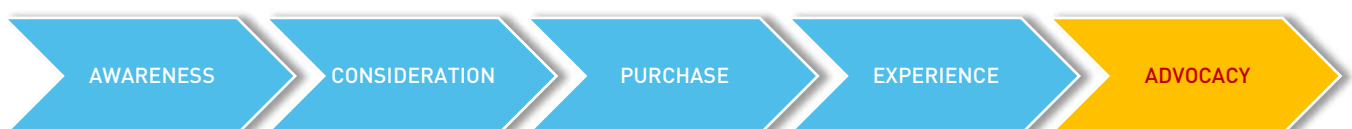
Market opportunities

This group has the highest potential to lead the transition towards a more sustainable and resilient tourism industry. They may act as role models for other travellers and be pictured as sustainability travel ambassadors. In terms of travel decision-making, sustainability may be the starting point and the decisive factor when it comes to choosing a destination. However, they may consider sustainability as an integrated part of the tourism offering, therefore failing to recognise their own carbon footprint. This perspective may aid the understanding of why they refrain from taking full responsibility for contributing to negative impacts. This market segment represents a huge potential for businesses willing to change and adopt more sustainable practices. Initiatives in the MICE segment may lead the way and foster more environmentally-friendly practices by requiring event attendees to meet sustainability standards.

Implications

This segment has the potential to drive the shift from traditional to innovative, sustainable business models. Evidence to prove that there is a growing demand for sustainable offers is important to foster change. It is crucial for innovative businesses focusing on this segment to showcase their successes, thereby inspiring others, both on the demand and supply side of the travel and tourism industry.

Customer journey action points





Advocacy is key as this segment has the potential to encourage others in their travel decision-making processes. Therefore, besides maintaining interest and awareness of sustainable offers (this segment is genuinely interested in sustainability), it is advised to monitor the actions and experiences of this group and gather best practices and inspiration points to stimulate both the supply and demand side.

Actions for DMOs, NTOs or tourism businesses to stimulate behavioural change

Creating awareness

- Recognise this group's potential to become accelerators for developing the market for sustainable tourism products
- Build a community of Frontrunners and inspire other travellers to join the "club"
- Develop campaigns to showcase how local communities and the ecosystem benefit from the actions of conscious travellers
- Showcase the successes and best practices of businesses that flourish by offering sustainable travel products to inspire other businesses to follow in their footsteps
- Create awareness of reputable eco-certification programmes to strengthen the efforts to eliminate greenwashing
- This group may be consulted in destination level decision-making processes and initiatives to improve the offer of sustainable options and their uptake

Product development and adaptation of sustainability principles

- The MICE sector has the potential to lead the way by using opt-out strategies to foster adoption of sustainable practices
- Participate in eco-certification programmes and work with eco-certified suppliers
- Build packages around sustainable forms of mobility
- Foster partnerships with local service providers

2.4.2 Comfortable Crowd

Market opportunities

By being aware of the consequences of their travel choices and showing a moderate level of likelihood to adapt their travel behaviour, this segment proves to be one that may also lead the shift towards adopting sustainable travel practices. Alternative, short-haul travel itineraries are favoured by this segment making it a potential target group for proximity tourism. Preference was indicated for avoiding crowded attractions and destinations, hence the group may be receptive to alternative itineraries. Offers with nature and/or culture and

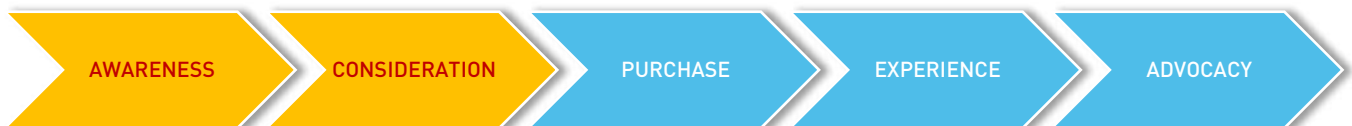


heritage themes are likely to continue to be of interest for them. However, despite their willingness to participate in domestic and short-haul travel, and potentially travel off-season, Comfortable Crowd travellers favour the traditional type of services, such as mainstream accommodation and other service providers (hotels, restaurants, etc.). The reliance on well-known travel brands implies the need for consistency in service provision as well as some level of safety and security. Therefore, known international travel brands have a responsibility to take the lead in adapting their offer to ensure that sustainability standards are met, and the carbon footprint of this segment is minimised as much as possible.

Implications

Travellers from this cluster are likely to book organised holiday packages and opt for international accommodation and restaurant chains. Consequently, influencing the travel behaviour of this segment calls upon the key players of the industry (international chains, established tour operators and travel agents, etc.).

Customer journey action points



The level of awareness of the consequences of their actions is relatively high in this segment. Therefore, besides continuing to raise the awareness of sustainable practices (e.g., the benefits of using alternative modes of transportation), it is advised to take action in the consideration phase and push offers that fulfil the desires of this segment, such as proximity tourism, off-the-beaten-track itineraries and sustainable mobility options. It is key to emphasise the comfort, convenience and efficiency of the sustainable tourism itineraries.

Strategic actions for DMOs, NTOs or tourism businesses to stimulate behavioural change

Creating awareness

- Increase the feeling of moral obligation amongst travellers in this segment by showcasing how communities and the ecosystem benefits from the actions of the Frontrunners. Urge the Comfortable Crowd to act as the Frontrunners.
- Focus promotional efforts on alternative destinations in the proximity of one's home, emphasise convenience and (travel) time efficiency
- Promote off-season deals and last-minute offers as this segment is likely to opt for these holidays, emphasise flexibility and the price-quality ratio
- Increase awareness of the economic impacts of mindful travel choices, such as booking with independent or local businesses
- Promote regional products and the possibility to engage with the local community (e.g., tastings, workshops, cooking classes, etc.)



- Create awareness of alternative travel modes – focusing on comfort, convenience and efficiency – and benchmark with other travel modes, such as car and aeroplanes

Product development and adaptation of sustainability principles

- Tourism suppliers should not follow the market, but lead and shape demand
- Provide sustainable, regional and domestic offers (e.g. package tours) to turn awareness into action
- Avoid labelling your offers as 'sustainable', instead focus on comfort, convenience and fun
- Travellers may be independent but want to book part of their trips through specialists, therefore sustainable modular options can be appealing to this target group
- Use financial instruments/incentives to stimulate behavioural change (e.g. coupons/vouchers/credit system)
- International chains can play a key role in increasing awareness and ascription of responsibility among this cluster and therefore should increase their efforts to adapt sustainable practices
- Make the first-time experience exceptional so that sustainable options become the norm

2.4.3 Entitled Stewards

Market opportunities

This segment is the largest among the studied clusters. It may be said that travellers in this cluster represent a so-called latent demand. Therefore, awareness, knowledge and the ease of finding information may play a role in whether this segment will opt for sustainable alternatives or not. They are less likely to consider destinations based on their carbon footprint, indicating key differences compared to the travel decision-making processes of the Frontrunners or the Comfortable Crowd and have higher emission levels overall. However, once they arrive at their desired destination, they are relatively open to change. Consequently, suppliers at the destination play a key role in making sustainable offers readily available to this target group. Marketing focused on comfort, joy and pleasure may help turn this group's attention towards eco-friendly options, as they may not choose an alternative simply because it is sustainable.

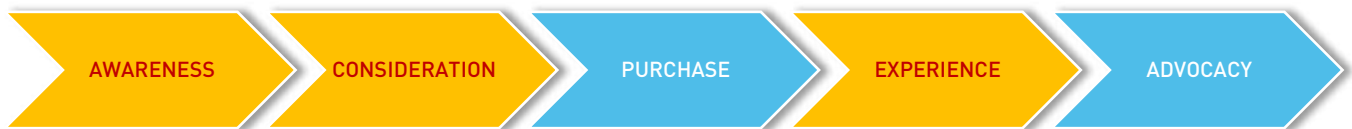
Implications

While compensation schemes may help to offset not only air journeys, but also journeys by rail and road, and even hotel stays, real change should be fostered by offering products that allow travellers to adopt more sustainable travel behaviours. Furthermore, the many different ways to calculate and/or offset one's carbon footprint may be overwhelming and the calculation



methods often lack consistency. Moreover, transparency and accountability are key, however they are often lacking.

Customer journey action points



The level of awareness of the consequences of one's actions is relatively high in this segment. Therefore, besides continuing to raise awareness, it is advised to take action in the consideration phase, with focus on real behavioural changes, instead of for example, promoting carbon offsetting and reduction schemes, whereby the real impact is unlikely to be reduced. As this segment is likely to opt for sustainable alternatives while at the destination, in-destination services that allow for minimising the eco-footprint (e.g. the use of non-motorised vehicles, less use of plastic, responsible purchasing behaviour, etc.) has great potential. Incorporating sustainable in-destination services and experiences should be made available and easily accessible within travel itineraries.

Strategic actions for DMOs, NTOs or tourism businesses to stimulate behavioural change

Creating awareness

- Increase the feeling of moral obligation amongst travellers in this segment by showcasing how communities and the ecosystem benefit from the actions of the Frontrunners. Urge the Entitled Stewards to act as the Frontrunners
- Increase awareness of the economic impacts of mindful travel choices, such as booking with independent or local businesses
- Create awareness of alternative travel modes – focusing on comfort, convenience and efficiency – and benchmark with other travel modes, such as car and aeroplanes
- Raise awareness of alternatives to CO₂ compensation schemes, such as packing lighter to reduce fuel consumption, choosing alternative modes of transportation, ways to reduce the use of plastic, etc. to foster behavioural change
- Foster accountability and transparency when it comes to CO₂ compensation schemes and work with partners that meet certification standards
- Raise awareness of the pressure placed on destinations when travelling during peak seasons, (e.g. overcrowding, pressure on destination resources, etc.)
- Increase the visibility of sustainable offers at the destination (e.g. sending follow up emails, pop up messages, etc. once the travellers are in the destination)

Product development and adaptation of sustainability principles

- Suppliers should not follow the market, but lead and shape demand
- Offer sustainable modular options for in-destination services and experiences



- While compensation and eco-certification schemes may help, real change should be fostered by offering products that allow travellers to adopt more sustainable travel behaviours, instead of compensating their carbon and overall eco-footprint

2.4.4 Laggards

Market opportunities and strategic actions

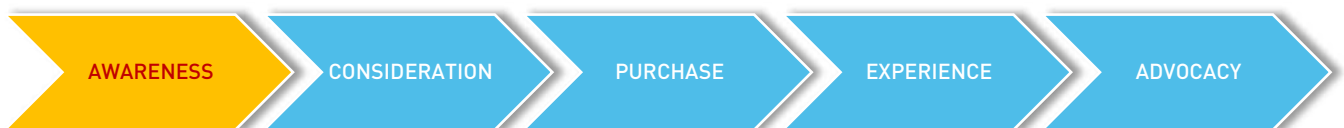
Since this group is the least receptive to sustainable offers, raising the level of interest requires significant effort from all industry players. It is advised to follow an indirect strategy and target the segments with a higher likelihood of adopting sustainable travel practices. Through increasing the market share of those prepared to make changes, it is expected that service providers will gradually shift towards offering more sustainable options, thereby increasing the quality and quantity of such products and services, making them more appealing to this target group. Such transition may indirectly influence the travel choices of this segment.

Alternatively, by making sustainable choices the default offer, it is likely that this market segment can be captured as well. Offering flexible, dynamic packages that do not compromise comfort, and not referring to the offer as sustainable per se, may be an option. Furthermore, it is likely that this segment can be influenced by financial incentives (e.g. vouchers, coupons, etc).

Implications for the industry

This segment helps to keep the old, traditional travel and tourism industry alive. Businesses and destinations reluctant to change may continue to benefit from this market segment.

Customer journey action points



Due to the level of awareness being lower in this segment, it seems logical to take action at an early stage in the decision-making process. Focus therefore should lie on information provision, thereby creating awareness of the consequences of one's travel behaviour. Furthermore, information regarding the availability and diversity of travel products that are affordable, convenient, fun, and sustainable should be made easily accessible. As this segment is the least likely to choose sustainable alternatives, it is strongly advised to make sustainable travel products the only choice, for example by integrating the principles of sustainability into the popular travel offers or changing these products altogether, should they not fit the requirements.

Strategic actions for DMOs, NTOs or tourism businesses to stimulate behavioural change



Creating awareness

- Use the tactic of de-marketing to discourage demand for traditional offers, for example by reducing focus on this specific segment in promotional campaigns
- Promote traditional values (e.g. responsibility for one's family and direct social circle, courtesy and respect for others, respect for privacy, honour and integrity, etc.) that align with the principles of sustainability to capture this segment
- Collaborate with stakeholders that operate according to the principles of sustainability to phase out businesses that refuse to change their business model

Product development and adaptation of sustainability principles

- Reduce demand from this segment by adjusting the product portfolio and increase demand from other clusters
- Make sustainable options the default offer, instead of a choice
- As an alternative, develop and offer traditional products with a twist (choose traditional products and services with the least impact, adapt the offering by integrating sustainable elements)
- Avoid labelling offers as 'sustainable', instead focus on comfort, convenience and fun
- Use dynamic pricing and flexible packaging to encourage the consideration of alternative offers (e.g. in the off-season)
- Use financial instruments/incentives to stimulate behavioural change (e.g. coupon/vouchers/credit or point system)

2.5 OVERARCHING STRATEGIES – MARKET INTELLIGENCE

On the one hand, data-driven decision-making is fundamental in today's competitive business environment. On the other hand, market research is crucial for developing fitting offers that comply with sustainability standards. Furthermore, measuring and monitoring one's own impact is crucial for achieving change in the long-term. Market intelligence, therefore, should run in parallel with all actions, firstly to develop a good understanding of who the travellers are, and secondly to set achievable goals, thereby contributing towards global emissions reduction efforts and working towards the UN Sustainable Development Goals.

Market intelligence

- Monitor the lifestyle choices and interests of your travellers to develop fitting sustainable offers
- Collaborate with data agencies to gather information about consumer lifestyles (e.g. data about daily tasks, leisure and recreation, tourism, communication, social participation, etc.) – you may buy relevant data or may sponsor questions in future surveys



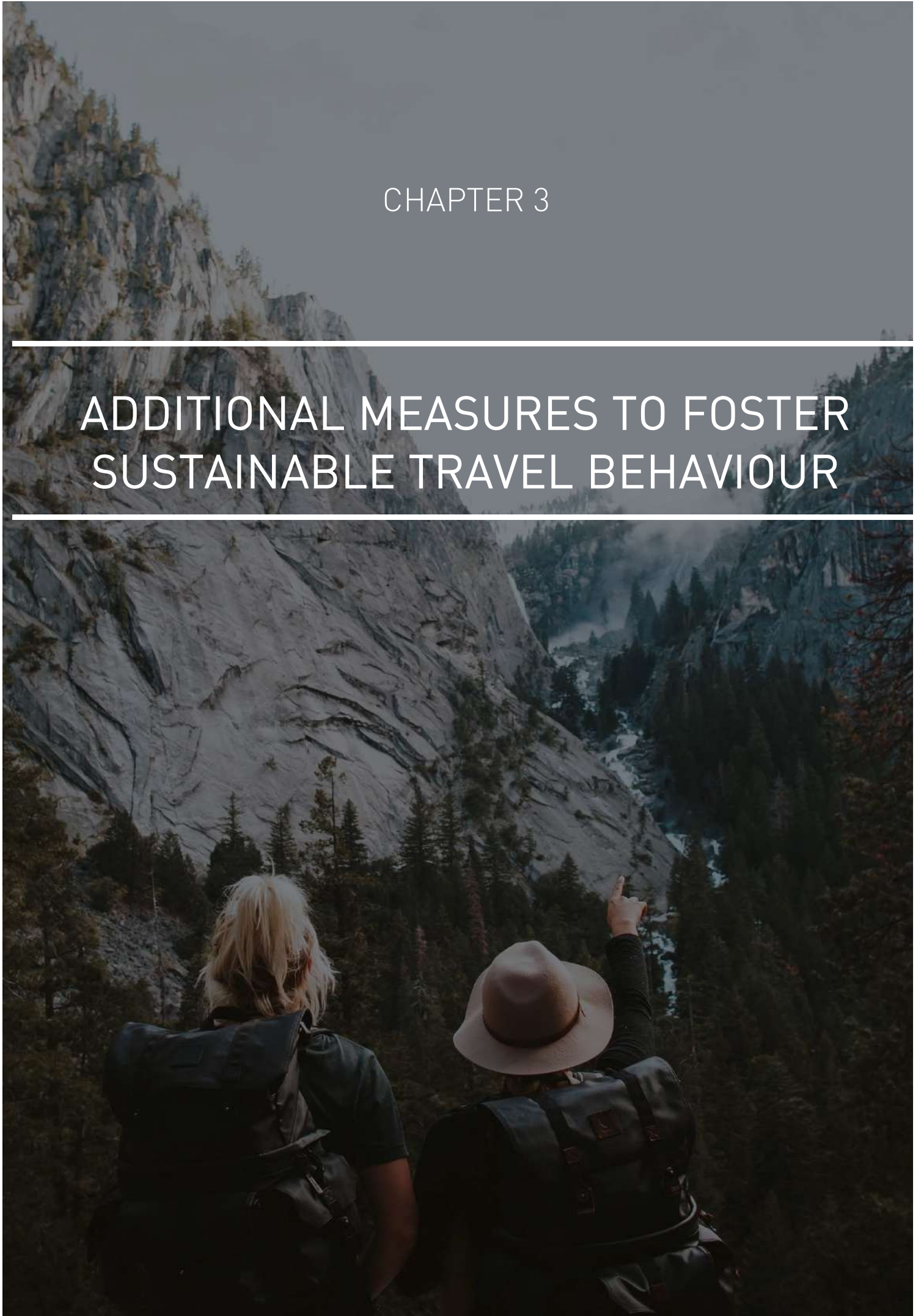
- Consider optimising the feedback loop in communications, and customer satisfaction surveys to enhance understanding of traveller's choices
- Collect best practices/tips/tricks of environmentally-conscious travellers to influence the choices of other travellers (e.g. via review websites, social media, etc). Potentially use different web-crawling software packages to gather certain types of content
- Review the discrepancies between the behaviour of a specific segment and the available sustainable offers to better align supply and demand
- Adapt metrics (performance indicators) to measure travellers' impacts (e.g. consult the criteria established by the Global Sustainable Tourism Council (GSTC))⁴²
- Monitor carbon footprints and set clear reduction goals and strategies of 55% reduction by 2030 and 100% by 2050 compared to the emissions in 1990⁴³.
- As a DMO/NTO, at the destination level, monitor the revenue generated through carbon offsetting schemes and the extent to which the revenue is reinvested in the local community (foster transparency)

⁴² <https://www.gstcouncil.org/gstc-criteria/>

⁴³ The goal has been defined by the European Commission (2021), 'Fit for 55': Delivering the EU's 2030 Climate Target on the Way to Climate Neutrality (COM(2021) 550 final), Brussels. See also the tourism sector declaration on <https://www.oneplanetnetwork.org/programmes/sustainable-tourism/glasgow-declaration>.

CHAPTER 3

ADDITIONAL MEASURES TO FOSTER SUSTAINABLE TRAVEL BEHAVIOUR





3. ADDITIONAL MEASURES REQUIRED TO FOSTER SUSTAINABLE TRAVEL BEHAVIOUR

While there is pressure on NTOs, DMOs and tourism businesses to offer sustainable tourism experiences, they cannot do it without the necessary infrastructure and support in place. Therefore, it is vital to review the responsibilities and possible actions that may be required, primarily from public sector players. To foster cross-sector and cross-level sustainable travel behaviour, cooperation is needed. Therefore, the role of NGOs and other third sector parties, such as educational and knowledge institutions should also be considered.

Strategic actions for policymakers and third sector members

Infrastructure development to enable the use of alternative transport modes

1. Continue investing in E-infrastructure (e.g. availability of charging infrastructure, hydrogen points, compressed natural gas (CNG)/liquefied natural gas (LNG) filling points)
2. Reduce the number of car parking lots at popular destinations and increase options for and the quality of mass transport
3. Encourage the use of park and ride systems for large cities
4. Use zoning to create CO₂ neutral/pedestrian zones
5. Improve interoperability of train networks across Europe
6. Improve service levels and the condition of rolling stock
7. Harmonise information communications technology (ICT) infrastructure to implement mobility as a service (MaaS)
8. Seamless integration to achieve multi-modal transportation

Financial incentives/measures to foster the provision and choice of sustainable alternatives

1. Provide purchase incentives to foster E-mobility (e.g. bonus payments, premiums, tax reduction or exemption for zero-emission cars)
2. Provide alternatives to offsetting schemes, such as investment funds for research and the use of aviation biofuel
3. Foster green business model innovation throughout the tourism value chain via financial incentives and investment schemes
4. Provide grants and tax credits for sustainability-accredited firms

Other

1. Improve transparency of carbon offsetting and reduction schemes
2. Improve consistency across calculation tools, for example the amount of CO₂ emissions for a trip may vary across calculation tools



3. Develop/optimize certification standards and ensure that compensation projects (planting trees, water treatment, energy efficiency, etc.) meet the strict criteria and demonstrate accountability
4. Improve the transparency and consistency across eco-certification schemes
5. Optimize KPIs to better measure the impacts of tourists (impact assessment) on the quality of life in local communities. Adjust the offer/marketing efforts accordingly. Use the findings of the impact assessment to better inform travellers of their carbon and overall eco-footprint and to increase the uptake of sustainable offers

KEY EU-LEVEL INITIATIVES THAT MAY INFLUENCE SUSTAINABLE TRAVEL BEHAVIOUR IN THE FUTURE

The strategic actions outlined in this report should be seen in the light of current and future policy developments. Knowing which policies are currently (or in the near future) being developed and implemented at the EU-level helps to understand how the strategic actions for sustainable travel behaviour can be effective. This section provides an overview of EU-level initiatives that were found to be relevant for the policy context.

Recently the European Commission has published a [‘Sustainable and Smart Mobility Strategy’](#), which aims for a green and digital transformation of the EU transport system and to become more resilient to future crises. If the transport system becomes smarter and more competitive, safe, accessible and affordable, it is expected to achieve a decrease in CO₂ emissions of 90% by 2050, in line with the European Green Deal. The strategy consists of an action plan that comprises 82 initiatives for the next 4 years (2021-2025). Those strategies that are relevant for this study are included in the table below and linked to the actions identified in the table highlighting options for strategic actions for policymakers and third sector members. The first column of the table shows the strategic action that was proposed in the previous section of this report and the other columns indicate whether there are any regulations and initiatives at an EU-level, or whether this is lacking (‘no specific regulation’).

Strategic actions fitting with current and upcoming EU regulations and initiatives

Strategic action	EU regulation	Initiatives	Time frame
Infrastructure developments			
(1) E-infrastructure investment	Flagship 1 (9, 10, 11)	9. Foster development of energy efficiency and alternative fuel measures at International Maritime Organisation (IMO)	2021



		10. Revision of the Alternative Fuels Infrastructure Directive and a roll-out plan with funding opportunities and requirements 11. Revision of the Energy Performance of Buildings Directive, including enhanced provisions on charging infrastructure for e-mobility	
(2) Reduce car parking lots and increase options for and the quality of mass transport	No regulation in place at EU level (more local matters)	-	-
(3) Encourage park and ride systems	No regulation in place at EU level (more local matters)	-	-
(4) CO ₂ neutral/pedestrian zones	Flagship 1 (6)	6. Propose post-Euro 6/VI emission standards for cars, vans, lorries and buses	2021
(5) Improve interoperability of train networks across Europe	Flagship 3 (18, 19)	18. EU 2021 Rail Corridor Initiative - Action Plan to boost passenger rail transport 19. Put in place measures to better manage and coordinate international rail traffic, including if necessary, through revised rules for capacity allocation and infrastructure charging in rail.	2021 2022
(6) Improve service levels and the condition of rolling stock	No specific regulation in place at EU level	-	
(7) Harmonise ICT infrastructure to implement MaaS	Flagship 6 (36, 37, 38)	36. Revise Delegated Regulation 2015/962 on real time traffic information services to extend geographical coverage and datasets; revise Delegated Regulation 2017/1926 on multimodal travel information	2021; 2022 2022



		services to include mandatory accessibility of new dynamic datasets 37. Assess the need for regulatory action on rights and duties of multimodal digital service providers and issue a recommendation to ensure public service contracts do not hamper data sharing and support the development of multimodal ticketing services, together with an initiative on ticketing, including rail ticketing 38. Revision of the Directive on Intelligent Transport Systems, including a multimodal ticketing initiative	2021
(8) Multi-modal transportation	Flagship 4 (25)	25. Review of the regulatory framework for intermodal transport, including the Combined Transport Directive	2022
Financial incentives/measures			
(1) Incentives to foster E-mobility	Flagship 5 (31)	31. Review VAT exemptions for international passenger transport	2022
(2) Provide alternatives to offsetting schemes	Flagship 1 (10)	10. Revision of the Alternative Fuels Infrastructure Directive and a roll-out plan with funding opportunities and requirements	2021
(3) Foster green business model innovation	No specific regulation in place at EU level	-	-
(4) Provide grants and tax credits for sustainability-accredited firms	Flagship 4 (28)	28. Issue guidelines for operators and platforms on informing users about the carbon footprint of their deliveries and on offering sustainable delivery choices.	2023
	Flagship 5 (34)	34. Issue guidelines for operators and platforms to inform passengers about	2023



		the carbon footprint of their trip and to enable passengers to voluntarily offset it, and for wider use of eco-routing for (in-built) navigation software.	
Other			
(1) Improve transparency of carbon offsetting and reduction schemes	Flagship 4 (28)	28. Issue guidelines for operators and platforms on informing users about the carbon footprint of their deliveries and on offering sustainable delivery choices.	2023
(2) Improve consistency to calculate CO ₂ emissions	No specific regulation in place at EU level	-	-
(3) Develop/optimize certification standards	No specific regulation in place at EU level	-	-
4. Improve the transparency of and consistency across eco-certification schemes	No specific regulation in place at EU level	-	-
(5) Optimize KPIs to better measure the impacts of tourists	No specific regulation in place at EU level	-	-



After analysing the strategic actions in the context of EU policy, the following can be observed. While the strategic actions in this report focus on stimulating sustainable travel behaviour, the EU initiatives mainly focus on improving physical infrastructure and digitalisation. As can be seen from the overview, many of the policy initiatives are linked to the development and optimisation of physical and digital infrastructure and removing barriers from data and knowledge sharing. Policy initiatives related to intelligent transport systems, multimodal ticketing, cyber security and safety are also prominent, with other measures ensuring standardisation of eco-certification and CO₂ compensation schemes, improving transparency and accountability mostly lacking. For more details, see the 'Sustainable and Smart Mobility Strategy and underlying and action plan by the European Commission.



A photograph of a mountain peak seen through a window. The mountain is rugged and rocky, with some greenery on the lower slopes. The sky is clear and blue. The window frame is visible, and the reflection of the mountain is seen in the glass.

CHAPTER 4

A photograph of a lake and boats seen through a window. The lake is calm and green, with several wooden boats floating on it. The background shows a forested shoreline and a mountain peak. The window frame is visible, and the reflection of the lake and boats is seen in the glass.

CONCLUSION



4. CONCLUSION

In the midst of the COVID-19 pandemic the travel and tourism industry has experienced an unprecedented crisis situation, affecting both the demand and supply side. The economic sustainability of destinations, financial viability of businesses, and livelihoods of communities have been put in jeopardy. As governments are eager to provide financial aid to resume business as fast as possible, it is clear that the economy, and consequently the travel and tourism sector will not succeed, unless the people and the planet are healthy and flourishing. Therefore, considering the key principles of sustainability as an integral part of the recovery efforts is crucial. The pandemic has revealed what it would be like to live in a world with limited mobility, thereby uncovering the impacts of travel and tourism on the well-being of communities and the ecosystem. This temporary stop was thought to have had an impact on traveller's mindsets, leading to more sustainable travel choices in the future.

To better understand whether intended travel behaviours have changed, this study explored:

- The potential impact of the COVID-19 pandemic on consumers' understanding and appreciation of sustainability
- The extent to which this understanding has influenced their attitude towards sustainable travel choices
- The extent to which this change is represented in their actual and projected travel behaviour
- The conditions that may foster more sustainable travel behaviour

The findings proved that pre-pandemic, current and projected travel behaviour of the respondents align, indicating little to no impact of the pandemic on the likelihood of adopting more sustainable travel behaviours in the future. While the pandemic, as a shock event, did not urge travellers to act in a more environmentally conscious way, the underlying value system, beliefs and norms are good predictors of general travel behaviour. Respondents with stronger biospheric and altruistic value orientations have higher levels of awareness of the consequences and ascription of responsibility and thereby feel more obliged to act in a responsible manner. Similarly, weaker biospheric and altruistic value orientations are linked to higher emission levels during past trips and less willingness to change behaviour in the future. Based on these factors, four distinct clusters (Frontrunners, Comfortable Crowd, Entitled Stewards, Laggards) could be identified in the sample. As the cluster profiles show, even though all respondents showed willingness to adopt more sustainable travel practices in the future, the extent to which they are willing to do so differs. Furthermore, differences can be observed in the phases of the customer journey where travellers are more likely to consider alternative options. While the Frontrunners showed above average and the Laggards showed below average likelihood of adopting sustainable practices in all the behavioural categories,



the other two clusters, Comfortable Crowd, Entitled Steward, were more nuanced in their answers. Members of the Comfortable Crowd showed above average likelihood of choosing alternative destinations and/or travelling during shoulder months, while the Entitled Stewards are unlikely to consider alternative destinations in one's proximity or travelling in the shoulder months, however they are willing to consider sustainable alternatives while at the destination. It can also be seen that overall, travellers from all clusters are most likely to adopt sustainable practices in the behavioural category of interacting with the local community and immersing in local life, learning about the local traditions and trades, buying local products and choosing locally owned restaurants. In general, travellers are least likely to opt for alternative transportation modes and consider booking with eco-certified service providers. Based on the identified discrepancies, it is suggested to develop targeted actions to induce behavioural changes.

Regarding the factors/conditions that may control travel behaviour, money and time are constraints that were found to have a significant impact on the likelihood of adopting more sustainable travel practices in the future. The respondents did not indicate that social norms, habits, awareness and personal preferences would have significant impacts on their sustainable travel choices.

Lastly, the strategic actions in this report focus on stimulating sustainable travel behaviour, while the policy context of EU initiatives mainly focus on improving physical infrastructure and digitalisation. These being important preconditions for developing sustainable travel, but other measures ensuring standardisation of eco-certification and CO₂ compensation schemes, improving transparency and accountability are mostly lacking at the EU-level. Therefore, DMOs and national and regional governmental bodies need to take more responsibility for these actions.





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METHODOLOGICAL ANNEX

The online market research was conducted by [Bilendi](#), a market research company with access panels across 12 European countries.

Data collection period: August 2021

Participating countries: To allow for comparison with previous ETC publications, the sampling strategy followed ETC's existing approach. The top 5 countries with the highest outbound tourism volumes were chosen, namely Germany, the Netherlands, the United Kingdom, France and Italy.

Sample size: 1,545 (a sample of 300 respondents per country is representative of age, gender and region for the population aged 18+)

Eligibility criteria: participation in domestic and/or international overnight travel for leisure purposes in 2018-2019

Languages: German, Dutch, English, French and Italian

Survey structure

- **Screening question:** see eligibility criteria
- **Behavioural statements pre-COVID-19:** detailed accounts were gathered about a selection of max. 5 domestic and 5 international trips (mode of transportation, type of accommodation, purpose of trip, length of stay, period of travel, destination country (international trips))
- **Behavioural statements post-COVID-19:** projected behaviour – likelihood of choosing more sustainable options for the next overnight trip for leisure purposes
- **Factors/conditions controlling travel behaviour (constraints to sustainable behaviour):** statements related to social norms, habits, awareness and knowledge, personal preference, time and money
- **Value statements:** statements related to biospheric, altruistic, hedonic and egoistic value orientations adapted from Bouman et al. (2018) measured on a 7-point Likert Scale (1=not like me at all, 7=very much like me)
 - Altruistic
 - It is important to him/her that every person has equal opportunities
 - It is important to him/her to take care of those who are worse off
 - It is important to him/her that every person is treated justly
 - It is important to him/her that there is no war or conflict
 - It is important to him/her to be helpful to others
 - Biospheric
 - It is important to him/her to prevent environmental pollution



- It is important to him/her to protect the environment
 - It is important to him/her to protect nature
 - It is important to him/her to be in unity with nature
- Hedonic
 - It is important to him/her to have fun
 - It is important to him/her to enjoy the life's pleasures
 - It is important to him/her to do things he/she enjoys
- Egoistic
 - It is important to him/her to have control over others action
 - It is important to him/her to have authority over others
 - It is important to him/her to be influential
 - It is important to him/her to have money and possessions
 - It is important to him/her to work hard and be ambitious
- **Belief statements:** statements related to awareness of the consequences of their actions and ascription of responsibility adapted from Ghazali et al. (2019) measured on a 7-point Likert Scale (1=strongly disagree, 7=strongly agree)
 - Awareness of consequences of actions
 - It is certain that global warming is a real problem
 - Energy savings while travelling is important
 - Transport is one of the biggest sources of greenhouse gases
 - Waste management while travelling is crucial to avoid harm to human health and ecosystems (invisible burden report)
 - Supporting the maintenance of biodiversity and protected areas while travelling is important (invisible burden report)
 - Protecting and respecting cultural heritage and community values while travelling is important (invisible burden report)
 - Ascription of responsibility
 - As a tourist, I feel jointly responsible for the emission of greenhouse gases
 - I feel jointly responsible for global warming
 - As a tourist, I feel jointly responsible for the protection of biodiversity and protected areas in the places I visit
 - As a tourist, I feel jointly responsible for the respect and protection of cultural heritage and community values of the places I visit



- **Norm statements:** statements related to feeling a moral obligation for environmental preservation while travelling adapted from Ghazali et al. (2019) measured on a 7-point Likert Scale (1=strongly disagree, 7=strongly agree)
 - I feel an obligation to buy green products while travelling
 - I feel a strong personal obligation to use energy wisely while travelling
 - I feel a moral obligation to protect the environment while travelling
 - I feel an obligation to buy local products/services while travelling
 - I feel I must do something to help future generations
- **Demographics**

Data analysis

- Descriptive statistics to give insight into the characteristics of the respondents
- Factor analysis to reduce the projected behavioural items into fewer components
- K-means cluster analysis to group respondents together based on their projected behaviour
- ANOVA to compare means of the value, belief and norm statements across the aforementioned clusters, post-hoc tests were run to identify significant differences across individual clusters
- Calculation of emissions: *please see below*

In order to give more substance to the effect of future behaviour change, an estimation of emissions of past travel is added to the data. These estimates are useful to get insights into the emissions of each respondent, and are linked to the behaviour statements to see potential emission savings. Respondents provided details of a maximum of 5 international trips in 2018 and 2019. For each of these trips, a value of 0 (no trip, for example for the 5th trip if the respondent has only made 4 trips in 2018-2019), 1 (European trip) or 2 (intercontinental trip) was added. A compiled dataset based on the three most recent Travelling large reports (Sensagir et al., 2019; Eijgelaar et al., 2020; Eijgelaar et al., 2021) was used to calculate the average emissions (consisting of transport, accommodation, and activities) of, and assigned to, a European and intercontinental trip (in this case 466,5 kg to a European trip and 2250 kg to an intercontinental trip). The average emissions of these detailed trips were then calculated. These average emissions were then multiplied by the total number of international trips taken between 2018 and 2019, as indicated by the respondents, so that the emissions of the sixth and consequent trips, of which the respondents did not indicate any further details, are also included in the respondent's emissions. For domestic trips, the total number of domestic trips taken between 2018 and 2019, as indicated by the respondents, was multiplied by the average emissions of domestic trips (153.3 kg) from the compiled Travelling Large dataset. Based on each respondent's total emissions (domestic + international) 5 percentiles



(20th, 40th, 60th and 80th percentiles) were created ranging from low to high emissions. Based on their own emissions, each respondent was added to one of these percentiles, to indicate the relative level of their emissions.

Characteristics of the whole sample

Distribution of respondents by country

Country	Number of respondents	Percentage
The Netherlands	312	20.2
France	307	19.9
Italy	308	19.9
Germany	317	20.5
UK	301	19.5
Total	1545	100

Gender distribution

Gender	Number	Percentage
Male	769	49.8
Female	776	50.2
Total	1545	100

Age distribution

Gender	Number
18-34	42
35-54	35
55+	42

