



**Green Host - Sustainability and eco-friendly habits in the
lodging sector it's time to start the game**

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**Activity A2:
Analysing the expectations of the
customers of lodging industry
services**

Final Report

GREENHOST PROJECT

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Background

Tourism is a significant contributor to environmental degradation and to greenhouse gases emissions. At the same time this industry is also **one of the most exposed to the negative consequences of climate change.** This is particularly relevant, considering that many of the tourist activities are based on the availability of natural ecosystems in good condition and accessible to tourists. Therefore, to ensure tourism long-term growth, a balance between economic advantages and environmental sustainability is needed.

In this context, **the implementation of good environmental practices has become crucial into tourism facilities operations management.** Over the years, more and more hotels are integrating sustainability practices in the management of their operations, not only to develop an eco-friendlier business environment but also to reduce their operating costs. **Literature shows that hotels go green for many reasons: economic benefits, improved employee organizational commitment, facing public scrutiny, improved investor relations and general social good.**

Moreover, **consumers are becoming increasingly aware of hotels' environmental impact** and seem to appreciate hoteliers' efforts towards sustainability. Green practices are particularly appreciated by tourists, enhancing customer satisfaction and contributing to the formation of positive behavioural intentions and indirectly increasing firms' competitiveness. Considering these phenomena, **many hotels have been proactive in adopting green practices and becoming greener,** to attract eco-consciousness consumers and to improve their economic performance. In fact, despite it is often considered as unsustainable, the hospitality industry has been a pioneer in implementing sustainability practices, introducing environmental accreditations and ecolabels. **To gain success, green practices should reduce operational cost for tourism facilities** (e.g. through water and energy savings) and, concurrently, **create value for customers.**

However, the major challenge that hoteliers, marketers and practitioners have to deal with is the **consumers' "greenwashing"¹ scepticism.** When consumers feel that a company's claim is "greenwashed", they lose trust in that brand compromising brand equity. It is, therefore, crucial that companies' effort is seen by consumers as a genuine commitment to sustainability and climate change mitigation. This is particularly critical for the hotel sector, where the term greenwash was created. In this sense eco-labels and certification can contrast the "distortive effect" caused by greenwashing and the

¹ Greenwashing refers to: "intentionally misleading or deceiving consumers with false claims about a firm's environmental practices and impact".



consequent mistrust of consumers as they provide accepted and recognized certification schemes that can assure to consumers credible and clear information.

Understanding customer needs and expectations is essential for long-run customer retention and loyalty. By collecting feedback, analysing behaviour, and anticipating future needs for the sustainable hospitality, businesses can tailor their products and services to better meet the needs of their customers, and ultimately increase customer satisfaction and loyalty.

One important aspect of understanding customer needs and expectations is actively listening to their feedback. Whether it's through customer service interactions, online questionnaires, or social media comments, customers often provide valuable feedback that can help businesses identify areas for improvement and innovation.

In addition to listening to customer feedback, **businesses should also strive to anticipate their customers' needs.** By being proactive and identifying potential pain points or desires before customers even express them, companies can create a truly exceptional customer experience.



Scope

The aim of the report is to **establish a link between sustainable hospitality practices and customer preferences between customer segments from Austria, Bulgaria, Germany, Italy, Poland and Spain** based on the assumption that:

- i. the eco-friendly practices in the hospitality industry are expected to increase customer happiness and;
- ii. the willingness to pay a premium for sustainable goods and services and the sustainable hospitality supply chain management boost consumer happiness.

Overall structure of the customer survey

Methodological framework

In recent years, tourism has experienced a continued expansion and diversification to become one of the fastest-growing industries in the world, occupying a prominent role in the European economy. Globally, Europe has always been a very popular tourist destination and, according to the World Tourism Organization (WTO), five of its Member States (France, Spain, Italy, Germany and the United Kingdom) fall into the top ten destinations preferred by travellers in the world ranking for the year.

However, the growth of the tourism sector goes hand in hand with its increasing environmental impact. Tourism activity and the environment have always had a complex and dual relationship: on the one hand, tourism depends on the environment to attract tourist flows, on the other the environment depends on tourism as it generates negative impacts on tourism ecosystem, with the risk of damaging it permanently. It is therefore necessary to find a balance between the tourism sector and its environmental dimension, to simultaneously increase both the profitability of tourism and the quality of the ecosystem.

Tourism, as a dynamic industry subordinated to the changes in consumer preferences, has been influenced by the development of the concept of sustainability. In fact, part of the tourism demand has become more and more interested in a type of consumption that is sensitive to the environmental protection and to the respect of local populations' cultures.

Consumers are increasingly looking for environment-friendly lodging options but they are also feeling uninformed about whether hotels are truly eco-friendly. After this change in consumption styles, all the actors of the tourism system (tourism industry, local populations, non-profit organizations and local bodies) have worked both for the identification of strategies to satisfy these new needs, and to communicate to the public this new sustainable approach to tourism, in order to make customers able to perceive the added value of their choices.

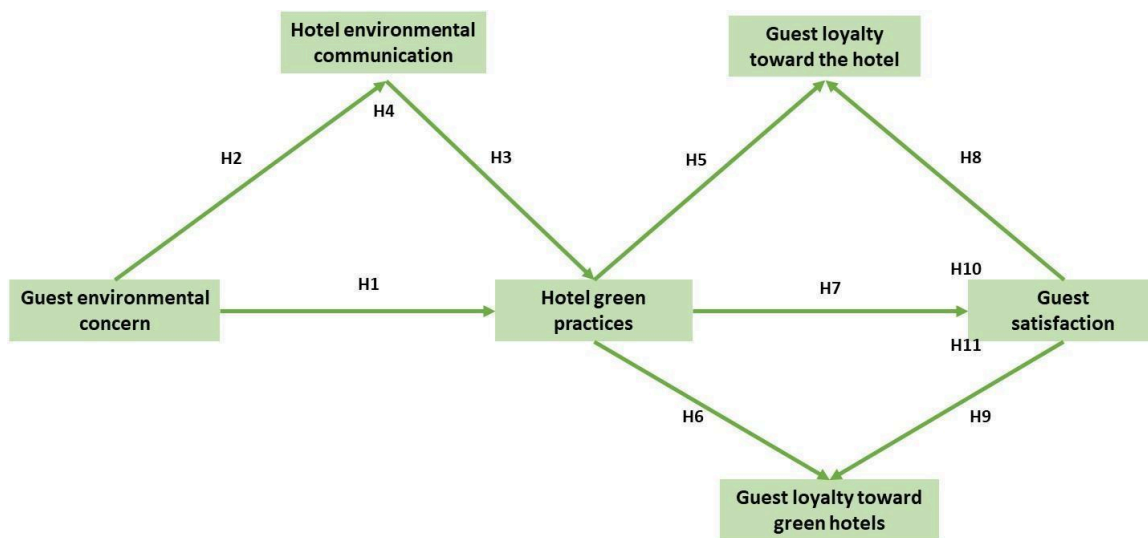
The assimilation of the concept of sustainable tourism is a long and difficult process: in fact, it requires a gradual collective journey able to involve all the stakeholders operating in the tourist sector. To encourage this involvement, ecolabels are useful tools for hotel facilities, as they support the management in meeting specific environmental performance criteria and help increase the business success of the hotel, thanks to the positive effects they have on the green image of the facility.

In this context, understanding how consumers perceive and evaluate environmental quality and eco-friendly practices in hotels, helps to plan and define win-win strategies

for tourism sustainable management. In response to consumers increasing environmental concern, particularly when making a purchasing decision, tourism facilities started to go green adopting more environmentally friendly practices. As a result of consumers' concern toward environmental sustainability, the hospitality industry is also developing voluntary-based tools to reduce its environmental impacts and to satisfy the increasing market segment of green customers.

Based on the above reported insights of hotels' green practices, a methodological scheme has been adopted for the survey as reported below.

Table 1. Methodological framework of the research



Basic assumptions that have been adopted for this methodological framework can be summarized in the following **hypotheses**:

- o **H1:** Guest environmental concern influences guest perception of hotel green practices
- o **H2:** Guest environmental concern influences guest perception of hotel environmental communication
- o **H3:** Hotel environmental communication influences guest perception of hotel green practices
- o **H4:** Hotel environmental communication mediates the relationship between guest environmental concern and guest perception of hotel green practices
- o **H5:** Hotel environmental practices positively influence guest loyalty toward the hotel
- o **H6:** Hotel environmental practices positively influence guest loyalty toward green hotel
- o **H7:** Hotel environmental practices positively influence guest satisfaction with the hotel
- o **H8:** Guest satisfaction is a significant antecedent of guest loyalty toward the hotel

- o **H9:** Guest satisfaction is a significant antecedent of guest loyalty toward green hotels
- o **H10:** Guest satisfaction mediates the relationship between hotel environmental practices and guest loyalty toward the hotel
- o **H11:** Guest satisfaction mediates the relationship between hotel environmental practices and guest loyalty toward green hotels

These aspects have been investigated through the following **measurement attributes**:

- **Green practices**

- The hotel implements water saving practices (e.g. the hotel encourages guests to ask for new linen only when necessary)
- The hotel implements energy saving practices (e.g. automatic lights switching-off)
- The hotel tries to avoid disposable or single-dose products
- In the hotel, separated waste collection is available
- The hotel uses environmental certified or green labelled products (e.g. toiletry products, paper)
- The hotel provides its guests bicycles for free or for rent
- The hotel cares about sustainability and adopts good practices of environmental management

- **Environmental Communication**

- The hotel informs the guests about the good environmental practices implemented
- The hotel provides its guests with information on how they can contribute to reduce the hotel's environmental impact
- The hotel provides its guests with information on the environmental and cultural activities available in the area
- The hotel provides information on public transportation

- **Environmental Concern**

- Environmental sustainability is one of the main problems for today's society
- In everyday life, environmental sustainability is an important criterion in my choice of products and services
- I am willing to pay more for environmentally sustainable products and services

- **Customer satisfaction**

- I prefer eco-friendly hotels
- Sustainable hotels make me happy
- Sustainable hotels will please me



- I always choose hotels wisely
- One should choose a hotel with sustainable hospitality management

- **Customer loyalty**
 - My family and I will only stay at a hotel that uses eco-friendly practices in its daily operations
 - Sustainable hospitality management hotels are my top picks
 - I'll always stay at a green hotel
 - I will recommend sustainable hotels to everyone

- **Customer willingness to pay**
 - I will proudly pay sustainable hotels
 - I'll pay more for eco-friendly hotels
 - Most of my friends, family, and relatives would pay sustainable hotels
 - I'll pay more to stay at hotels that practice sustainability



Survey design

An online survey was developed and administered to hotel guests to collect data and measure the constructs in the research model. Internal discussion between the partners of the project and interviews with hotel managers allowed them to drop redundant items, reduce the number of items and improve the semantic comprehensibility and the questions' clarity.

The questionnaire was first written in English and then translated into all project languages.

In its final version, the questionnaire consisted of different sections.

In the first section, guests' demographic information (age, gender, duration of the stay, type of trip), awareness of the hotel eco-label and previous experience with a green hotel were included.

The following section aimed at the evaluation of guest environmental concern and to measure guest evaluation of hotel environmental communication. In these sections all items were measured with a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree).

The next session has a goal to measure guests' perceptions about hotel environmental practices. The environmental attributes were also integrated with specific requirements that the hotel must satisfy. Guests' evaluation of hotel environmental attributes was measured with a Likert-type scale ranging from 1 (poor performance) to 5 (excellent performance).

The final section consisted of items to measure guests' overall satisfaction, loyalty toward the hotel, and loyalty toward green hotels. Also in this case, both satisfaction and loyalty were measured on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The survey can be found in the appendix of this document.

Data collection

The questionnaires were sent to hotel guests and people who were interested in filling in this survey. Participants were asked to answer a Google form. The survey was conducted during Spring 2025, and 104 answers were collected.

Results from the survey

Austria

Respondent Profile

The average respondent on the Austrian survey is middle-aged and well educated, travels mainly for pleasure and typically stays at hotels for shorter periods. The survey was completed by 20 Austrians, 55% of which are female, 40% male and 5% other. Half of respondents are between 40 and 60 years of age, a fourth between 25 and 29 years old. 70% have completed a master's degree or higher, with zero people not having completed school. For half of the respondents, their main reason to travel is generally speaking leisure related. A quarter of respondents mainly travel for work, while the rest equally travel for work and leisure. For half of the respondents, the average duration of a hotel stay is one or two nights. For 30%, it is between 3 and 5 nights. Three people reported typically staying at a hotel for 10 or more nights.

Evaluation of sustainability measures

One of the best rated implementations in terms of sustainability is regarding water saving measures. The respondents all agreed that water saving measures are usually at least partially implemented. Another decently rated area is in sustainable catering. 17 out of 20 respondents stated that hotels offer sustainable food options, at least partially. However, there were also three people who thought that this area was typically poorly or not at all implemented in a sustainable fashion. Some areas however were rated quite low overall, namely opportunities for waste separation offered by hotels: Not a single respondent thought that the typical hotel did a good or great job at implementing systems for waste separation. Other than that, respondents think that hotels use certified or eco-friendly products at best sometimes (9 respondents), rarely (6 respondents) or not at all (1 respondent).

In terms of communication, the average respondent felt that hotels at least partially communicate eco-friendly mobility options in their area and share what the hotel does in terms of sustainability. There were a lot of differing opinions among respondents if hotels share eco-friendly activities for guests in the area, with two people saying that this is typically well done, 5 thinking it is partially implemented, and 11 people saying it is rarely or never implemented.

What customers expect

It appears that the majority of respondents strongly agree that a lack of sustainability is one of the biggest problems of our time. As can be expected, respondents were for the most part willing to pay more for eco-friendly products and services, with 3 people feeling neutral about the matter. The result is very similar regarding whether or not people would like to repeatedly stay in hotels which implement sustainability practices, and would recommend such hotels, with three people feeling neutral about the matter and the rest agreeing or agreeing strongly.

However, only for half of respondents, sustainability measures are an important criterion when it comes to choosing an accommodation. Certifications seem less or not at all important for some respondents, while others rate them as a very important selection criterion. Overall, over 50% of respondents were willing to pay more for a sustainable accommodation, with two people saying they wouldn't pay more and one person saying they definitely wouldn't pay more.

Bulgaria

Respondent Profile

An analysis of responses from 24 individuals from Bulgaria - 15 women and 9 men, predominantly aged between 30 and 49 - reveals a well-educated sample, with most respondents holding at least a Bachelor's degree. These customers demonstrate clear expectations for sustainable practices to be embedded within the hotel experience. A large portion of respondents indicated that the hotels they have stayed at provide environmentally sustainable food options such as vegetarian, vegan or organic menus. In addition, the communication of sustainable practices is highly valued: most respondents rated it as very or extremely important that hotels inform guests about eco-friendly initiatives, including how they can personally contribute, as well as offering details about public transportation and local cultural or ecological activities.

Evaluation of sustainability measures

When asked about their general attitudes toward sustainability in hospitality, the vast majority agreed that environmental protection is a key issue. Specifically, 22 out of 24 respondents (92%) consider sustainability an important criterion when choosing hotels and a similar number value environmental certifications such as Green Key or ISO 14001. Notably, 21 out of 24 (88%) said they are willing to pay more to stay in an environmentally certified hotel, showing a strong alignment between their values and spending choices. Regarding customer satisfaction, most participants agreed or strongly agreed that their expectations related to environmental responsibility should be met by the hotel and that what they receive should align with their vision of an ideal environmentally conscious stay. This directly links to loyalty: almost all respondents



indicated they would return to or recommend a hotel that implements good environmental practices. Only a small number remained neutral or disagreed across all categories.

What customers expect

The results reflect a clear trend among Bulgarian hospitality customers - hotel guests not only value sustainability in theory, but actively expect and reward it. From the food they are served to the transparency of environmental communication and the presence of eco-certification. They are showing that sustainable practices are no longer optional - they are a defining feature of modern hospitality experiences.

However, price sensitivity remains relatively high among the hospitality customers in Bulgaria, which means that value-for-money continues to be a major factor in decision-making. Domestic tourism has surged in recent years, partly driven by environmental concerns and a desire to support local businesses. At the same time, government and EU-funded initiatives are encouraging green practices in Bulgarian hotels, though the adoption rate varies across regions and hotel categories. Bulgarian hospitality customers are evolving toward more sustainability-aware choices, but practical affordability and clear environmental benefits are key motivators.

Germany

Respondent Profile

The reached group defined that their primary reason for travel for most respondents was leisure (vacation, sightseeing, relaxation), accounting for 12 out of 20 responses. A high percentage of respondents (13 out of 20) hold a Master's degree or PhD, indicating a well-educated survey group.

Evaluation of sustainability measures

The data indicates a strong environmental consciousness among the respondents. An overwhelming majority, 18 out of 20 participants, acknowledge the lack of environmental protection as a significant societal concern. Moreover, sustainability plays an important role in influencing consumer decisions, with 12 out of 20 respondents stating that they consider sustainability an important factor in their choices. This reflects a growing trend where environmental responsibility increasingly factors into consumer behavior, particularly in the hospitality sector. Notably, 14 out of 20 respondents also express a willingness to pay more for environmentally friendly options. This willingness highlights a readiness among guests to support green initiatives financially, presenting a



valuable opportunity for hotels to develop and promote sustainable offerings that align with these customer values.

What customers expect

While overall feedback regarding sustainability efforts is positive, there remains room for improvement. A significant number of guests—15 out of 20—agree or strongly agree that their sustainability expectations were met during their stay. In parallel, the same proportion of respondents feel that their experience is closely aligned with the concept of an ideal sustainable hotel. These findings suggest that hotels are making meaningful progress in delivering environmentally responsible hospitality experiences. However, the presence of neutral or negative responses among the remaining participants signals that not all expectations are being fully satisfied. This indicates a gap between current sustainability efforts and the standards or desires of some guests. As such, there is an opportunity for hotels to further refine and expand their sustainability initiatives, ensuring they address diverse customer expectations and solidify their position as truly sustainable accommodations.

Italy

Respondent Profile

The survey gathered responses from 20 individuals. Regarding gender, 60% of respondents were male, and 40% were female. The primary purpose of travel varied, with the majority (60%) travelling for leisure. Business/work was the main purpose for 25%, while 15% travelled for both reasons.

Evaluation of sustainability measures

Evaluations ranged widely - from “excellent” to “poor”, depending on the aspect. The survey reveals that while basic sustainability practices in hotels - such as water and energy conservation - are generally rated as sufficient to good, more visible and guest-facing efforts like waste separation, reduction of single-use products, and use of certified eco-friendly items receive mixed to poor evaluations. Practices related to sustainable mobility (e.g., bike availability, public transport information) and local environmental engagement are also poorly rated, indicating underdevelopment. Most notably, hotels score lowest in communicating their environmental actions and involving guests, suggesting that even when sustainable measures exist, their impact is diminished by a lack of visibility and guest awareness.



Communication from hotels regarding their environmental practices was generally rated as sufficient to poor. Many guests were unaware of efforts being made or how they could contribute, highlighting a significant shortfall in customer engagement and transparency. A majority of respondents indicated they consider environmental sustainability an important factor in choosing lodging. Still, only some were willing to pay extra for sustainable services or certified accommodations, with many adopting a neutral stance or expressing mild disagreement.

What customers expect

When it comes to satisfaction, guests expect their environmental standards to be met. There is a clear link between good environmental practices and guest loyalty: customers are more likely to return to or recommend a hotel that actively supports sustainability. However, actual willingness to pay more for such services remains moderate.

One curious observation from the survey is that although many respondents claim sustainability is important in their purchasing decisions, a significant portion remain unwilling to pay extra for certified eco-friendly lodging. This highlights a "value-action gap" - people express strong environmental concerns but don't always translate those values into spending behaviour. It suggests that while eco-consciousness is widespread, price sensitivity or scepticism about actual impact may limit practical support for green initiatives.

Environmental certifications (e.g., Ecolabel, ISO 14001) are seen as beneficial but not decisive. While some guests view them as an important criterion, many remain indifferent, reflecting either a lack of awareness or scepticism about their significance.

Sustainability directly influences customer loyalty and word-of-mouth marketing, two critical drivers for business success in the hospitality sector. It's a strong signal to hotel operators: investing in genuine, visible sustainability efforts builds repeat business and positive reputation.

Poland

Respondent Profile

The survey received 20 responses and highlights that most respondents were well-educated females aged 40–49, primarily traveling for leisure or both leisure and business. Family travel was most common, with stays typically lasting 6–9 nights. Participants rated hotel sustainability practices very positively, especially in areas like water and energy conservation, waste reduction, and sustainable food. Comments emphasized the need for better communication about eco-friendly efforts, particularly in

smaller hotels. While sustainability is valued, factors like price and location remain key in hotel selection.

The majority of respondents were female (66.35%), while 33.65% were male. The most common primary purpose of travel was leisure (vacation, sightseeing, relaxation), accounting for 50% of the responses. Business/work-related travel was the second most frequent purpose, with 34.62%. A significant portion of respondents held a Bachelor's degree (41.35%) or a Master's degree or Doctorate degree (33.65%). The age distribution was varied, with the largest group being those aged 30-39 (25.96%) and 50-59 (24.04%).

Evaluation of sustainability measures

A large majority of respondents (86.54%) agreed or strongly agreed that environmental sustainability is one of the main problems. Similarly, a strong majority (93.27%) considered environmental sustainability as a good criterion in their choice of products and services. When it comes to accommodation, an even higher percentage (95.19%) indicated that environmental sustainability practices are a good criterion in their choice. These responses highlight a strong awareness and concern for environmental sustainability among the survey participants, influencing their decisions in both general consumption and travel-related choices.

What customers expect

Respondents generally agree that their expectations need to be satisfied and their experience should match their ideal hotel in terms of environmental sustainability. Furthermore, a large percentage would repeat a stay and recommend a place that implements good environmental practices, highlighting the importance of these practices in guest satisfaction and loyalty.

A significant proportion of respondents consider environmental sustainability practices and certifications as good criteria when choosing accommodation. This suggests that hotels with visible environmental efforts and certifications may have a competitive advantage.

A notable percentage of respondents are willing to pay more for both environmentally sustainable products and services in general, and specifically for environmentally certified tourism accommodations. This indicates a potential market for green offerings in the hospitality sector.

Conclusions

The study was carried out through a survey conducted across Austria, Bulgaria, Germany, Italy, and Poland in Spring 2025, by the means of a questionnaire that was built with a three-step procedure. Eventually, **104 questionnaires were collected** for the subsequent analysis.

The survey reveals notable differences in how hotel guests perceive and prioritize sustainability, reflecting varying levels of expectation, satisfaction, and willingness to support environmentally friendly practices.

In **Austria**, respondents were generally supportive of sustainability, but demonstrated a more critical stance toward actual hotel practices. While most agreed on the importance of sustainability and expressed willingness to pay more for eco-friendly services, they also reported significant gaps in implementation of good practices, particularly in waste separation and use of certified products. Additionally, sustainability certification was seen as less influential in decision-making, suggesting a selective or pragmatic approach to green tourism.

Bulgarian respondents showed strong alignment between environmental values and consumer behaviour. The vast majority considered sustainability as a key factor in hotel selection and were highly willing to pay more for certified accommodations. Bulgaria stood out for the value placed on environmental communication and transparency. However, there can also be noted a persistent price sensitivity, indicating that while sustainability is important, affordability remains a decisive factor for Bulgarian travellers.

Germany's results were similar to Bulgaria's in terms of strong environmental concern and a clear willingness to pay for green initiatives. Respondents largely felt their expectations were met and showed a high level of satisfaction, though a few still noted unmet expectations, pointing to potential inconsistencies in hotel performance. The German sample illustrated a mature eco-conscious mind-set, with sustainability firmly integrated into travel choices.

Italy presented a more complex picture. While many respondents acknowledged the importance of sustainability and supported the idea of returning to or recommending eco-conscious hotels, there was a marked hesitation to pay more for sustainable services. Communication was also a key weakness, with many guests unaware of the

environmental measures in place. The Italian respondents exhibited a “value-action gap”: they supported sustainability in principle, but often did not apply that into actual consumer behaviour, perhaps due to price concerns or low trust in certification schemes.

Finally, **Polish** respondents gave some of the most favourable evaluations of hotel sustainability practices, especially in operational areas like water and energy conservation and waste reduction. Unlike Austria and Italy, Polish participants rated hotels highly across the board, suggesting better implementation or higher satisfaction with existing efforts. While sustainability was valued, decision-making still hinged on practical aspects like price.

Thus, while **sustainability is widely recognized as important across all five countries, the degree of expectation, satisfaction, and willingness to act on these values varies**. It must be noted that the surveyed group is small and not enough to grasp the whole society of those countries. But from what we collected, Bulgarian and German respondents emerge as the most proactive in supporting sustainability with their choices and spending. Austrians and Italians are more reserved or critical, with visible gaps between values and hotel practices or consumer action. Poland reflects a highly positive view of current hotel efforts but still emphasizes practical considerations in booking decisions..

The results suggest that **while travellers are increasingly environmentally conscious and willing to support sustainable tourism with their choices and wallets, the hospitality industry has yet to fully meet these expectations**. Bridging this gap will be crucial for aligning hotel practices with growing consumer demand for environmental responsibility.

Overall, results show the **role played by guest environmental concern in influencing guests' perception of hotels' green communication**. This aspect is of great interest for hoteliers as it highlights that consumers' concern about the environment led guests to perceive more clearly the hotel's effort to communicate these green practices. Therefore, through the identification of these niche markets, they can foster their results on the market by increasing customers' environmental concerns and by communicating to uninformed customers the negative impacts that non-environmentally certified hotel companies have on the environment.

Moreover, the assessment also confirms that guest perception of **hotel environmental communication has a positive influence in guest perception of green practices implemented**. Consequently, to allow guests to understand and process the information associated with an ecolabel, hotels should develop communication strategies in order to make the eco-labels and their green efforts visible and salient to guests. Communication supports consumers to observe the hotel's commitment to help the environment, visibly revealing the hotel efforts for environmental sustainability. The strategy for undertaking

this path is to engage in environmental campaigns and green marketing, but also invest in advertisements on existing sustainability programs, such as the ecolabels ones. Managers may also collaborate with governments or local authorities to raise tourists' awareness by informing and educating them about the environmental impact of the tourism sector.

The assessment does not confirm the direct relationship between guest environmental concern and green practices appreciation, as this relation is fully mediated by hotels' environmental communication. Indeed, in order to be recognized, green practices need to be communicated, through a proactive green marketing strategy, addressed to all relevant stakeholders. Moreover, as environmental communication mediates this relation, it is important to focus more on the creation of an identity between the guest and hotel, as well as on an affective relation, instead of just passively informing guests. This aspect has important implications for the sustainable management of the hotels, because results confirm that consumers with a high level of environmental concern will be more likely to have a positive attitude towards green practices that can facilitate the choice of ecolabel facilities as opposed to regular ones and the development of positive behavioural intentions. Additionally, results suggest that **the hotel's environmental commitment is positively recognized by customers, influencing their satisfaction.**

However, this study found that customer satisfaction fully mediates the relationship between green practices and loyalty towards the hotel and towards green hotels and that **there isn't a direct positive effect between hotels' green practices and loyalty toward the hotels and towards green hotels.** These findings have meaningful implications for hotel and practitioners since guest's loyalty towards the hotel passes through their satisfaction with the hotel. Satisfaction with the hotel is a multi-attribute construct, only partially explained by environmental attributes, and influenced several variables of service quality and consumer's attitudes. In this sense, hoteliers should concentrate their efforts not only on green practices but also in delivering a high-quality service. Indeed, in case of a failure in service delivery of non-environmental attributes, satisfaction, and consequently loyalty, may decrease. Therefore, **green practices may have a positive effect on satisfaction only as long as there is no service failure.**

During the research process some suggestions for additional assessment emerged, focusing not only on the social impacts of the sector but also on identifying the practices that hotels can implement to develop a more socially responsible business model. **Additional research could focus on the analysis on the interrelations between the circular economy and the sustainable tourism implementation.** The application of

the circular economy concept in the tourism sector is still rather explored and more efforts should be done to understand the potentialities of Circular Tourism.

Appendix 1: the questionnaire

Introduction

This survey is designed to collect insights from hotel guests regarding their environmental awareness, perceptions of hotel sustainability practices, and overall satisfaction with eco-friendly accommodations.

Responses will be measured using a 5-point Likert scale to capture varying levels of agreement and satisfaction.

Your feedback will contribute to a better understanding of guest preferences and help improve the results of the GreenHost Erasmus+ project, co-financed by the EU. We appreciate your time and honest responses.

The questionnaire is anonymous, and the data collected will be used only in accordance with the current law directives on privacy.

General information

Attributes	
Gender	<input type="radio"/> Male <input type="radio"/> Female <input type="radio"/> Prefer not to say
What is the primary purpose of your travels?	a) Leisure (vacation, sightseeing, relaxation) b) Business/work-related c) Both equally d) Other (please specify)
Education level	No schooling completed High school graduate, diploma or the equivalent (for example: GED) Trade/technical/vocational training Bachelor's degree Master's/Doctorate degree

How many nights on average do you usually spend?	a) 1-2 nights b) 3-5 nights c) 6-9 nights d) 10 or more nights
What type of traveller are you usually?	<input type="radio"/> Solo traveller <input type="radio"/> Couple <input type="radio"/> Family <input type="radio"/> Group of friends <input type="radio"/> Traveling with colleagues <input type="radio"/> Other (please specify)
Age	<input type="radio"/> 18-29 <input type="radio"/> 30-39 <input type="radio"/> 40-49 <input type="radio"/> 50-59 <input type="radio"/> 60-69 <input type="radio"/> Over 70

Many hotels implement green practices to reduce their environmental impact. Below are some sustainable initiatives that a hotel may offer. Based on your experience and preferences, please rate the hotel's performance in each of these areas on a scale of 1 to 5.

- Green practices

Most of the hotels in which I have stayed...

Attributes	1 = Poor 5 = Excellent NA = Not applicable
implement water saving practices (e.g. the hotel encourages guests to ask for new linen only when necessary)	1 2 3 4 5 NA
implement energy-saving practices (e.g. automatic lights switching-off)	1 2 3 4 5 NA
try to avoid disposable or single-dose products	1 2 3 4 5 NA
provide possibility to separate waste	1 2 3 4 5 NA
use environmental certified or green labelled products (toiletry products, paper)	1 2 3 4 5 NA
provide its guests bicycles for free or for rent	1 2 3 4 5 NA
care about sustainability and adopts good practices of environmental management	1 2 3 4 5 NA

- Environmental Communication

Many hotels provide information to guests about their environmental efforts and ways to reduce their impact. Based on your past experiences, how would you generally rate hotels on the following aspects?

Most of the hotels in which I have stayed...

Attributes	1 = Poor 5 = Excellent NA = Not applicable
inform the guests about the good environmental practices implemented	1 2 3 4 5 NA
provide its guests with information on how they can contribute to reduce the hotel's environmental impact	1 2 3 4 5 NA
provide its guests with information on the environmental and cultural activities available in the area	1 2 3 4 5 NA
provide information on public transportation	1 2 3 4 5 NA

Instruction: Please express your level of agreement with the following statements **regarding the hospitality sector**.

- Environmental Concern

Attributes	1 = Poor 5 = Excellent
Environmental sustainability is one of the main problems	1 2 3 4 5
Environmental sustainability is an important criterion in my choice of products and services	1 2 3 4 5
I am willing to pay more for environmentally sustainable products and services	1 2 3 4 5

- Customer satisfaction

Attributes	1 = Poor 5 = Excellent
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My expectations have to be satisfied in terms of environmental sustainability	1 2 3 4 5
My experience has to match what I would expect from my ideal hotel in terms of environmental sustainability	1 2 3 4 5

- Customer loyalty

Attributes	1 = Poor 5 = Excellent
I would repeat a stay in a place that implements good environmental practices	1 2 3 4 5
I would recommend staying in a place that implements good environmental practices	1 2 3 4 5

- Customer willingness to pay

Attributes	1 = Poor 5 = Excellent
Environmental sustainability practices are an important criterion in my choice of an accommodation	1 2 3 4 5
Environmental certification is an important factor to consider when I'm choosing a tourism accommodation	1 2 3 4 5
I am willing to pay more to stay in an environmentally certified tourism accommodation (es. European Ecolabel, ISO 14001, GreenKey or other certifications)	1 2 3 4 5

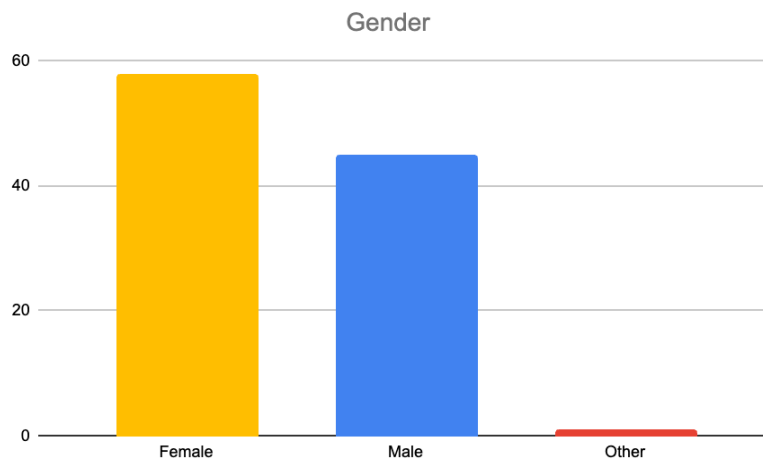
Thanks for taking the time to participate in our research.

Appendix 2: details of the results of the survey

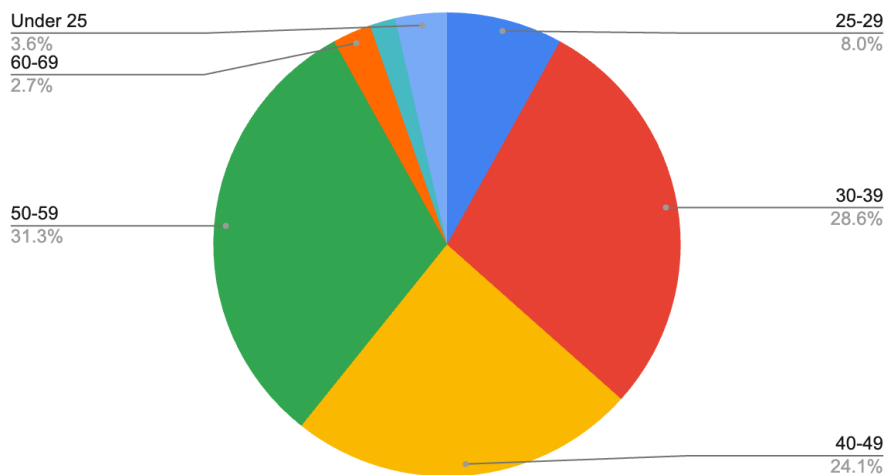
The study was carried out through a survey conducted across Austria, Bulgaria, Germany, Italy, and Poland in Spring 2025, by the means of a questionnaire that was built with a three-step procedure. Eventually, 104 questionnaires were usable and employed for the subsequent analysis.

Here below are reported the main results of the survey.

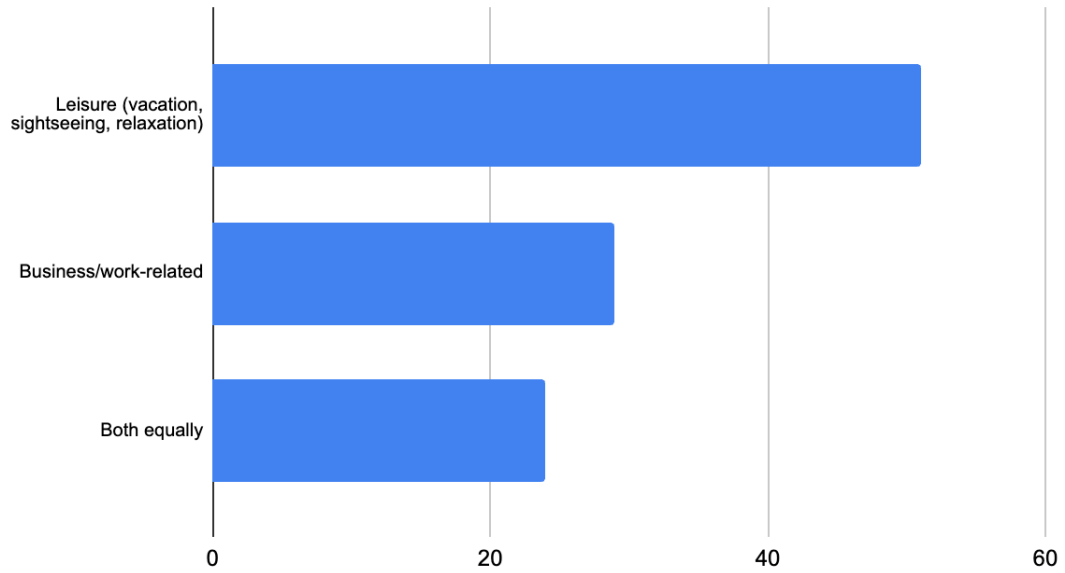
Respondent Profile



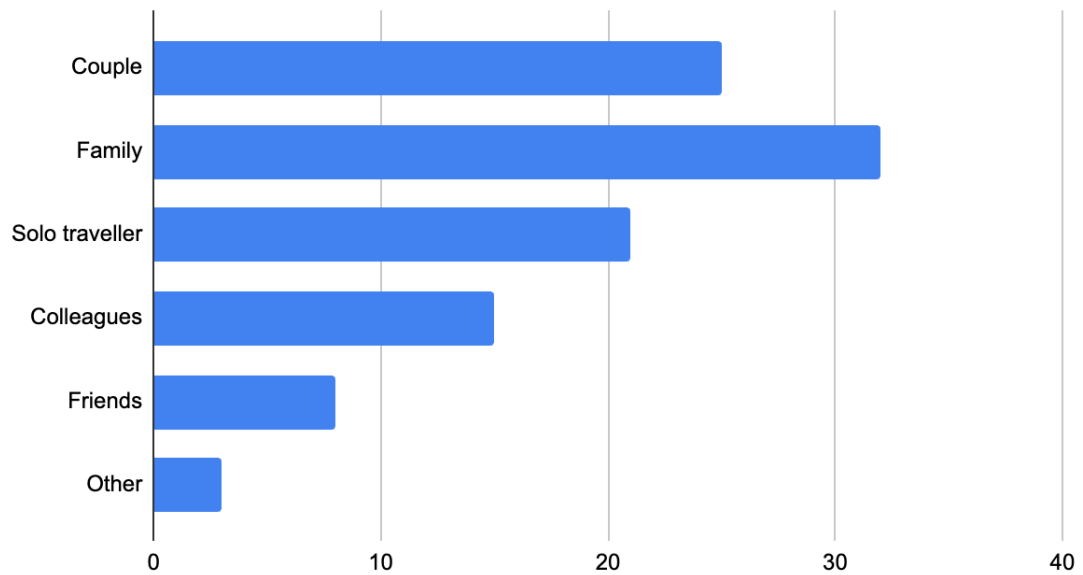
Age



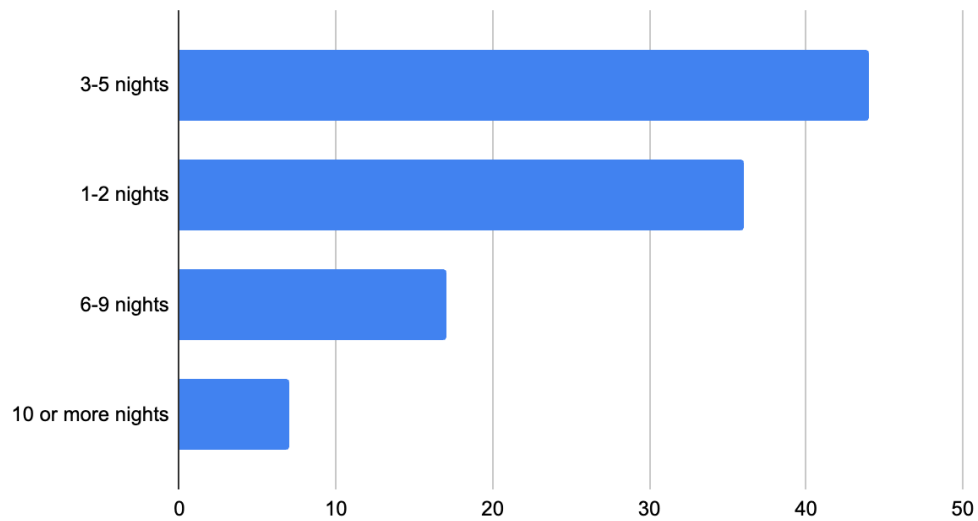
What is the primary purpose of your travels?



Type of traveller



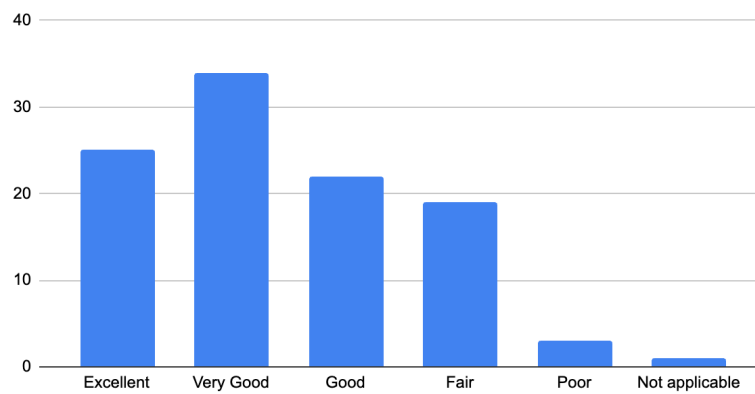
How many nights do you usually stay at a hotel?



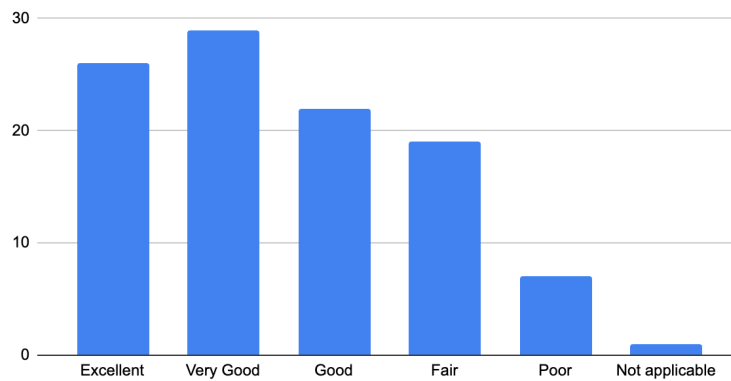
Evaluation of sustainability measures

Graphs present the result in the same order of the scale, starting from “Excellent” down to “Poor” and “Non Applicable”.

Most of the hotels in which I have stayed..... implement water saving practices



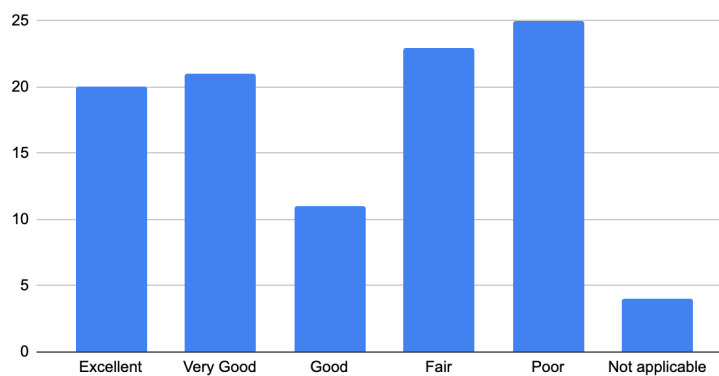
Most of the hotels in which I have stayed..... implement energy-saving practices



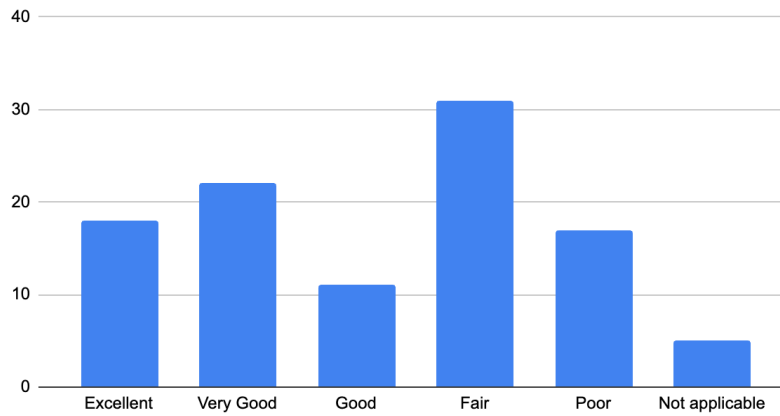
Most of the hotels in which I have stayed..... try to avoid disposable or single-dose products



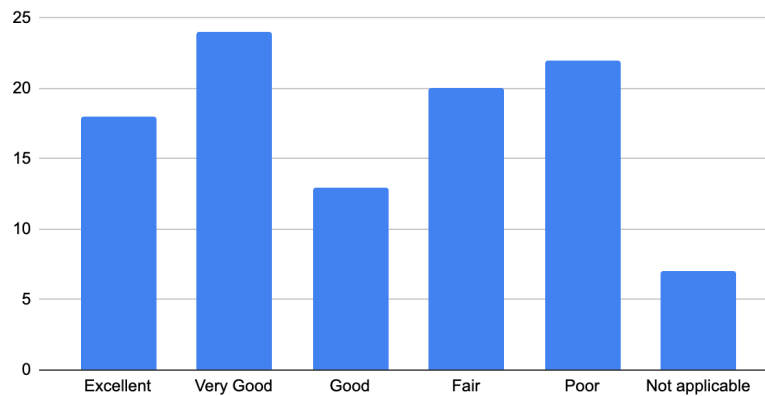
vs Most of the hotels in which I have stayed..... provide possibility to separate waste



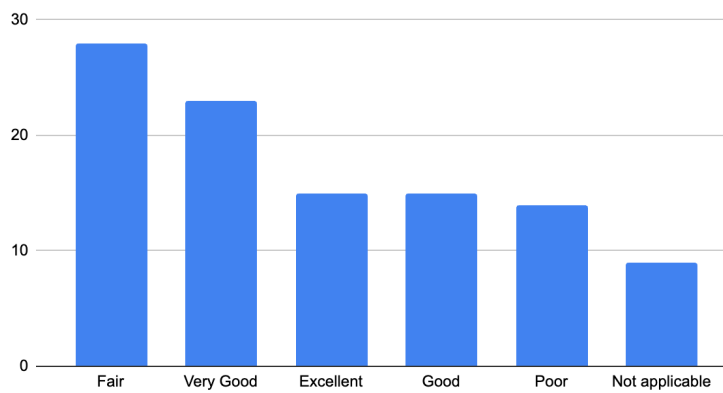
Most of the hotels in which I have stayed..... use environmentally certified or green labelled products (toiletry products, paper)



Most of the hotels in which I have stayed..... provide its guests bicycles for free or for rent



Most of the hotels in which I have stayed..... care about sustainability and adopts good practices of environmental management



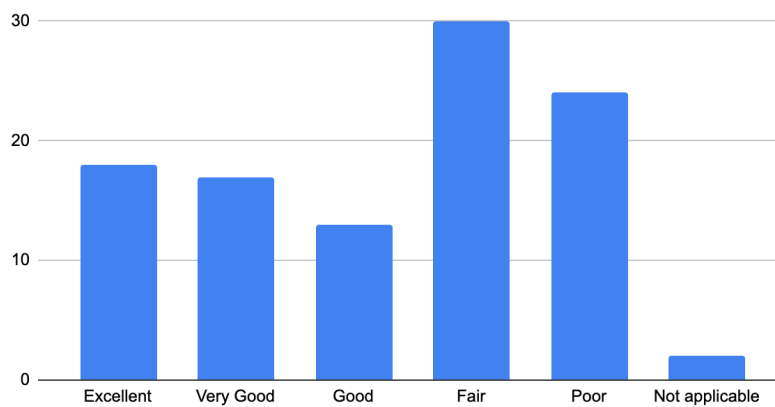
Most of the hotels in which I have stayed..... provide sustainable food options (vegan, vegetarian, organic)



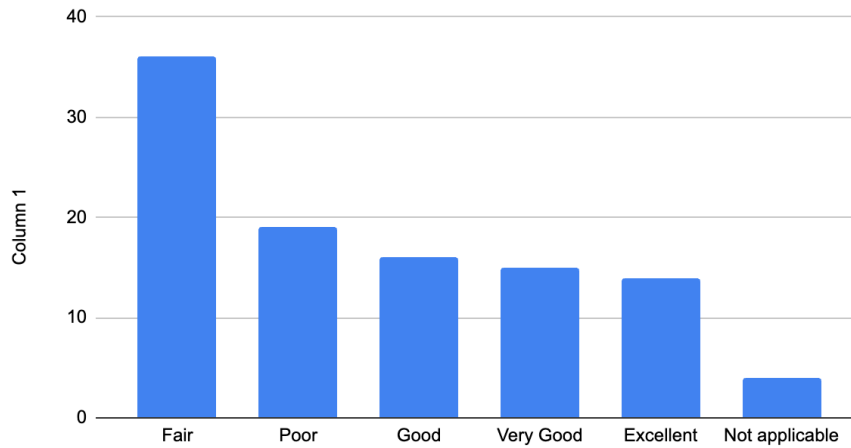
Most of the hotels in which I have stayed... inform the guests about the good environmental practices implemented



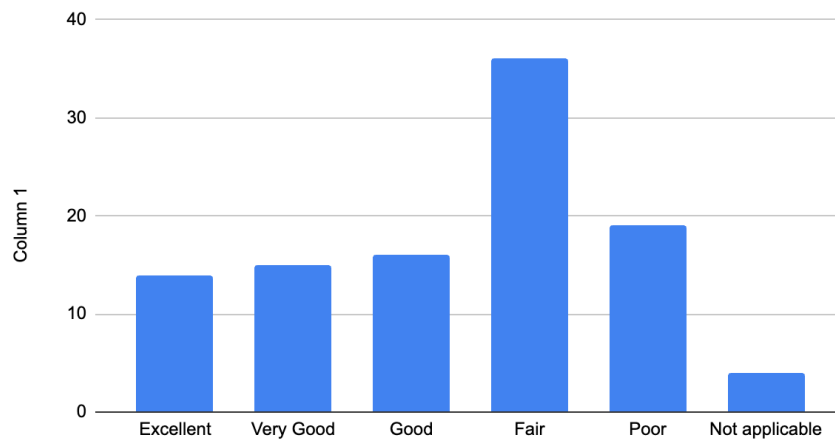
Most of the hotels in which I have stayed..... provide its guests with information on how they can contribute to reduce...



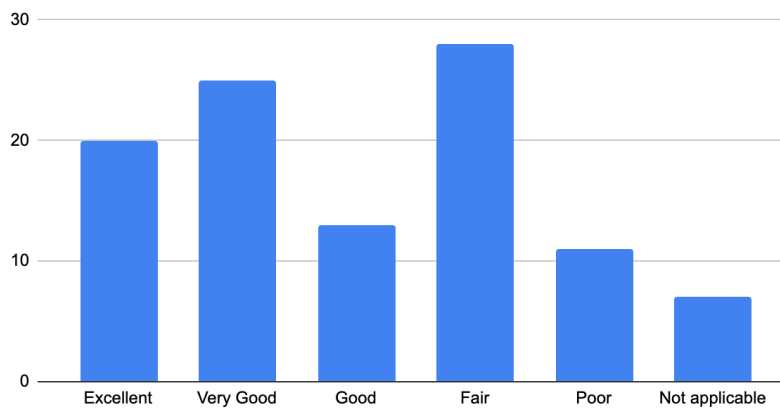
Most of the hotels in which I have stayed..... provide its guests with information on the environmental and cultural activities available in the area



Most of the hotels in which I have stayed..... provide its guests with information on the environmental and cultural activities available in the area

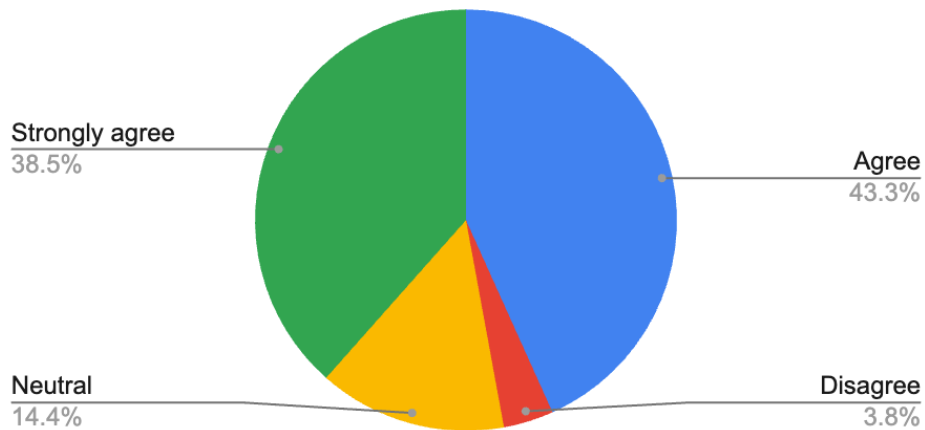


Most of the hotels in which I have stayed..... provide information on public transportation

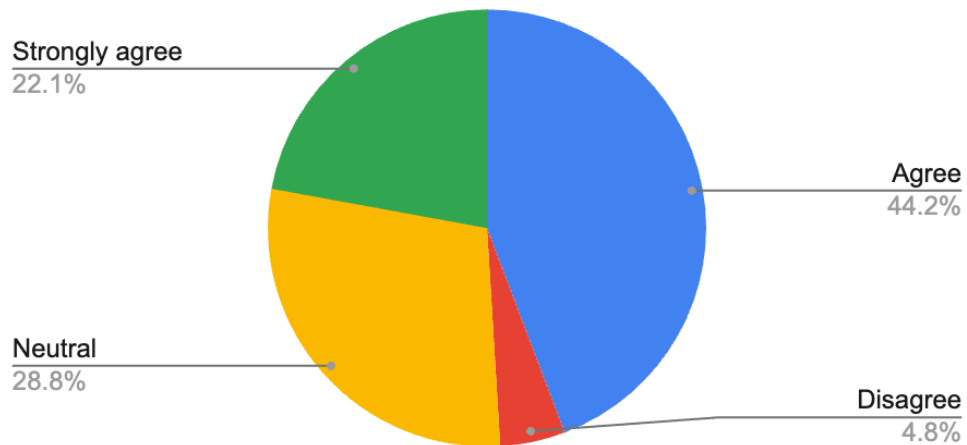


What customers expect

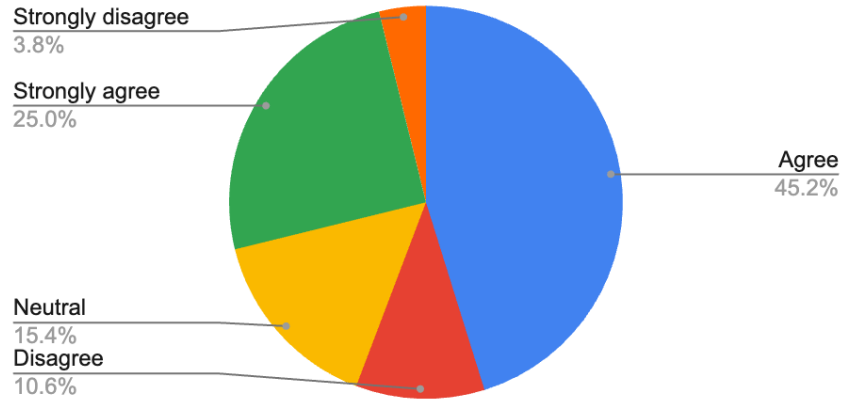
Environmental sustainability is one of the main problems.



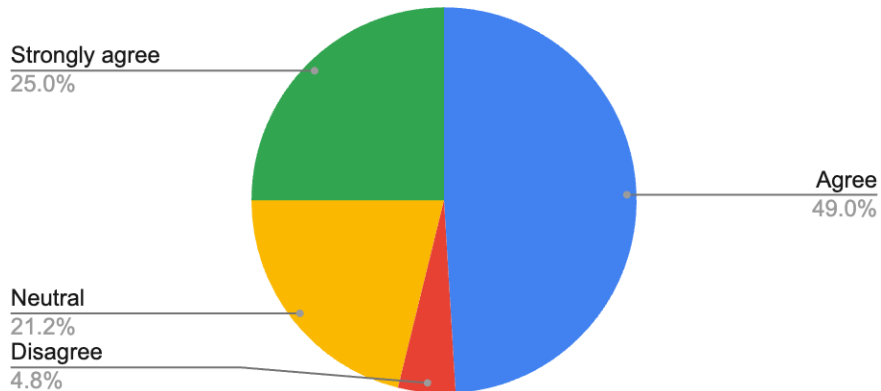
Environmental sustainability is an important criterion in my choice of products and services



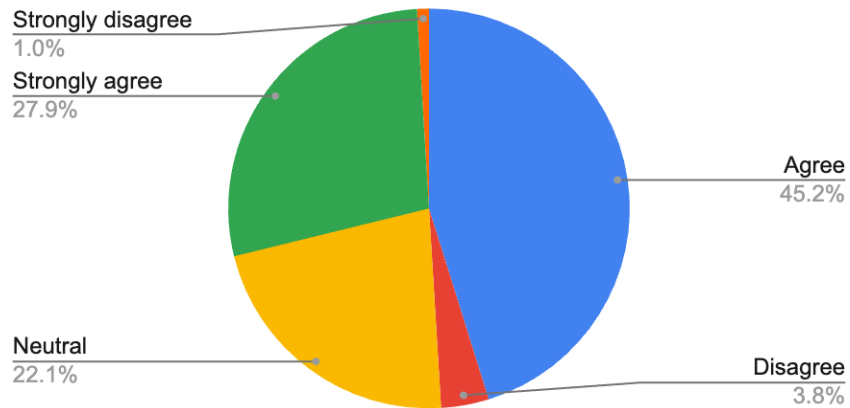
I am willing to pay more for environmentally sustainable products and services



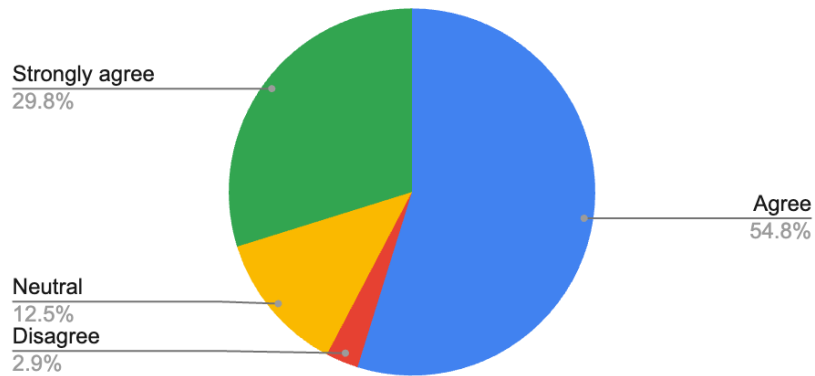
My expectations have to be satisfied in terms of environmental sustainability



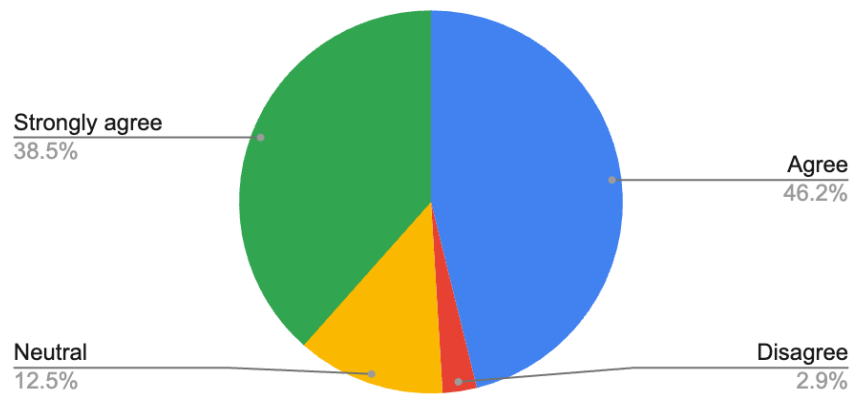
My experience has to match what I would expect from my ideal hotel in terms of environmental sustainability



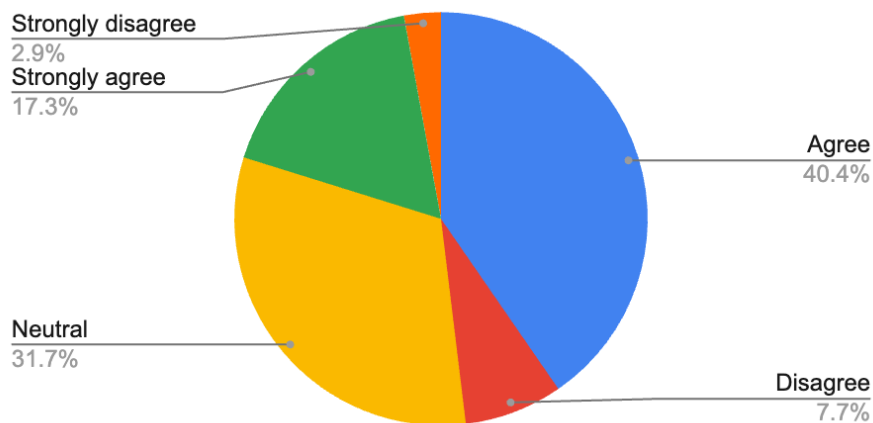
I would repeat a stay in a place that implements good environmental practices



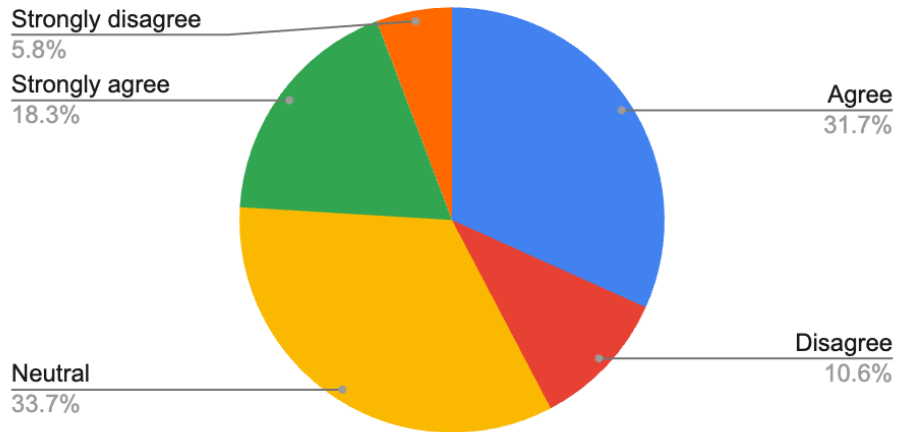
I would recommend staying in a place that implements good environmental practices



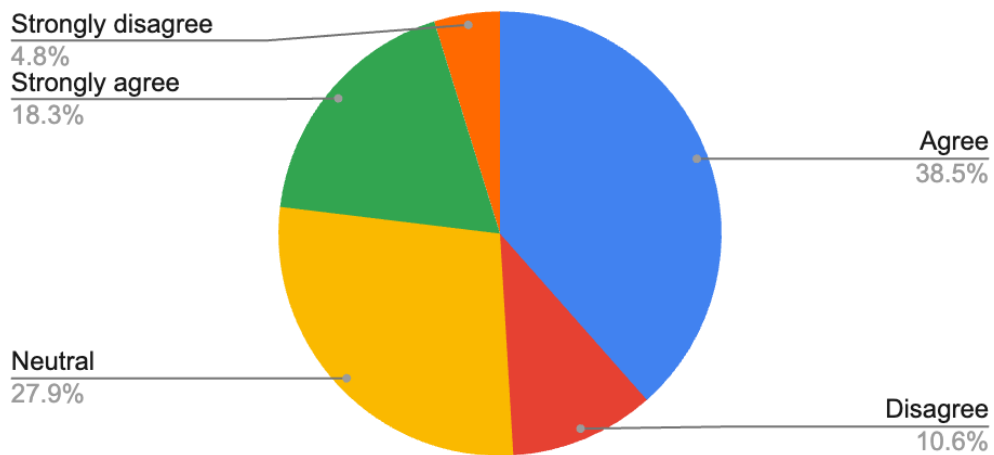
Environmental sustainability practices are an important criterion in my choice of an accommodation



Environmental certification is an important factor to consider when I'm choosing a tourism accommodation



I am willing to pay more to stay in an environmentally certified tourism accommodation (es. European Ecolabel, ISO 14001, GreenKey or other certifications)



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