Report

2024

SCELTA 5 Project

Developing The Circular Economy by Leveraging Purchasing Trends

ISTITUTO DI MANAGEMENT
Sant'Anna Scuola Universitaria Superiore Pisa
SUM SUSTAINABILITY MANAGEMENT
CONAI CONSORZIO NAZIONALE IMBALLAGGI

The study was promoted by the Center for Circular Economy Studies of CONAI, as part of the activities of the Prevention Working Group.
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1 | Introduction

This document represents a concise dossier of the survey conducted in 2024 by the Institute of Management of the Sant'Anna School of Advanced Studies as part of the SCELTA 5 project – Developing the Circular Economy by Leveraging Purchasing Trends – promoted by CONAI. The project, part of a long-standing collaboration, has three main objectives:

1. To analyze pro-environmental consumption trends consistent with the circular economy;
2. To understand consumer perceptions regarding recent regulatory developments on green claims and concerning measures provided in the packaging regulation proposal;
3. To ensure continuity in the topics addressed with previous surveys, aiming to maintain the "observatory" on environmentally responsible consumption.

This document outlines the main findings of the survey, and it is structured as follows:

- Chapter 2 describes the main objectives, the methodology used, and the sample characteristics;
- Chapter 3 presents and discusses the main results of the survey conducted via questionnaire;
- Chapter 4 illustrates the two experimental studies and their respective results;
- Chapter 5 provides the cluster analysis.

2 |Aim, methods and sample

2.1 Aim of the study and methodological approach

The primary objective of the survey is to analyze pro-environmental consumption trends, both during and after purchasing, in line with the principles of the circular economy. The survey also aims to assess consumer perceptions regarding green claims as well as the environmental impact of different packaging solutions and measures to reduce it. Moreover, through two experiments, the report shows how consumer perception and behavior can change when faced with different scenarios designed to inform and encourage the use of reusable packaging solutions.

To continue the "observatory" activity on green and circular consumption, aspects such as attitudes toward circularity, awareness, and knowledge of Italian consumers regarding key environmental issues have been further explored. These aspects were also the focus of previous surveys conducted since 2019 on representative samples of the Italian population or household purchasing decision-makers (Table 1). Since the surveys were conducted on different samples, intertemporal comparisons should be interpreted with caution. Nonetheless, comparisons with previous studies are essential to trace the evolution of consumer behavior over time.

Table 1: Surveys Included in the Observatory

Project	Year	Sample (n° of respondents)	Sample (representativeness)
SCELTA 1	March 2019	1643	Decision-makers for household purchases in Italian families (ages 18–75)
LIFE MAGIS	February 2020	850	Italian population (ages 18–70)
SCELTA 2	September 2020	1000	Italian population (ages 18–70)
SCELTA 3	July 2022	1000	Decision-makers for household purchases in Italian families (ages 25 and older)
SCELTA 4	August 2023	1009	Italian population (ages 18–70)
SCELTA 5	October 2024	1031	Italian population (ages 18–70)

2.2 Sample Description

The questionnaire developed for the SCELTA 5 project was administered in October 2024 to a sample of 1031 respondents, representative of the Italian population aged 18 to 70. The questionnaire was administered online with the support of an external professional survey-service provider, allowing for the minimization of sampling error and ensuring the breadth and representativeness of the sample. The sampling method and sample size ensure that the sample's characteristics reflect those of the target population with a confidence level of 95% and a margin of error of 3.1%. The demographic characteristics of the sample are reported in Table 2.

Table 2: Sample demographics (2024)

Demographic Variables	Carachteristics	Sample n=1031	
		Observation	%
Gender	Men	507	49%
	Women	524	51%
Age	18–26 years (Gen Z)	122	9%
	27–42 years (Millennials)	271	19%
	43–55 years (Gen X)	411	29%
	56–70 years (Baby Boomers)	609	43%
Geographic Origin	Northwest	270	26%
	Northeast	204	20%
	Center	210	20%
	South + Islands	347	34%
Size of Place of Residence	Less than 10,000 inhabitants	323	31%
	Between 10,000 and 30,000 inhabitants	282	27%
	Between 30,000 and 100,000 inhabitants	199	19%
	More than 100,000 inhabitants	227	22%
Education	University degree or postgraduate	204	20%
	High school diploma	710	69%
	Middle school, elementary, or no formal education	117	11%
Income	Less than 1,000	50	5%
	Between 1,000 and 1,400	166	16%

	Between 1,600 and 2,000	263	26%
	Between 2,500 and 4,000	324	31%
	More than 4,000	48	5%
	Does not know/does not respond	180	17%

3 | Results

3.1 Personal Belief

Perception of global risks

Among the major risks[1] faced by humanity, consumers were asked to identify the five they perceive as the most significant. Table 3 presents a weighted ranking of these risks, listed in order of perceived priority. The final column shows the percentage of consumers who did not mention each risk. Overall, **a large portion of the population appears concerned about the delicate and unstable balance between humans and nature. Climate change and global warming are considered the most critical global risks,** with 15% of consumers ranking them first. At the top of the list, other **risks related to human-nature interaction** can be observed, such as environmental pollution caused by humans, natural resource scarcity, and extreme weather events. Other significant **risks include hunger and poverty, interstate conflicts, as well as economic crises and unemployment**. This reflects a strong consumer awareness of risks related to both environmental and social issues. Biodiversity loss receives less attention, prioritized by only 3% of consumers and not mentioned by 86%. Topics linked to the digital transition, such as cybersecurity and digital inequalities, are not mentioned by over 95% of consumers, indicating that these issues are not perceived as significant risks.

Table 3: Perception of Global Risks (2024)

Risk	% of consumers ranking it 1st	% of consumers ranking it 2nd	% of consumers ranking it 3rd	% of consumers ranking it 4th	% of consumers ranking it 5th	% of consumers who do not mention it
Climate change/global warming	15%	12%	10%	9%	7%	47%
Hunger and poverty	12%	9%	12%	10%	9%	48%
Environmental pollution caused by humans	10%	11%	10%	10%	10%	49%
Conflicts between nations	13%	9%	9%	9%	10%	51%
Scarcity of natural resources (e.g., water)	9%	9%	11%	10%	8%	53%
Extreme weather events	7%	9%	8%	9%	8%	58%
Diseases	7%	8%	8%	8%	9%	61%

[1] Global Risks Report 2023

Economic crises	6%	6%	7%	8%	8%	65%
Unemployment	3%	5%	5%	5%	5%	77%
Discrimination and inequality	3%	4%	3%	5%	6%	79%
Terrorist attacks	3%	5%	5%	3%	5%	80%
Lack of youth education	4%	3%	4%	3%	5%	81%
Involuntary migration (e.g., due to conflicts or poverty)	3%	4%	3%	4%	3%	83%
Loss of biodiversity	3%	3%	2%	4%	3%	86%
Denial of science	1%	2%	2%	2%	2%	91%
Failures in cybersecurity	0%	1%	1%	1%	1%	95%
Digital inequalities	1%	1%	0%	1%	1%	97%

Table 4 shows how the perception of risks has changed from 2022 to 2024. Climate change remains at the top of the ranking. Issues related to hunger and poverty have risen by one position, confirming the upward trend already observed in 2022 and reflecting the effects of the inflationary trend in 2023. Similarly, topics such as interstate conflicts and terrorist attacks have risen by four and three positions, respectively, indicating heightened awareness of multiple active war scenarios in the Middle East and the Russian-Ukrainian front. Conversely, environmental sustainability issues such as natural resource scarcity (e.g., water), extreme weather events, biodiversity loss, and human-caused environmental pollution have fallen by one position. This shift reflects a gradual increase in attention to social issues at the expense of environmental concerns. However, the variation in rankings between the two years may reflect reactions to recent environmental events and changes in the international geopolitical landscape. In parallel, it is likely that awareness campaigns and media coverage continue to raise public awareness and influence perceptions of the relevance of critical issues such as climate change and environmental pollution.

Table 4: Perception of Global Risks (Temporal Comparison)

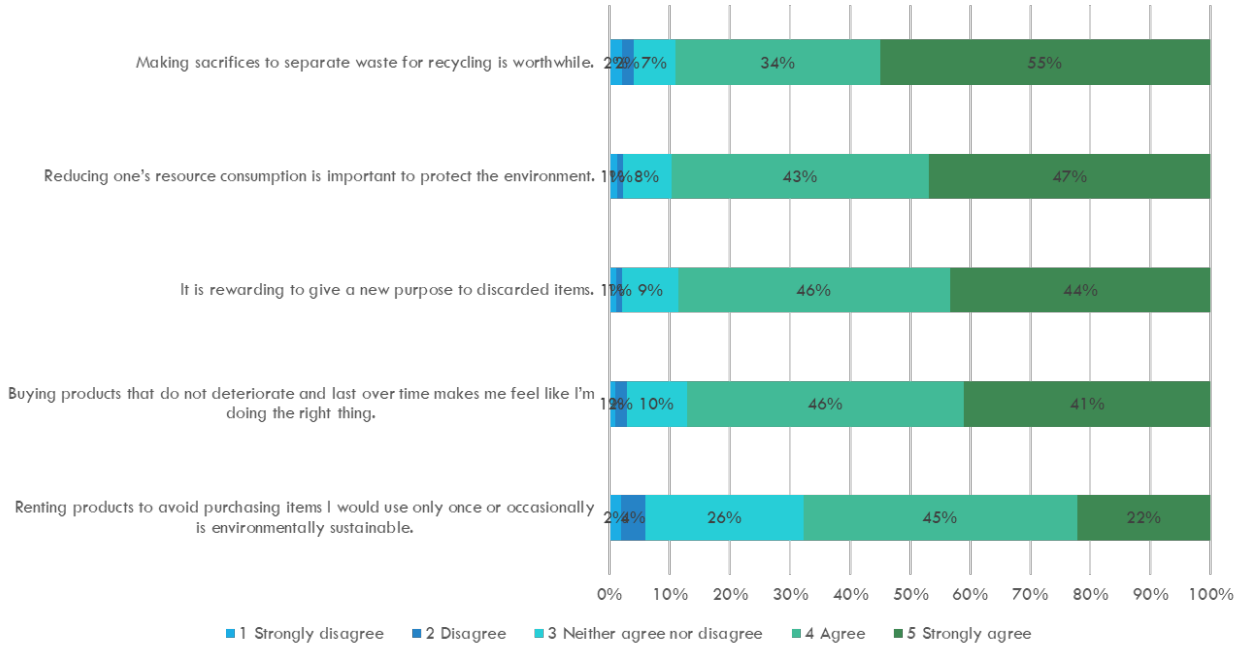
Position	Risk Ranking (2022)	Risk Ranking (2023)	Risk Ranking (2024)	Delta (2023–2024)
1	Climate change/global warming	Climate change/global warming	Climate change/global warming	=
2	Scarcity of natural resources (e.g., water)	Environmental pollution caused by humans	Hunger and poverty	+2
3	Environmental pollution caused by humans	Hunger and poverty	Environmental pollution caused by humans	=

4	Hunger and poverty	Scarcity of natural resources (e.g., water)	Conflicts between nations	+1
5	Conflicts between nations	Extreme weather events	Scarcity of natural resources (e.g., water)	-3
6	Economic crises	Economic crises	Extreme weather events	-2
7	Extreme weather events	Diseases	Diseases	+1
8	Diseases	Conflicts between nations	Economic crises	-1
9	Unemployment	Unemployment	Unemployment	=
10	Discrimination and inequality	Discrimination and inequality	Discrimination and inequality	=
11	Involuntary migration (e.g., due to conflicts or poverty)	Lack of youth education	Terrorist attacks	+3
12	Loss of biodiversity	Involuntary migration (e.g., due to conflicts or poverty)	Lack of youth education	+1
13	Lack of youth education	Loss of biodiversity	Involuntary migration (e.g., due to conflicts or poverty)	-2
14	Terrorist attacks	Terrorist attacks	Loss of biodiversity	-2
15	Denial of science	Denial of science	Denial of science	=
16	Failures in cybersecurity	Failures in cybersecurity	Failures in cybersecurity	=

Attitude towards circular economy

Almost all consumers express a positive attitude toward circularity. It can be intended as the cognitive and emotional proneness of individuals to positively perceive behaviors that are consistent with the circular economy and efficient resource use (Figure 1). Specifically, **89% of consumers agree on the importance of making sacrifices for waste separate collection,** consider it crucial to reduce resource consumption to protect the environment, find it rewarding to **give new life to discarded items**, and feel that **purchasing durable products** is the right thing to do. Approximately 95% of consumers avoid purchasing electronic products not designed to last. A smaller but still significant majority (67%) considers renting - instead of buying and owning - products used just occasionally, to be environmentally sustainable.

Figure 1: Attitude Toward Circularity (2024)



The aggregated attitude toward circularity was measured by averaging the responses to a set of items (see Figure 1). Figure 2 provides an overall view, showing that only 1% of respondents exhibit a negative attitude, 10% are neutral, while 55% display a favorable emotional and cognitive predisposition, and 33% a very favorable predisposition toward circularity. The results **reveal a growing positive attitude toward circular behaviors over the past four years** (Figure 3). From 2019 to 2024, the share of consumers with a positive or highly positive attitude increased by 5%. While this upward trend indicates a continuous rise in consumer awareness of environmental issues, there has been a slight decline (-3%) compared to the previous year.

Figure 2: Aggregated Attitude Toward Circularity (2024)

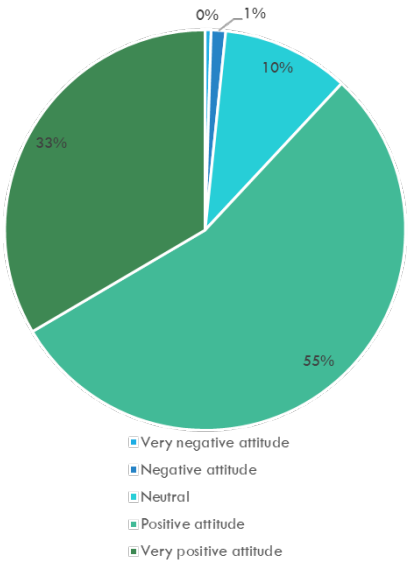
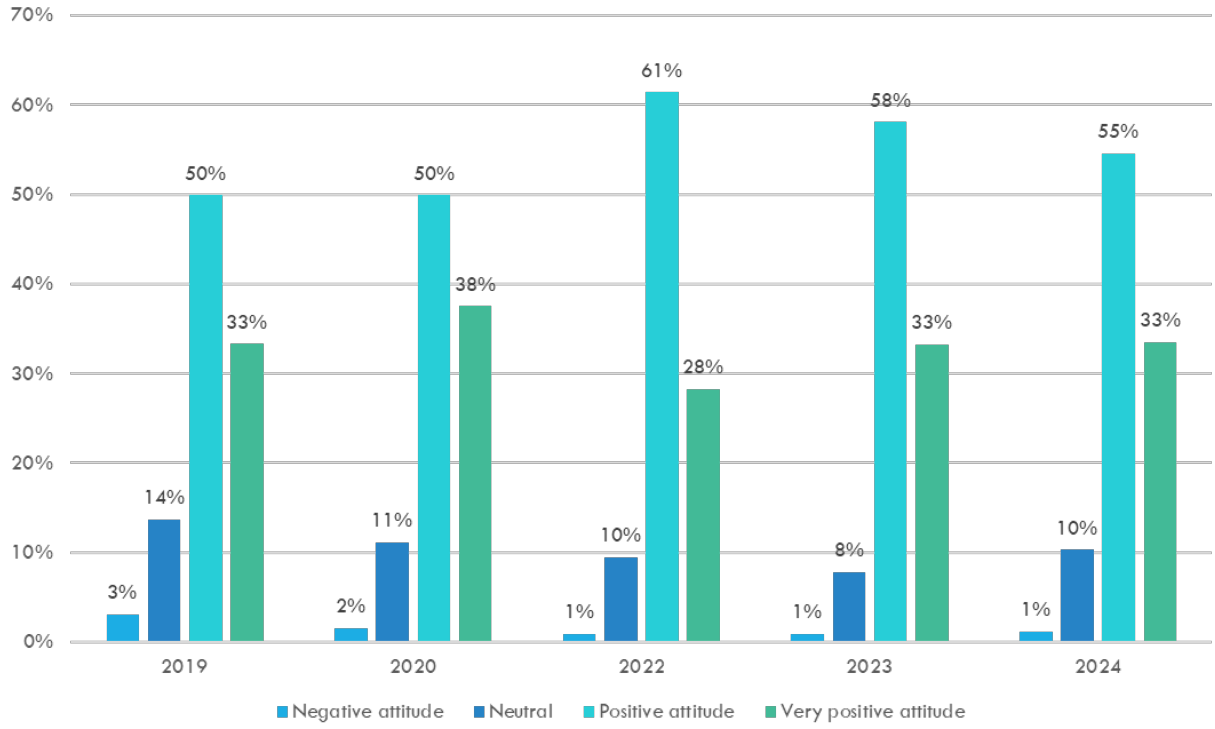


Figure 3: Aggregated Attitude Toward Circularity (Temporal Comparison)

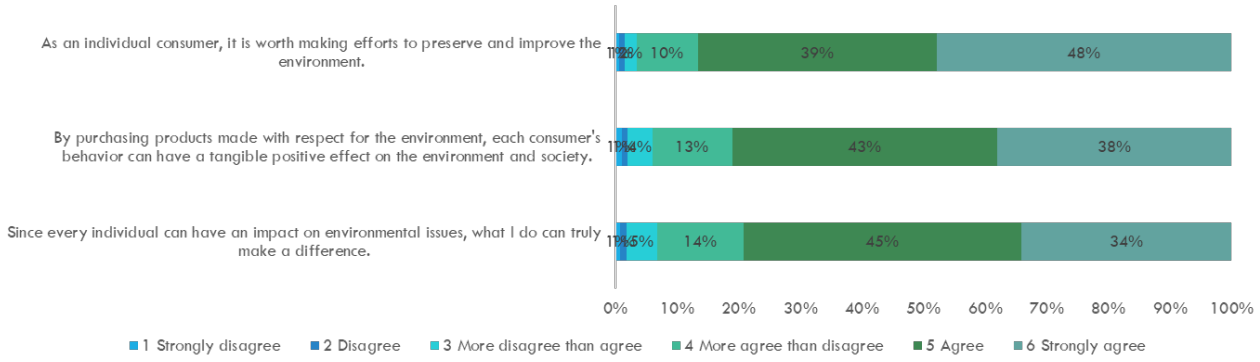


Furthermore, the results show that the **attitude toward circularity is slightly but positively correlated with being female and with age**, as indicated by the coefficients (+0.11; +0.08) at a significance level of $p<0.05$. This indicates that women and older individuals are slightly more likely to exhibit more positive attitudes toward circular economy practices.

Perceived Consumer Effectiveness (PCE)

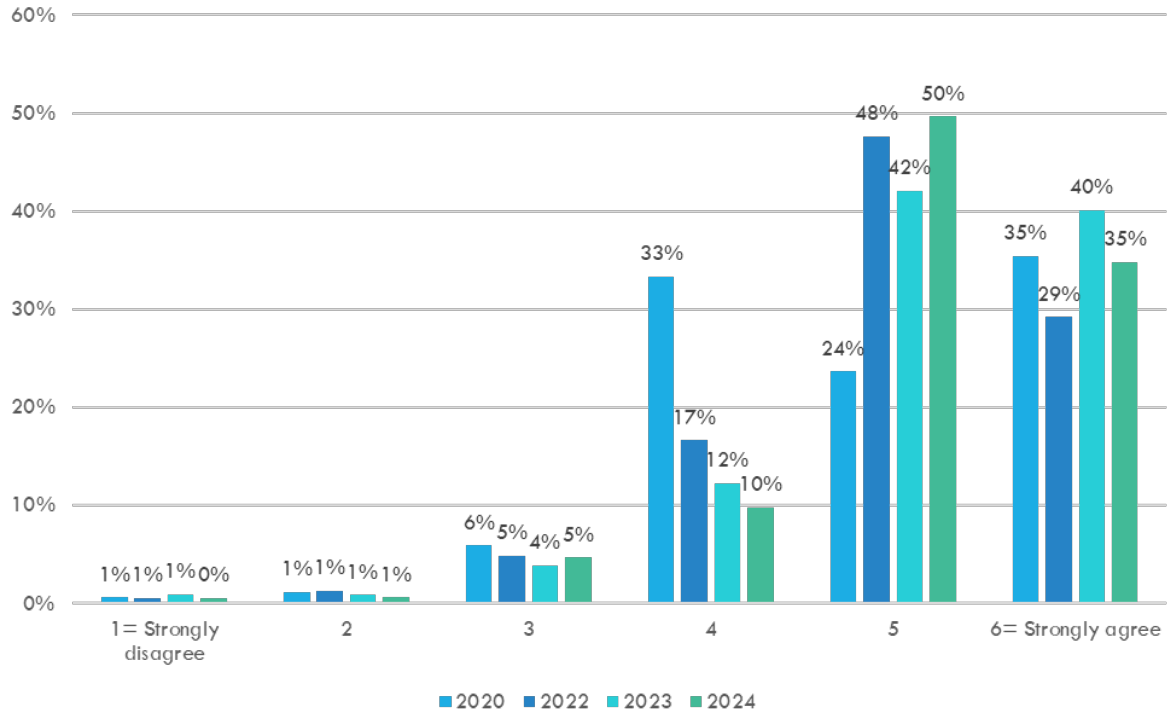
The survey revealed strong consensus among the Italian population regarding **the importance of individual action for environmental protection**. Approximately 97% of participants positively perceive their effectiveness as consumers in driving beneficial change for the environment and society, with a significant 48% stating they are strongly convinced of this impact (Figure 4). These findings reflect not only a high level of environmental awareness but **also growing confidence in personal abilities to contribute to solving global problems** through individual actions.

Figure 4: Perceived Consumer Effectiveness (2024)



The aggregated Perceived Consumer Effectiveness was measured by averaging responses to a set of three questions (see Figure 4) and provides a summary view of individuals' assessment of their ability to succeed through pro-environmental behaviors. Data highlight a growing trend in PCE from 2020 to the present (Figure 5). Specifically, compared to last year**, the share of individuals who perceive strong personal effectiveness remains stable at 83%.** Finally, PCE is positively correlated with being female ($\beta=+0.116$, $p<0.05$) and income level ($\beta=+0.096$, $p<0.05$), suggesting that these sociodemographic factors may influence the perception of being effective agents of change.

Figure 5: Aggregated Perceived Consumer Effectiveness (Temporal Comparison)



3.2 Purchasing and post-purchasing behavior

Purchasing behavior

Purchasing behavior was analyzed by measuring the frequency of buying products with circular characteristics and with assertions of low environmental impact, as well as behaviors aimed at purchasing smaller quantities to prevent waste at the source. The results indicate a growing frequency of these kind of behaviors among Italian consumers, reflected in greater attention to the environmental impact of purchased products in both food and non-food categories. The following figures present the 2024 results and temporal comparisons since 2020 for both mapped categories: food and non-food products.

In the food category (Figure 6), there is a **high frequency of behaviors aimed at reducing waste and purchasing from local suppliers**. 86% of Italian consumers ("Often" and "Always" responses) purchase fruit and vegetables from local suppliers, marking a significant increase (+10%) compared to last year (Figures 7 and 8). This behavior supports short supply chains and reduces emissions associated with long-distance transportation. Additionally**, there is a strong preference for reducing waste by purchasing only the necessary quantities (76%) or buying products with a near-expiration date (54%).** These behaviors show a trend of +2% and +9%, respectively, compared to last year. Finally, products with recycled packaging or made from low-environmental-impact materials are chosen by an average of 64% and 60% of consumers ("Often" and "Always" responses), respectively. Notably, the purchase of products with recycled packaging has seen a significant increase (+11%) compared to last year.

Figure 6: Purchasing Behavior – Food Category (2024)

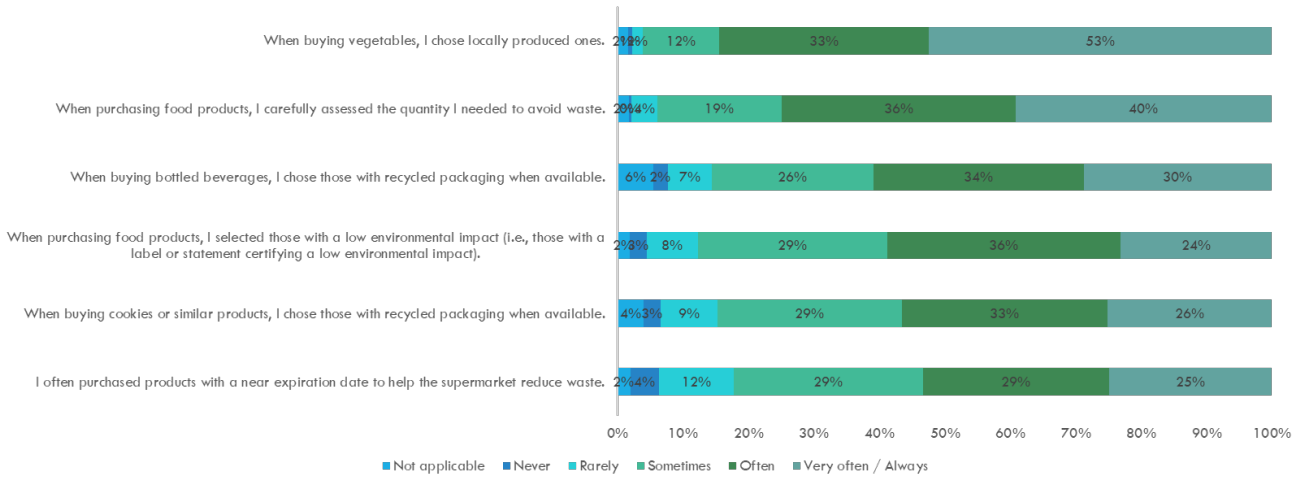
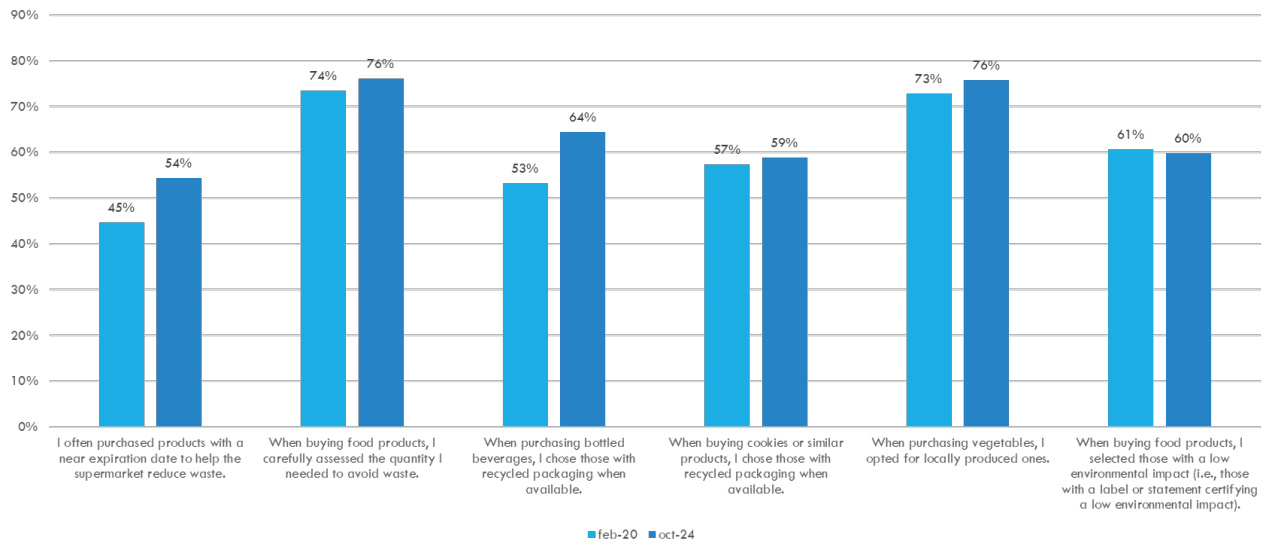


Figure 7: Purchasing Behavior – Food Category (Temporal Comparison)

Figure 8: Purchasing Behavior – Food Category (Change Since 2020 in “Often” and “Always” Responses)



For non-food products (Figure 9), **72% of consumers tend to choose clothing designed to last over time ("Often" and "Always" responses)**, reflecting a preference for quality and durability rather than frequent purchases of new fast-fashion items. The purchase of second-hand clothing, although less frequent (57%), has shown a remarkable increase of +42% compared to 2020 and +35% compared to 2023 (Figures 10 and 11), indicating a strong openness toward new consumption practices that can reduce waste and the use of new resources. This positive trend toward reuse is a promising indicator for sustainability in the fashion sector and a gradual overcoming of sociocultural barriers related to second-hand consumption. **Attention to low-environmental-impact claims for non-food products is highlighted by 68% of participants ("Often" and "Always" responses)** (Figure 9), reflecting a 12% increase since 2020. Additionally, 58% report a preference for purchasing

products made from recycled paper, although this has slightly decreased by -3% compared to the 2020 survey. Overall, these behaviors demonstrate a growing trend over time (Figures 10 and 11), showing that awareness of the need to shift from a linear to a circular model is increasingly translating into behavioral change.

Figure 9: Purchasing Behavior – Non-Food Category (2024)

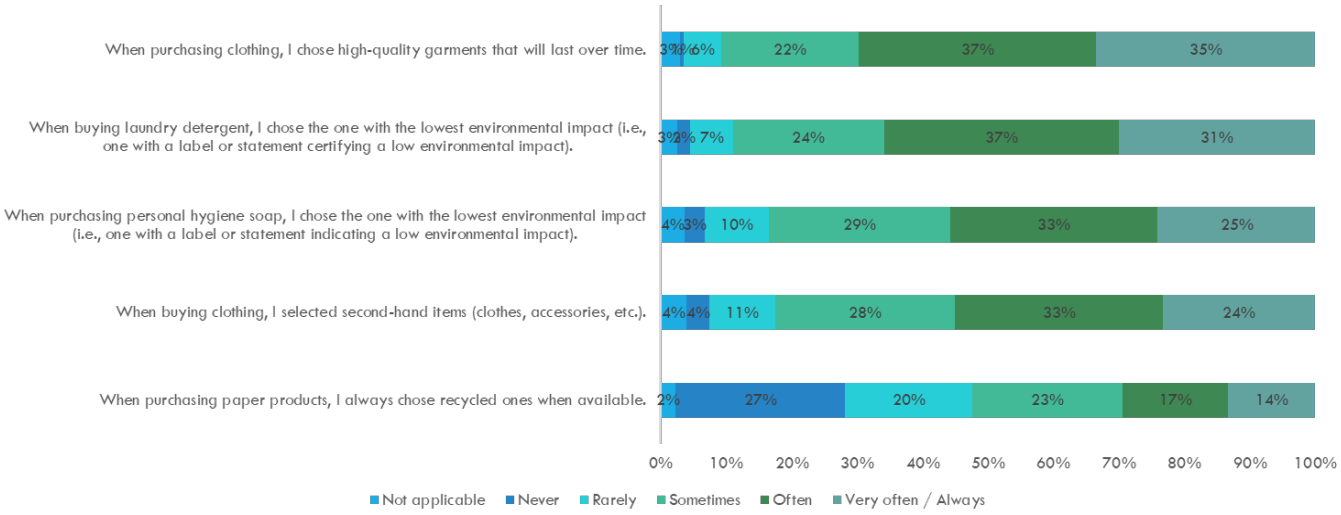


Figure 10: Purchasing Behavior – Non-Food Category (202Temporal comparison)

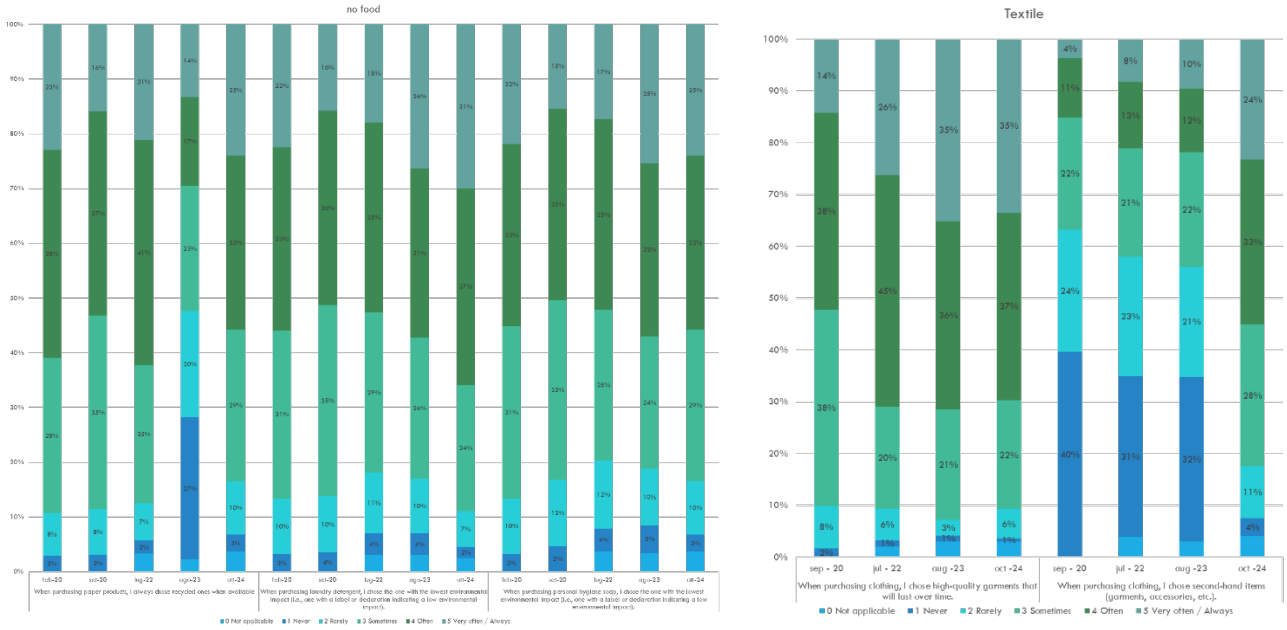
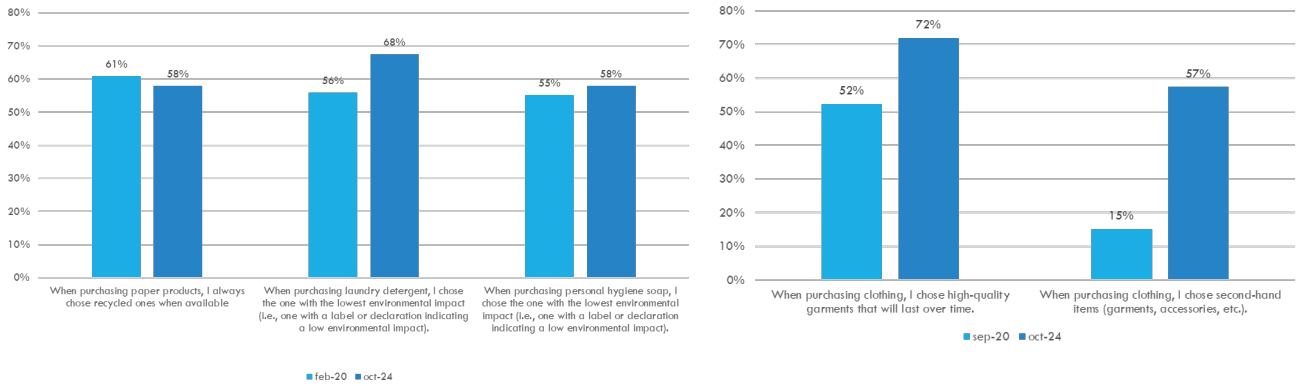


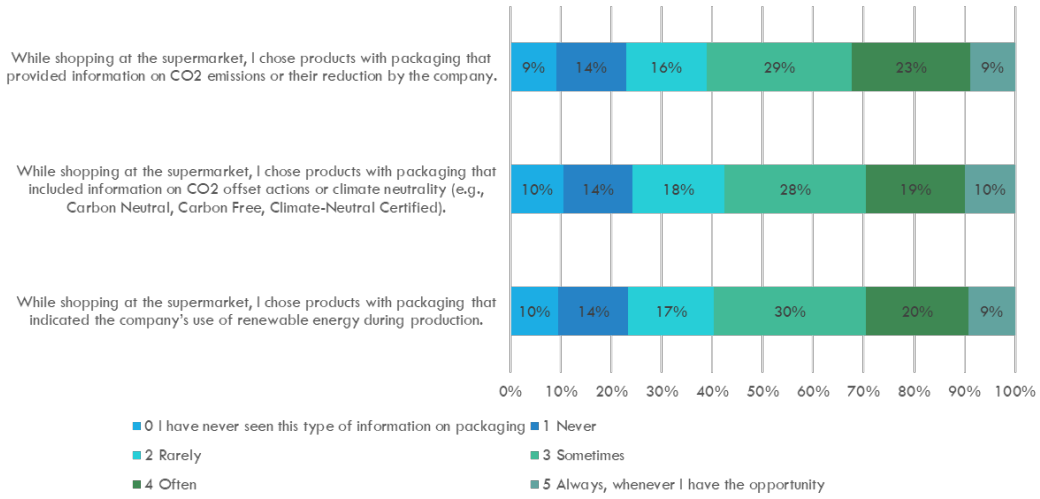
Figure 11: Purchasing Behavior – Non-Food Category (Variation in "Often" and "Always" Responses Compared to 2020)



Purchasing behavior related to products with carbon claims

In the context of the growing global emphasis on the climate crisis, institutional and stakeholder pressures are pushing companies to undertake concrete decarbonization initiatives aimed at reducing emissions and communicating these efforts to consumers through labels and claims. This topic was explored by examining the habits of Italian consumers regarding the purchase of products with a reduced carbon footprint. The survey revealed that 32% of consumers, with a slight predominance among women ($p<0.05$), often or always prefer and purchase products displaying information related to the use of renewable energy, carbon offsetting, and CO2 emission reductions by companies (Figure 12).

Figure 12: Purchasing Behavior Related to Products with Carbon Claims (2024)*
(*) *Environmental statements containing information on carbon footprint.*



Temporal comparisons show a relatively stable trend compared to last year in the frequency with which consumers often or always choose products with carbon claims (Figures 13 and 14). These findings indicate that companies' efforts are being perceived by consumers and are becoming a decisive factor in purchasing decisions.

Figure 13: Purchasing Behavior Related to Products with Carbon Claims (Temporal Comparison)

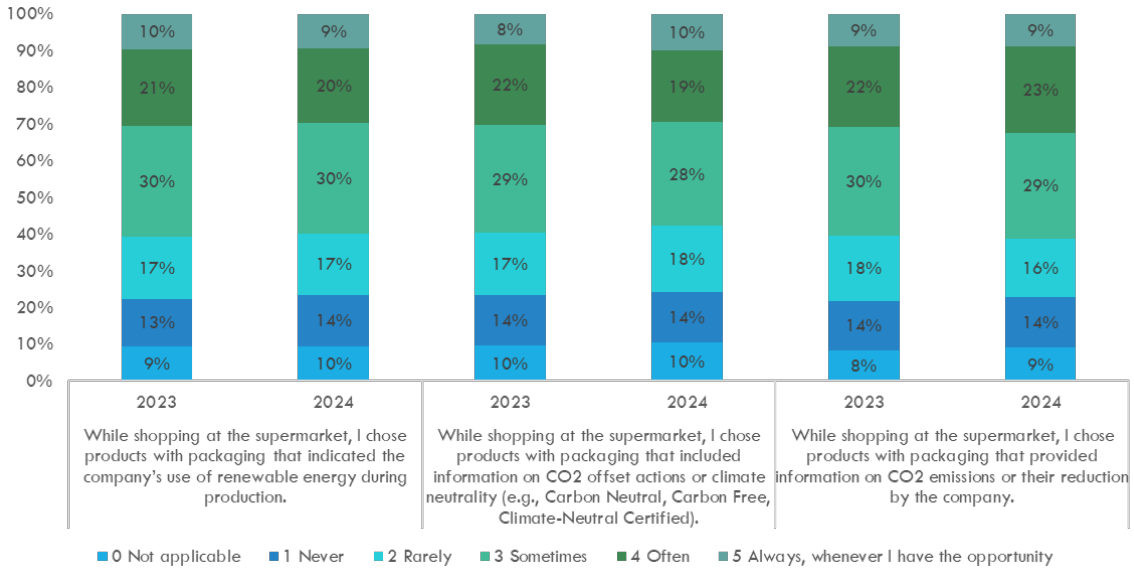
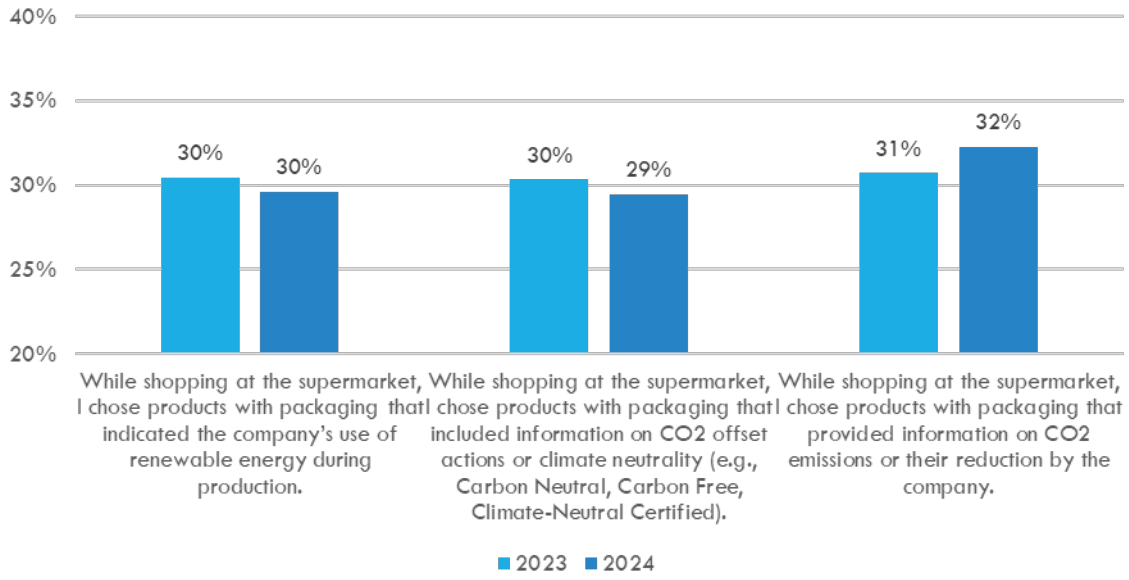


Figure 14: Purchasing Behavior Related to Products with Carbon Claims (Variation in "Often" and "Always" Responses Compared to 2022)

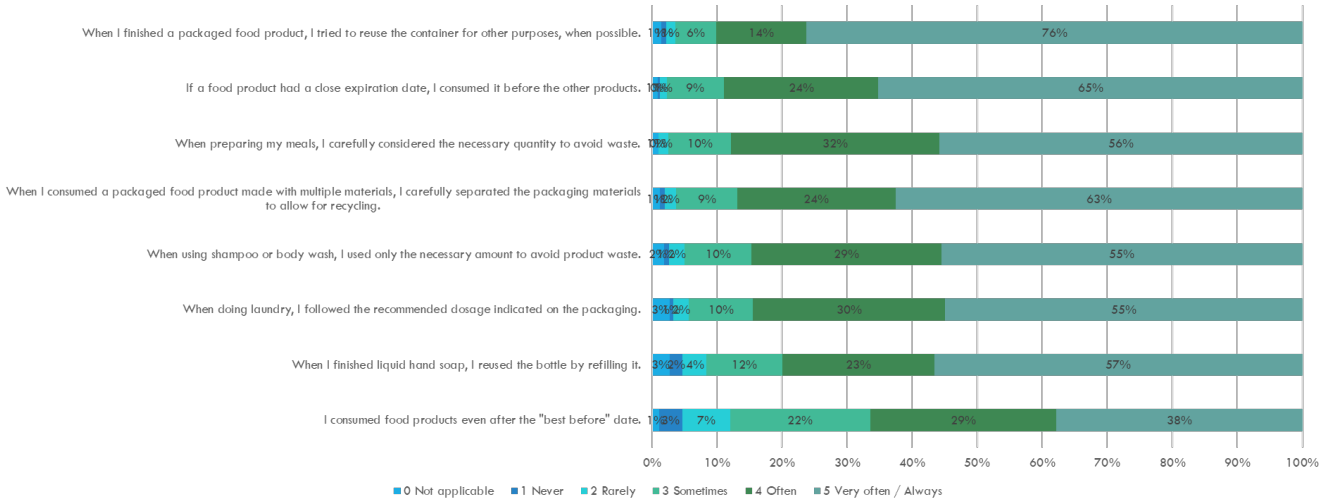


Post-Purchasing Behavior

Post-purchasing behaviors, covering **use and post-consumption phases**, was analyzed by measuring the **frequency of adopting practices aimed at efficient product use, extending their useful life, reuse, and proper end-of-life disposal to ensure recyclability and recoverability**. The results show that 90% of consumers often or always dispose of empty bottles in recycling bins, and 80% reuse them by refilling (Figure 15). These behaviors have increased by +7% and +10%, respectively, since 2020. Additionally, 87% carefully separate materials from food containers for recycling, and 63% repurpose them for other uses, reflecting greater attention to waste reduction and resource conservation. These behaviors have grown by +9% and +4%, respectively, since 2020.

Italian consumers' dietary habits also reflect multiple actions aimed at avoiding waste: 88% of respondents often or always carefully assess the quantities needed to prepare meals, 89% prioritize consuming near-expiration products, and 66% consume food beyond the expiration date when labeled "best before."

Figure 15: Post-Purchase Behavior (2024)



Virtuous post-purchase behaviors are among the most deeply ingrained in the population—partly due to the economic benefits they provide alongside their environmental advantages. Although already highly frequent, temporal analysis reveals a growing positive trend across all examined categories (Figures 16 and 17). Among the most significant changes, in the food category, careful meal preparation avoiding waste and proper packaging separate collection have increased by 9% ("Often" and "Always" responses).

Figure 16: Post-Purchase Behavior – Food Category (Temporal Comparison)

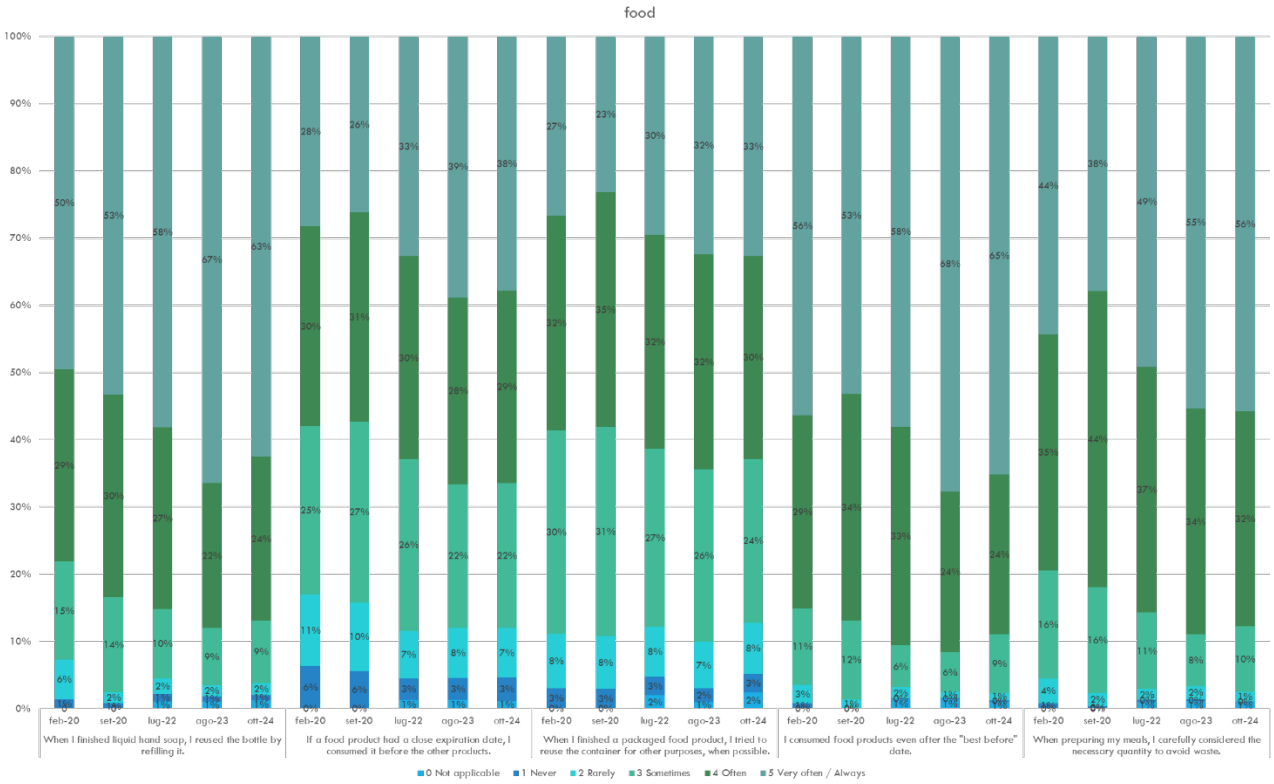
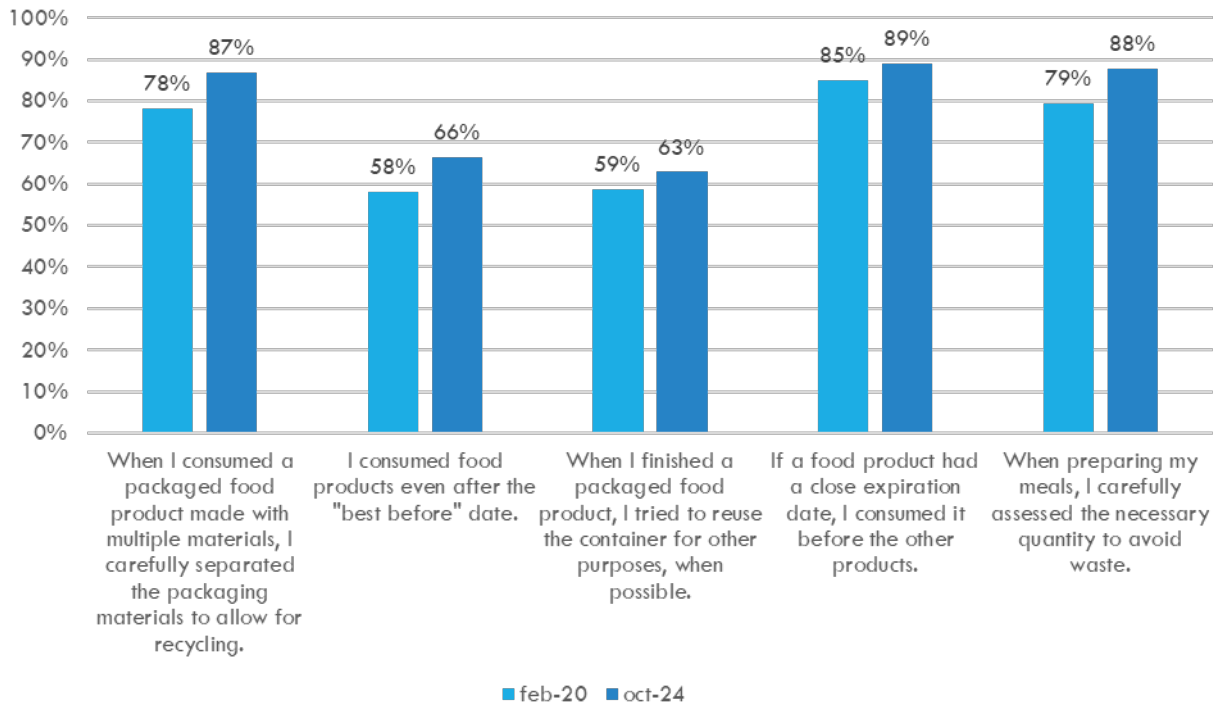


Figure 17: Post-Purchase Behavior – Food Category (Variation in "Often" and "Always" Responses Compared to 2020)



In the non-food category as well (Figures 18 and 19), there has been a significant increase in the careful use of personal care product quantities (+16% in "Often" and "Always" responses) and in the

reuse of bottles through refilling (+10% in "Often" and "Always" responses).

Figure 18: Post-Purchase Behavior – Non-Food Category (Temporal Comparison)

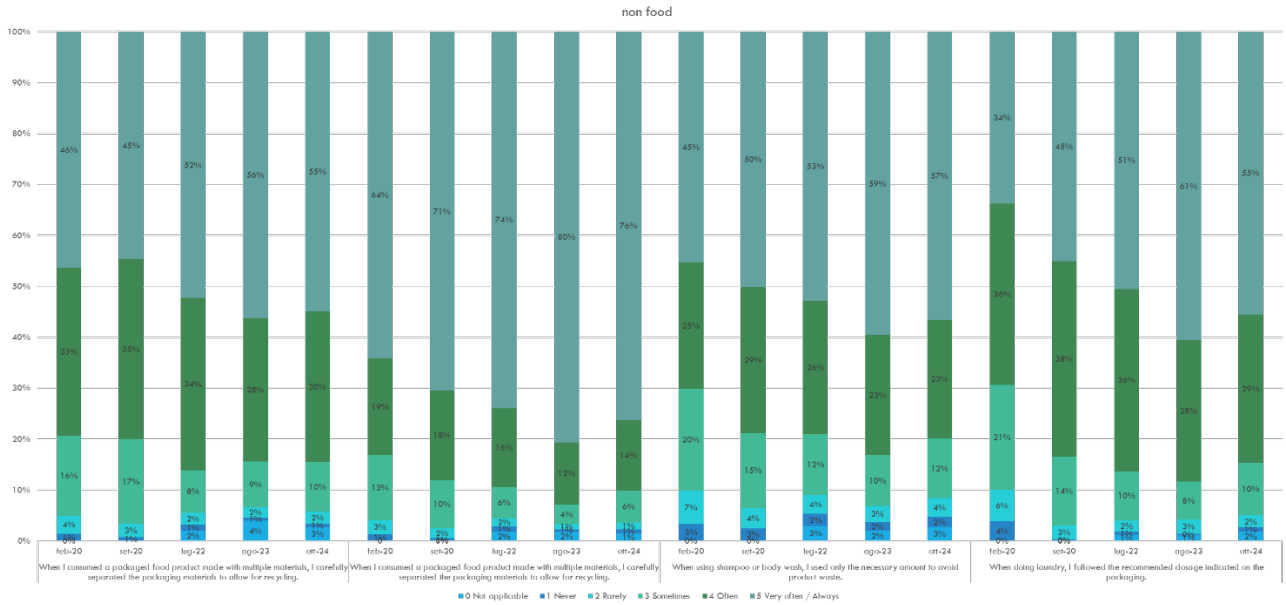
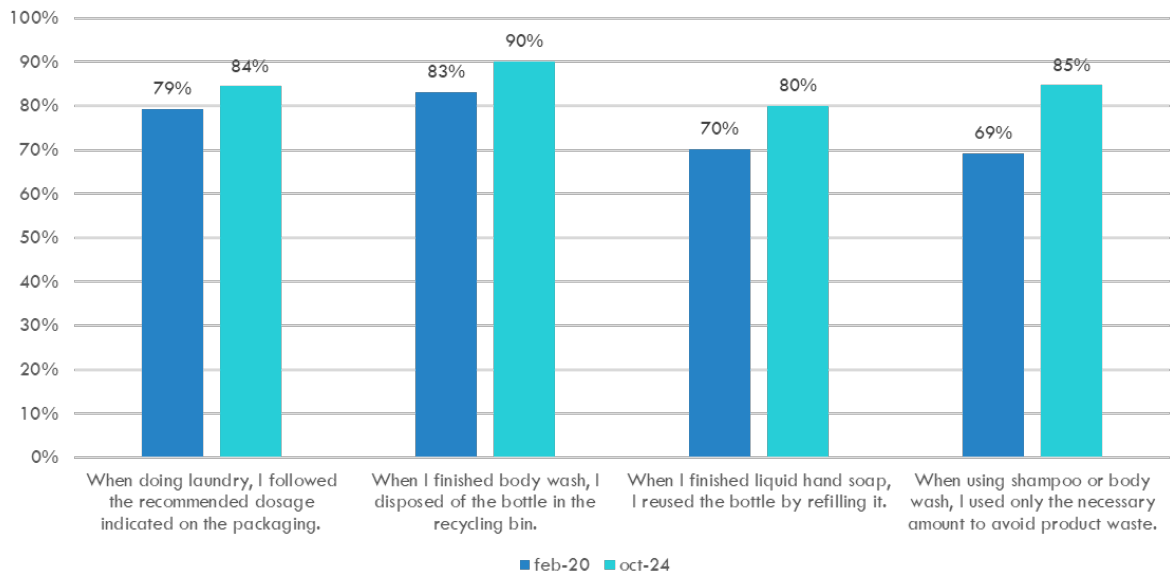


Figure 19: Post-Purchase Behavior – Non-Food Category (Variation in "Often" and "Always" Responses Compared to 2020)



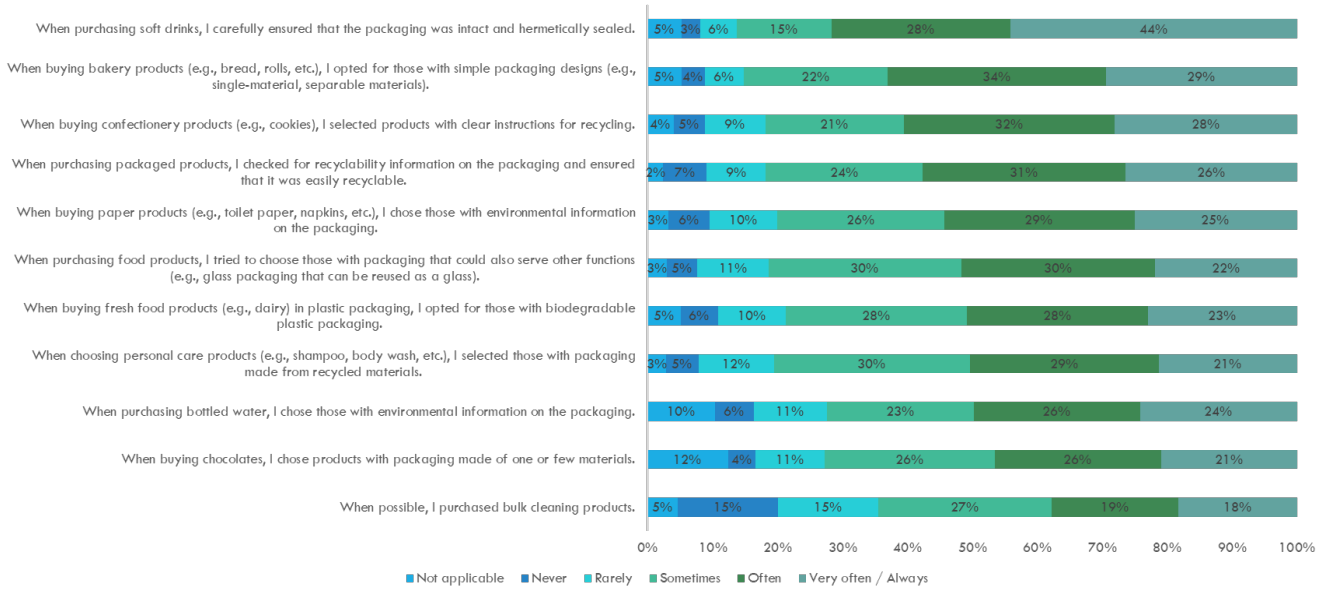
3.3 Focus on Packaging: Purchasing and consumption behavior

Purchasing behavior related to packaging

The questionnaire also explored how often consumers consider specific environmental characteristics of packaging - both informational and physical - in their purchasing decisions for

various products (Figure 20).

Figure 20: Purchasing Behavior Related to Packaging Characteristics (2024)



Regarding informational characteristics, **Italians pay close attention to information on the recyclability of packaging** (58% respond "Often" or "Always") **and indications for proper separate collection in recycling bins** (61% respond "Often" or "Always"). Observing the overall temporal trend (Figure 21) and the change in "Often" and "Always" responses from 2020 to today (Figure 22), **there has been a general increase in attention to environmental information on packaging.** In particular, consumers appreciate the presence of information related to proper packaging separate collection in recycling bins (an increase of +7% in "Often" or "Always" responses), information on the recyclability of packaging (+6%), and environmental information on the packaging (+6%).

Figure 21: Purchasing Behavior Related to Informational Characteristics of Packaging (Temporal Comparison)

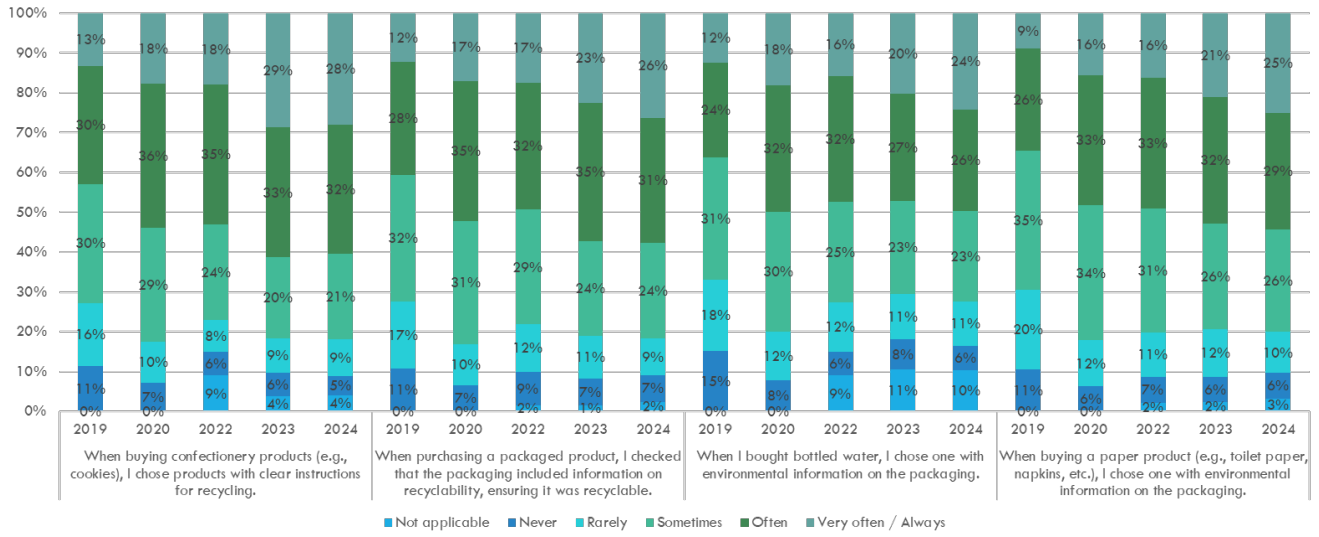
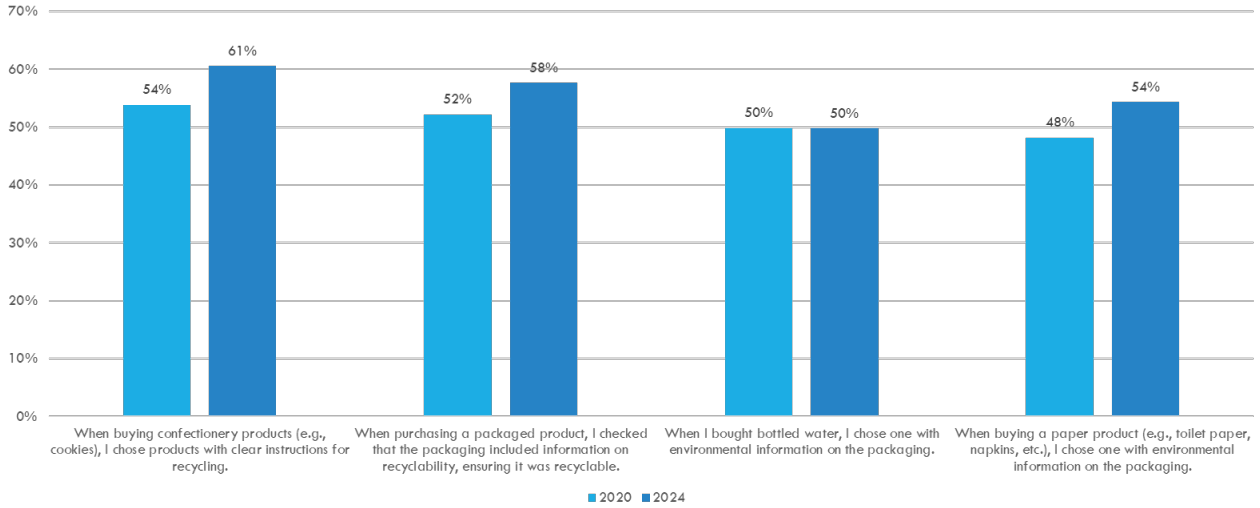


Figure 22: Purchasing Behavior Related to Informational Characteristics of Packaging (Variation in "Often" and "Always" Responses Compared to 2020)



Regarding the physical characteristics of packaging, 72% of consumers ("Often" and "Always" responses) pay **particular attention to choosing beverages with intact and hermetically sealed packaging**, while 63% often or always purchase bakery products with **single-material or simple-design packaging, which are easier to recycle.** Both behaviors have shown significant increases since 2020, by 21% and 7%, respectively (Figures 23 and 24). Additionally, the share of consumers who choose **personal care products with recycled packaging** has increased by 6%.

Figure 23: Purchasing Behavior Related to Physical Characteristics of Packaging (Temporal Comparison)

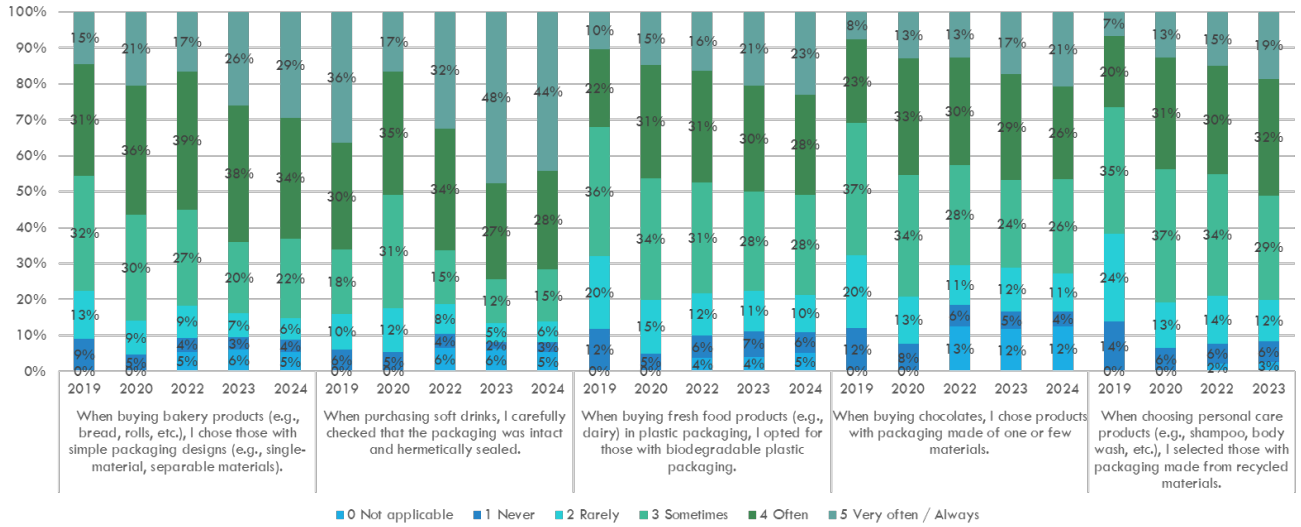
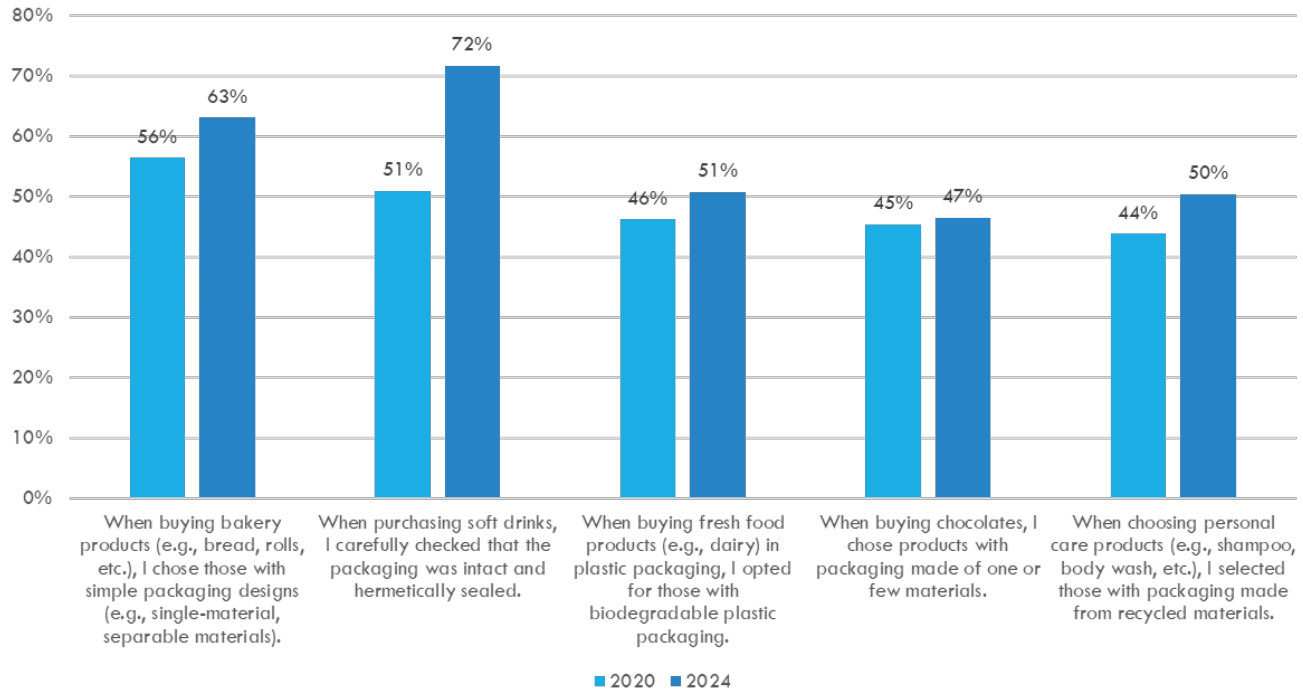


Figure 24: Purchasing Behavior Related to Physical Characteristics of Packaging (Variation in "Often" and "Always" Responses Compared to 2020)



52% of consumers frequently reuse food packaging ("Often" and "Always" responses), marking a 16% increase compared to 2020 and remaining stable compared to last year (Figures 25 and 26). The purchase of bulk cleaning products remains the least frequent behavior among consumers (38% adopt it "Often" or "Always"), a trend that could be attributed to the limited availability of such options in stores and supermarkets. However, the past year has seen a 3% increase, highlighting growing attention to this circular practice.

Figure 25: Purchasing Behavior Related to Packaging Reuse and Bulk Products (Temporal Comparison)

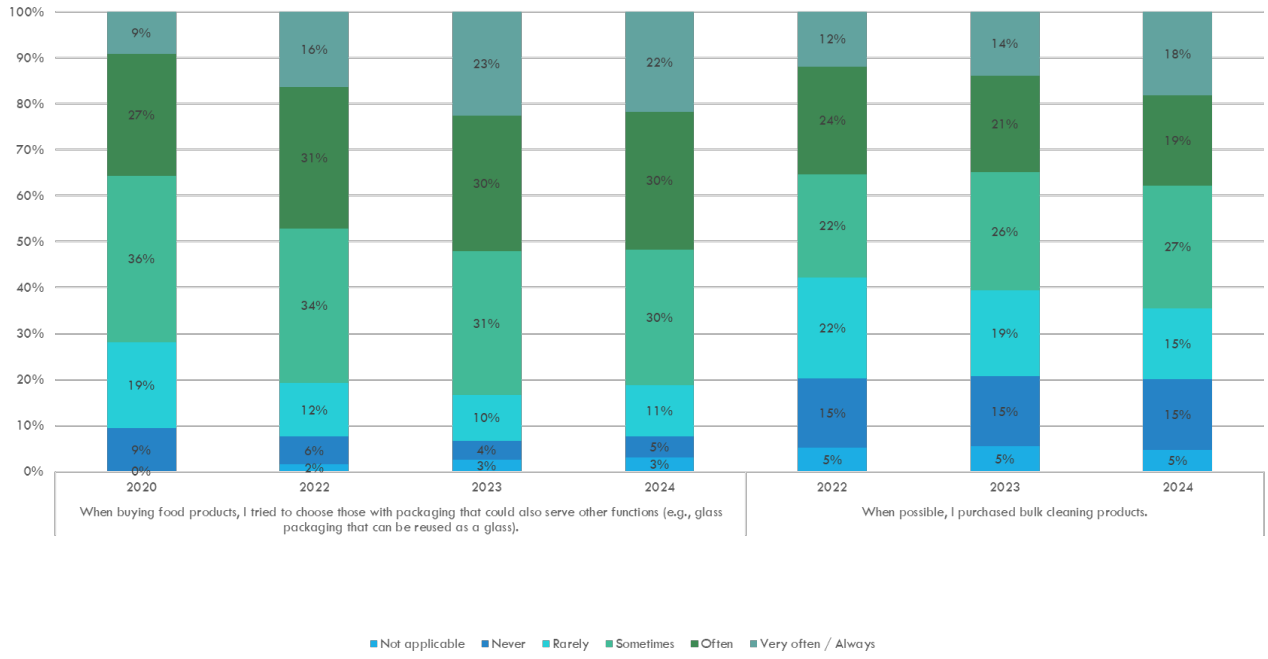
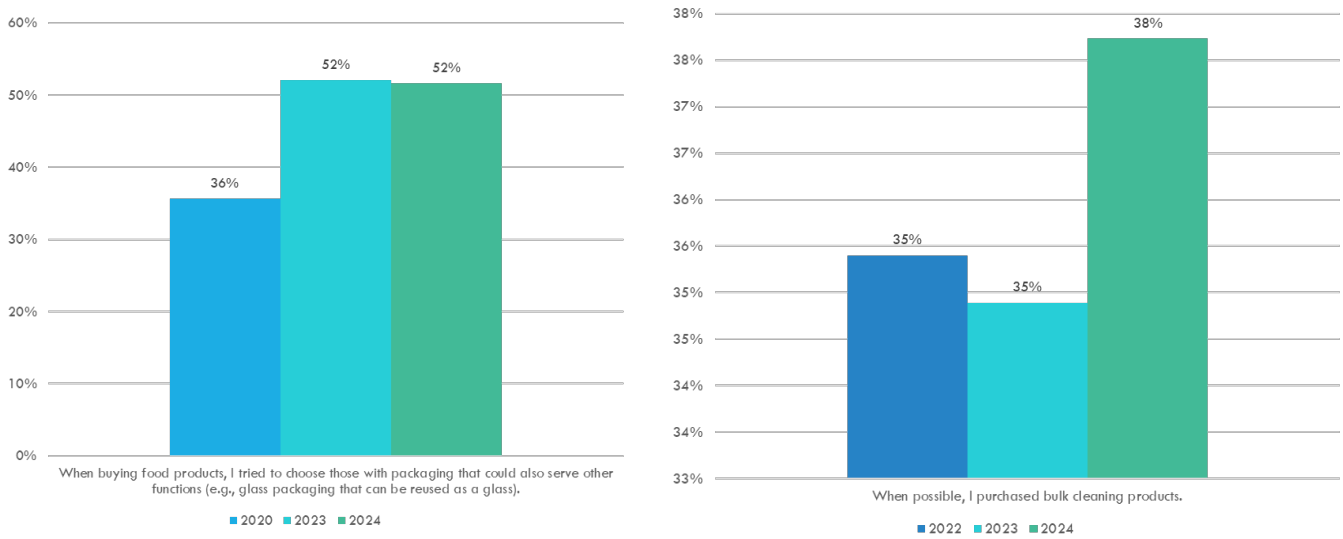


Figure 26: Purchasing Behavior Related to Packaging Reuse and Bulk Products (Variation in "Often" and "Always" Responses Compared to 2020 and 2023)



Overall, **the data show a growing inclination toward more sustainable purchasing behaviors over the past three years, particularly in terms of attention to packaging.** Consumers have become increasingly aware of the environmental impact of their purchases and have adopted behaviors that can mitigate this impact, such as choosing recyclable packaging, simple and reusable designs, and purchasing bulk products.

Functions of packaging

Considering the functions that product packaging can serve, respondents were asked to rank these functions from most to least important. Table 5 presents the summarized ranking for 2024, compared with the results from the previous surveys in 2020, 2022, and 2023.

The overall weighted ranking has remained unchanged across the four surveys. **Protection against pathogens and freshness preservation have consistently been ranked as the top priorities, emphasizing the fundamental importance of safety and food quality within the supply chain. Reducing the environmental impact of packaging and food waste are also considered among the most important functions** (ranked third and fourth). However, the percentage of respondents prioritizing the environmental function of packaging has fluctuated, rising from 14% in 2020 to 21% in 2022, then declining to 16% in 2023 and stabilizing at 17.3% in 2024. Notably, 29% of consumers ranked protection against pathogens such as viruses and bacteria as their top priority.

Table 5: Functions of Packaging in Order of Importance for the Consumer

Functions	Rank 2020	Rank 2022	Rank 2023	Rank 2024
Protect food from pathogens such as viruses and bacteria	1	1	1	1
Safeguard the freshness of food throughout the supply chain and in our homes	2	2	2	2
Reduce environmental impact using recycled materials	3	3	3	3
Prevent and reduce waste	4	4	4	4
Bring useful product information back to the consumer	5	5	5	5
Inform the consumer of any dangers they may face caused by incorrect use of the product	6	6	6	6
Transport the product throughout the supply chain to our homes	7	7	7	7
Make the product more aesthetically pleasing	8	8	8	8

Packaging End-of-life

The proposed EU regulation on packaging and packaging waste (amending Regulation 2019/1020/EU and Directive 2019/904/EU and repealing Directive 94/62/EC), approved in its first reading in November 2023, **requires takeaway food and beverage distributors to offer customers the option to use reusable containers.** In light of this new regulation, we explored potential consumer reactions to this initiative. Participants were asked to imagine ordering a takeaway or home-delivered meal and to rank five types of packaging from most to least preferred based on end-of-life management. The results are shown in Table 6, which also includes variations compared to last year. **The primary consumer preference leans toward compostability -** i.e., the possibility to dispose the packaging in the organic waste collection - which emerged as the most appreciated characteristic, chosen by 27% of consumers as the top option. **The second most popular type is recyclable paper packaging** (23%), followed **by packaging that can be reused for other domestic purposes** (19%), highlighting a growing appreciation for waste reduction. **The least preferred option among those proposed is the deposit-return system**, where packaging is returned to the restaurant upon the next delivery. This option was indicated as the least preferable by 39% of participants, suggesting that, despite its effectiveness in reducing waste, there may be resistance related to convenience or the practical feasibility of such a system. It is worth noting that the percentage of consumers selecting this option as the least preferable has decreased by 3% compared to last year.

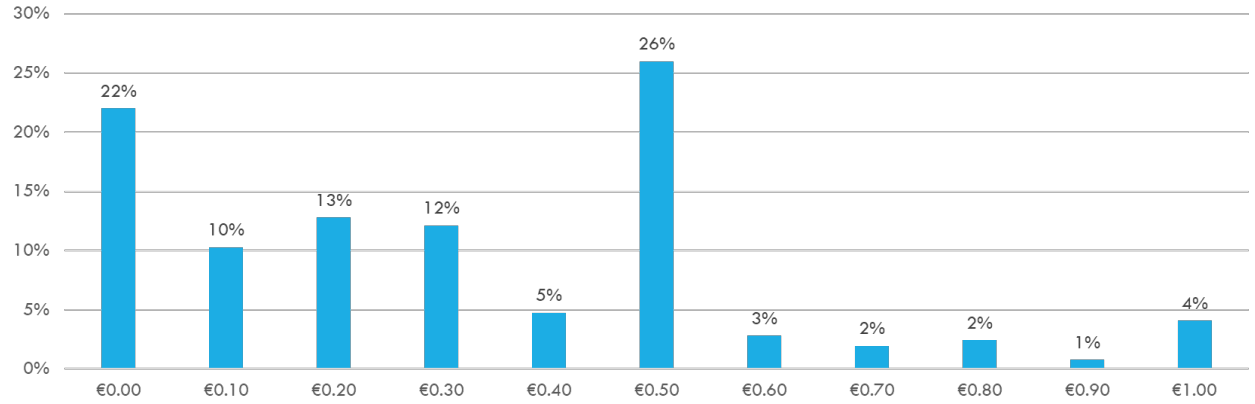
Table 6: Takeaway Food Packaging in Order of Consumer Preference

Functions	Rank 2023	Rank 2024
Compostable packaging that you may place in the wet waste collection	1	1
Recyclable paper package that you may place in the recycling collection	2	2
Durable material package that you may reuse for other purposes at home	3	3
Recyclable plastic package that you may place in the recycling collection	4	4
Durable material package that you may return to the restaurant at the next delivery	5	5

Willingness to Pay for Recycled Packaging

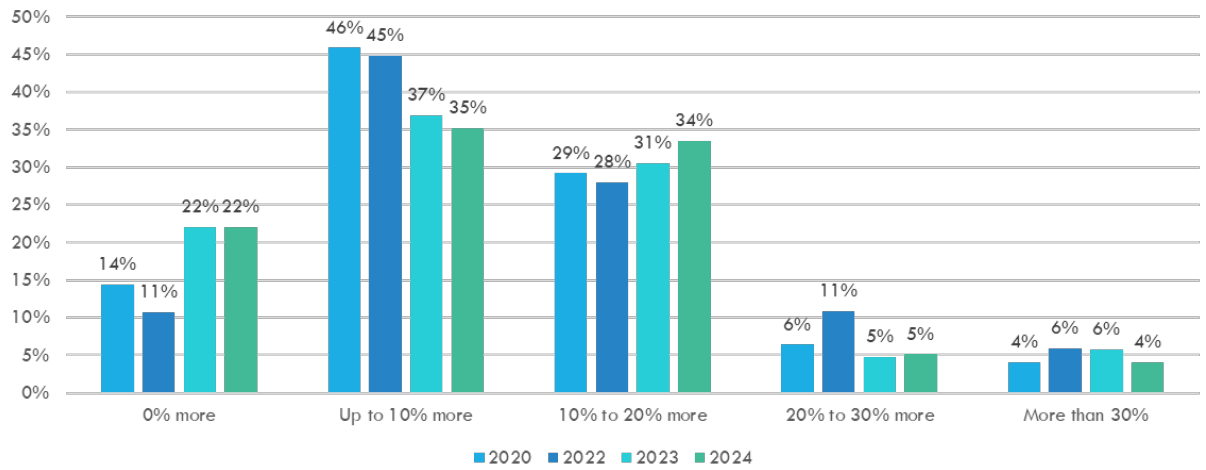
The willingness of consumers to pay a premium for everyday products, specifically household detergents, packaged in recycled material packaging was assessed. It was assumed that the product value was three euros, and the willingness to pay up to 33% more (ranging from €0 to €1) was evaluated.

Figure 27: Willingness to Pay for Recycled Packaging



The results in Figure 27 show that a significant portion (22%) of consumers are not willing to pay any premium for recycled packaging, indicating resistance to additional costs for sustainability or perhaps a lack of perceived added value in such practices. However, there is a notable market segment (26%) willing to pay a significant premium of €0.50. The data further reveal that willingness to pay decreases as the premium increases, with only 4% of consumers willing to pay an extra €1.00. This suggests that while there is interest in products and packaging with reduced environmental impact and circular characteristics, there is a limit to the additional cost consumers are willing to bear for these features. Overall, it is encouraging that 78% of consumers are willing to pay at least something extra, thereby recognizing the value of recycled packaging.

Figure 28: Temporal Comparison of Willingness to Pay



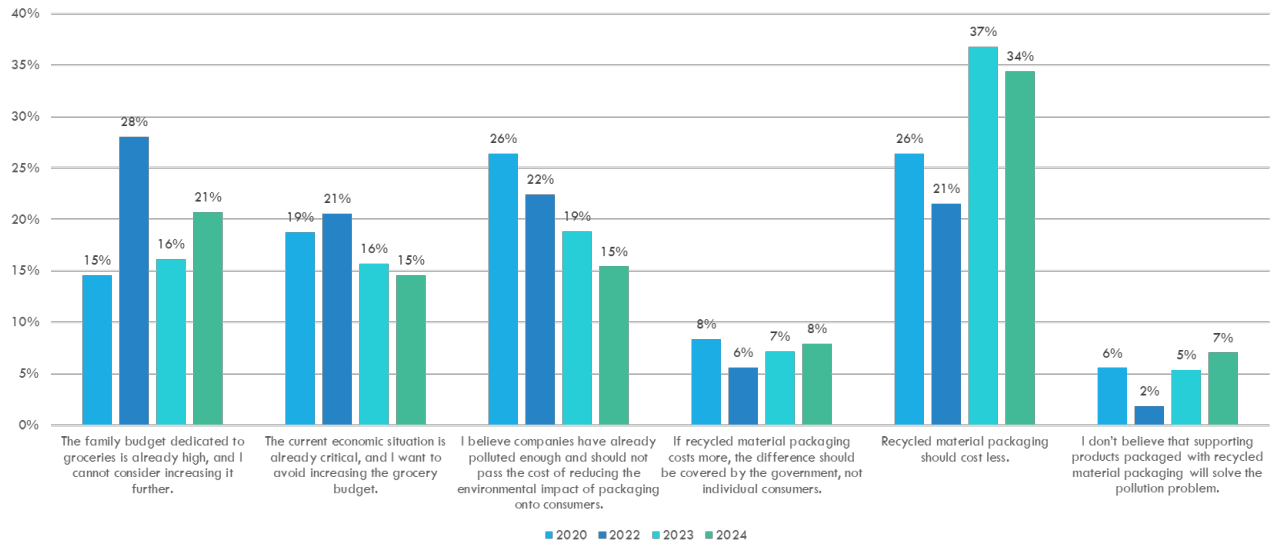
Temporal comparisons (Figure 28) reveal that between 2022 and 2024, the number of respondents

willing to pay extra for products packaged in recycled materials has decreased. In 2024, approximately 1 in 5 consumers (22%) are unwilling to pay any premium (compared to 1 in 10, or 11%, in 2022). 35% of consumers are willing to pay up to a 10% premium (down from 45% in 2022), while 34% are willing to pay up to a 20% premium, a slight increase from 28% in 2020. Among the reasons for unwillingness to pay, the most cited is that "recycled packaging should cost less," followed by concerns about household budgets.

This trend can be interpreted in light of the inflationary pressures that have reduced consumers' purchasing power in recent years or as a result of a "commoditization" process, wherein a feature that was initially innovative and distinctive becomes standard or increasingly common in the market, leading to an expectation of lower prices. Indeed, the perception that "recycled packaging should cost less" and budgetary constraints were the most frequently cited reasons for unwillingness to pay.

For higher premiums, willingness to pay remains lower and less volatile over time, suggesting that, despite interest in sustainability, there is a clear limit to the additional expense consumers are willing to bear.

Figure 29: Reasons for Unwillingness to Pay

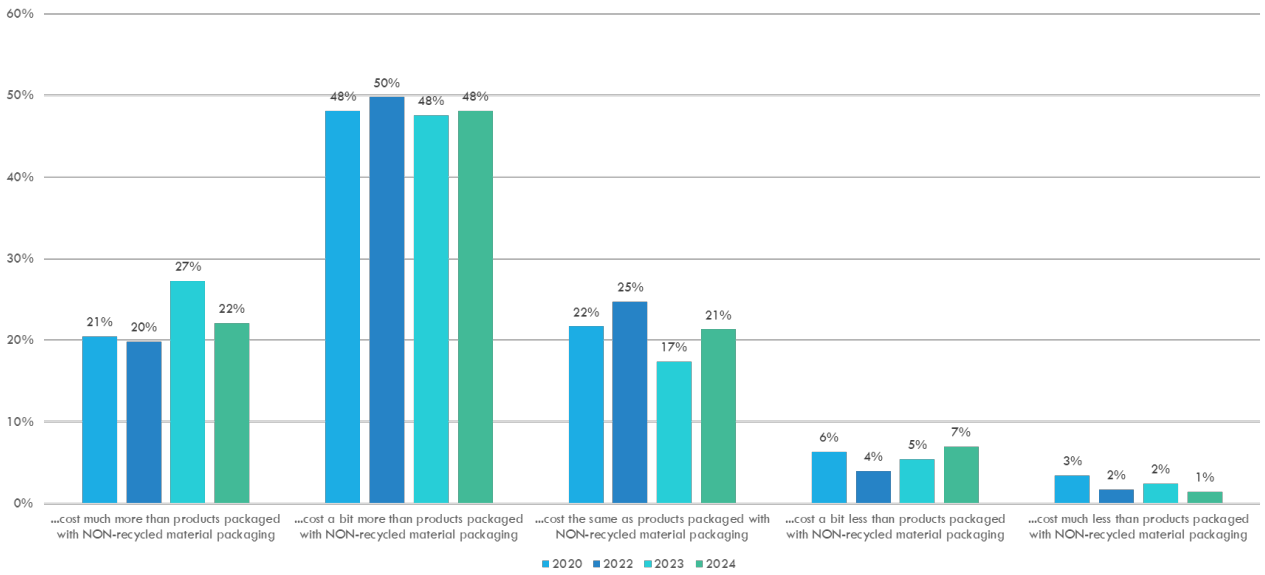


As shown in Figure 29, between 2020 and 2024, the percentage of consumers—among those indicating their unwillingness to pay—who believe that recycled material packaging should cost less has increased significantly, from 26% in 2020 to 37% in 2023, stabilizing at 34% in 2024. The percentage of consumers who consider their household budget already too high to accommodate additional spending increases grew significantly from 15% in 2020 to 28% in 2022, then slightly decreased to 21% in 2024. This suggests a shift in perceptions of spending capacity, influenced by external or internal economic factors.

Conversely, there has been a downward trend in the belief that companies have already polluted enough and should not pass the cost of reducing packaging's environmental impact onto consumers, dropping from 26% in 2020 to 15% in 2024. This may reflect a shift in attitudes toward corporate responsibility or environmental awareness. The study also investigated how consumers perceive the price of products with recycled packaging compared to those with non-recycled packaging, offering insights into the evolution of this perception from 2020 to 2024. These findings provide valuable indications of market trends and the effectiveness of policies aimed at promoting more sustainable packaging practices.

Analyzing the temporal trends shown in Figure 30, the majority of consumers perceive that products with recycled packaging cost "a bit more" than those with non-recycled packaging, with percentages remaining relatively stable over time (48% in both 2020 and 2024). This dominant perception suggests that, despite the rise in sustainability practices, the additional cost remains a significant factor for consumers. Approximately a quarter of consumers believe that products with recycled packaging cost "the same" as those with non-recycled packaging, peaking at 25% in 2022 before declining to 21% in 2024. This may indicate a slow acceptance of the idea that the costs of recycled materials can align with traditional ones, due to optimized production processes and the increased availability of recycled materials.

Figure 30: Perceived Value of Recycled Packaging

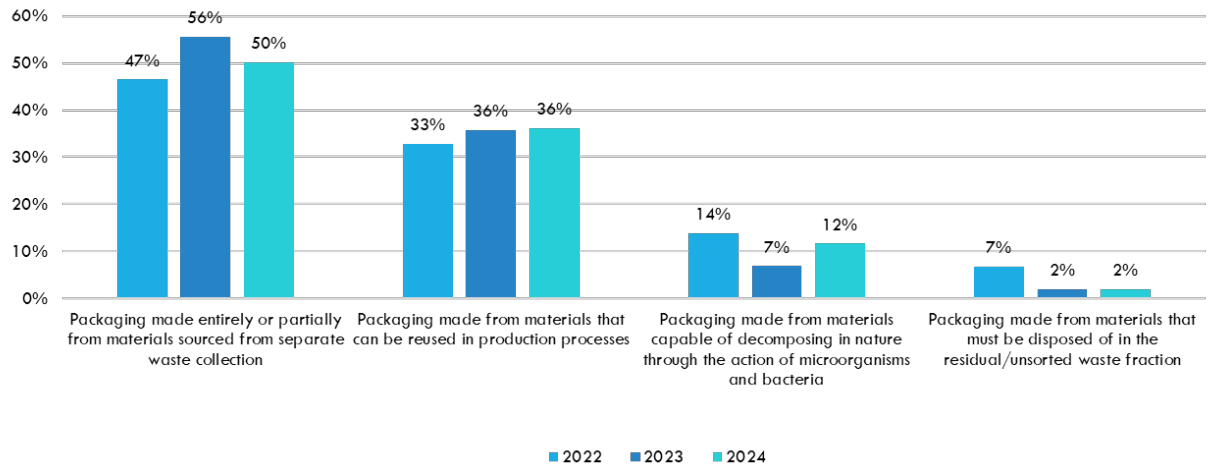


A smaller number of consumers perceive that products with recycled packaging are "much more expensive" (ranging from 21% to 27%) or "a bit less" expensive (varying between 4% and 7%). Only a small fraction (1% to 3%) believes these products cost "much less," highlighting widespread skepticism about achieving significant economic savings using recycled materials.

Knowledge of terms "Recycled" and "Recyclable"

An assessment was conducted to measure consumer understanding of the correct meaning of "packaging made with recycled materials." The exact definition of "Recycled" is specified as "Packaging made, entirely or partially, with materials sourced from separate waste collection.

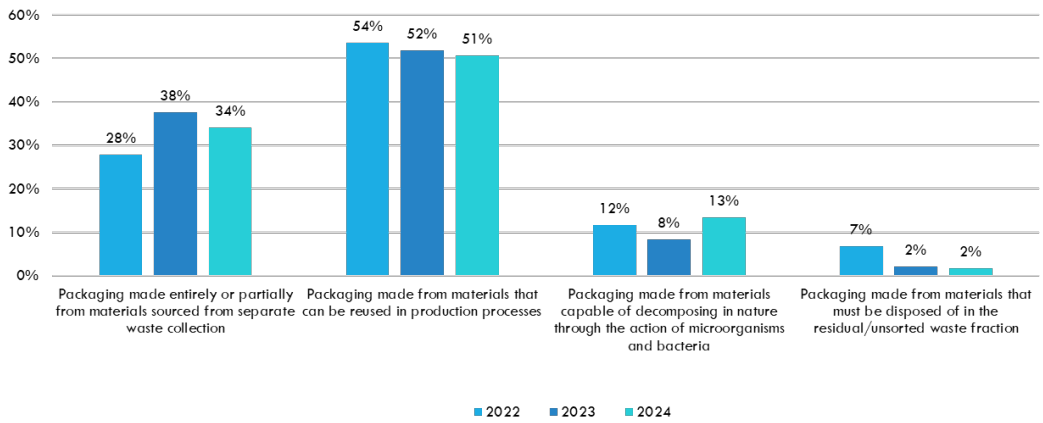
Figure 31: Knowledge of term "Recycled"



The percentage of respondents who correctly identify the term "Recycled" as materials sourced from separate waste collection has increased from 47% in 2022 to 56% in 2023, followed by a slight decrease to 50% in 2024, as shown in Figure 31. A significant proportion of consumers mistakenly associate the term "Recycled" with materials that can be reused in production processes, with 33% in 2022 and 36% in the subsequent two years. A minority believes that "Recycled" implies the biodegradability of the material, with 14% in 2022, decreasing to 7% in 2023, and rising again to 12% in 2024.

Subsequently, an assessment was conducted to assess consumer understanding of the meaning of "recyclable packaging." The exact definition of "Recyclable" is specified as "Packaging made with materials that can be reused in production processes."

Figure 32: Knowledge of term "Recyclable"



As shown in Figure 32, more than half of the sample correctly identifies this definition, with a stable percentage (54% in 2022, 52% in 2023, and 51% in 2024). A significant minority of consumers confuses "Recyclable" with materials "sourced from separate waste collection," with percentages rising from 28% in 2022 to 38% in 2023 and then decreasing to 34% in 2024.

A small number of respondents believe that "Recyclable" means materials must be disposed of in the residual or unsorted waste fraction (7% in 2022, reduced to 2% in the following two years). These findings indicate that about 1 of 2 consumers has a correct understanding of the definition of "Recyclable" and highlight areas of confusion that require further clarification, particularly in terms of distinguishing between recyclable, recycled, and biodegradable materials.

Knowledge of the environmental impact of Pack

Every product, along with its packaging, generates environmental impacts. One such impact is climate change, referring to the CO2-equivalent emissions produced and released into the atmosphere throughout the entire life cycle of the product and its packaging: from raw material extraction/production, manufacturing, packaging production, distribution, use, to end-of-life processes such as recycling, recovery, or disposal of the product and/or its packaging. As part of the survey, we assessed the "Knowledge about the Environmental Impact of Packaging," exploring how consumers perceive the environmental impact of packaging relative to the total impact of the product over its entire life cycle. Focusing on commonly used products such as detergents, canned foods, and yogurt, we examined consumers' ability to correctly identify the extent to which packaging contributes to the overall environmental impact of the product in terms of climate change.

In Figure 33(a), the height of the green diamonds represents the percentage of climate change impact attributable to packaging (100% represents the total impact of the product, including packaging). This data is derived from life cycle assessment studies conducted on various product types (including their packaging) available in the literature. The black squares, on the other hand, indicate the average percentage of environmental impact that consumers perceive to be caused by the packaging. As shown, in some cases, consumers overestimate the impact of packaging (e.g., plastic detergent bottles, aluminum canned meat, yogurt in paper containers, and hand cream in plastic tubes), while in other cases, they underestimate it (e.g., chickpeas in tin cans and beans in glass jars).

Figure 33(a): Knowledge of environmental impact of Pack.

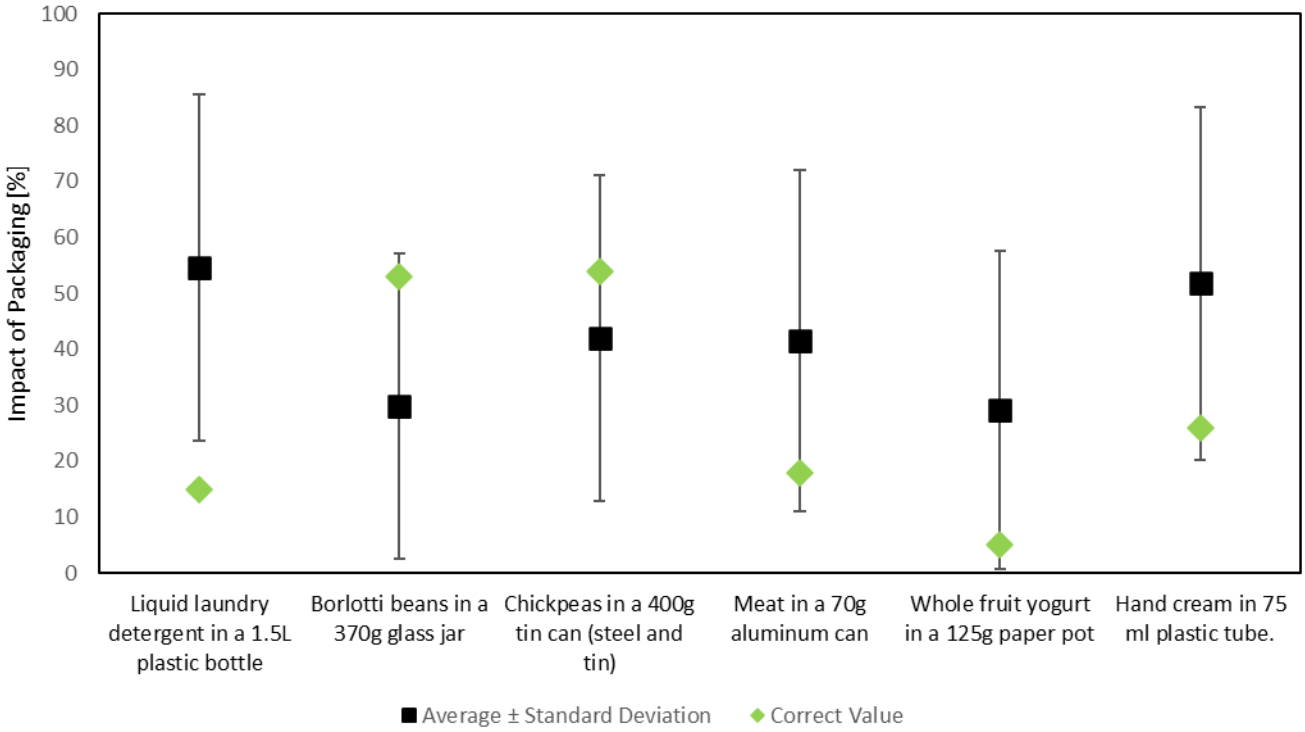
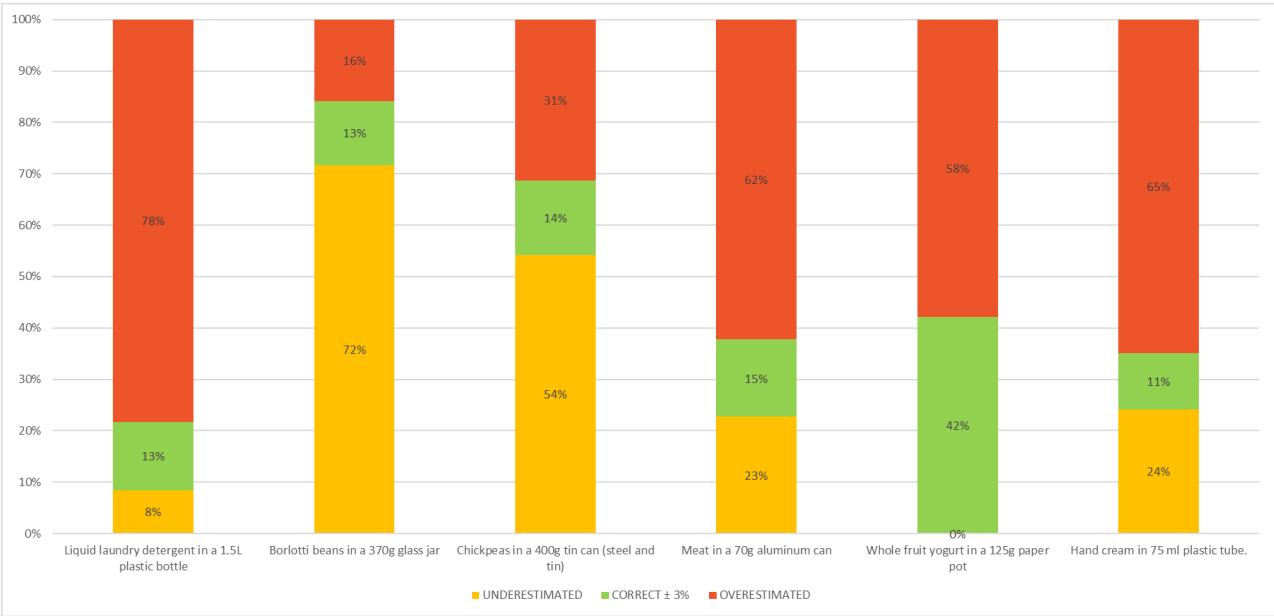


Figure 33(b): Knowledge of environmental impact of the Pack



Only 11% of consumers correctly estimate the impact of packaging on the total environmental impact of the product within a 3% margin of error. For the surveyed products, the majority of respondents (78%) overestimated the environmental impact of plastic packaging, while only 13% had an accurate perception, and 8% underestimated the impact (Figure 33(b)).

For beans in glass jars, 72% of respondents underestimated the impact of the packaging, likely reflecting a perception of glass as a less harmful material for the environment. Only 13% provided an accurate estimate, while 16% overestimated the impact. A significant percentage (54%) underestimated the environmental impact of tin can packaging, 14% provided an accurate assessment, and 31% overestimated it.

For meat in aluminum cans, 62% overestimated the environmental impact of aluminum packaging, possibly reflecting heightened concern about metals compared to other materials or a lack of awareness about the high climate impact of meat itself. This naturally reduces the relative percentage impact of its packaging. Only 15% had an accurate perception, while 23% underestimated it.

A similar pattern is observed for yogurt in paper containers: 58% overestimated its impact. This could also be attributed to a lack of awareness of the environmental impact of yogurt itself, which proportionally diminishes the packaging's percentage impact.

The results suggest a general tendency to overestimate the environmental impact of packaging, especially for materials like plastic and aluminum, while underestimating it for materials like glass and tin. These perceptions may be influenced by various factors, including media visibility of certain materials and informational campaigns about recyclability and sustainability.

Awareness of the environmental impact of the product itself also plays a significant role: for identical packaging, the more climate-impactful a product is (e.g., meat or yogurt), the less significant the packaging's percentage contribution becomes. Conversely, for low-emission products (e.g., beans or chickpeas), the relative percentage impact of packaging becomes more prominent. In the absence of such awareness, packaging impact tends to be overestimated in the first case and underestimated in the second.

3.4 Knowledge and influence of green claims

Knowledge of carbon claims

The growing focus on the climate crisis and the pressures from regulators and corporate stakeholders have led companies to widely adopt carbon claims related to carbon performance at the micro, meso, and macro levels (product, processes, or the entire company). After measuring the frequency of purchasing products with carbon claims (see section 3.2), the survey investigated whether consumers understand the meaning of such claims. This assessment was conducted using a quiz with three possible answers (True/False/I don't know) to evaluate comprehension of claims regarding actions for reducing and offsetting emissions (insetting and offsetting).

The results show that, on average, **fewer than 47% of consumers understand the meaning of**

carbon claims related to various decarbonization pathways, while approximately **37%, on average, admit they do not understand their meaning (Figure 34). The most critical scenario concerns climate neutrality certifications such as "carbon neutral," understood by only 23% of respondents.** Meanwhile, 39% mistakenly believe such claims signify products whose production generated no emissions, making them potential victims of greenwashing. Overall, knowledge of ecolabels and carbon claims is slightly correlated with younger age (β=-0.068; p=0.05).

Additionally, **the results indicate that while general understanding of carbon claims improved from 2023 to 2024** (average increase of +3%), there is still significant confusion among consumers, particularly regarding climate neutrality certifications and insetting practices (Figure 35). For instance, in 2023, 62% of respondents correctly understood that "reducing CO2 emissions" and "offsetting CO2 emissions" do not mean the same thing, an improvement from 56% in 2022 and stable compared to 2023 (+1%). Similarly, the percentage of respondents with an accurate understanding of the term "decarbonization" remained stable, with correct responses decreasing slightly from 56% to 55%. Finally, most consumers (61%) correctly understand that offsetting CO2 emissions through carbon offsetting means balancing the amount of CO2 generated by an activity with initiatives capable of absorbing it.

Figure 34: Knowledge of carbon claims

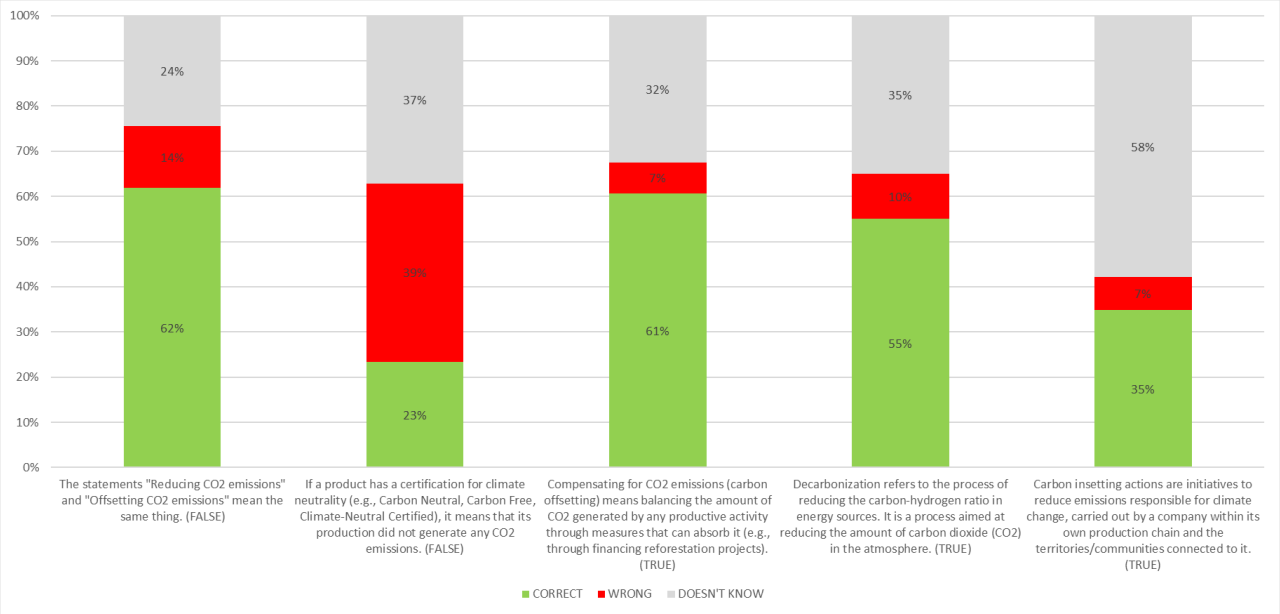
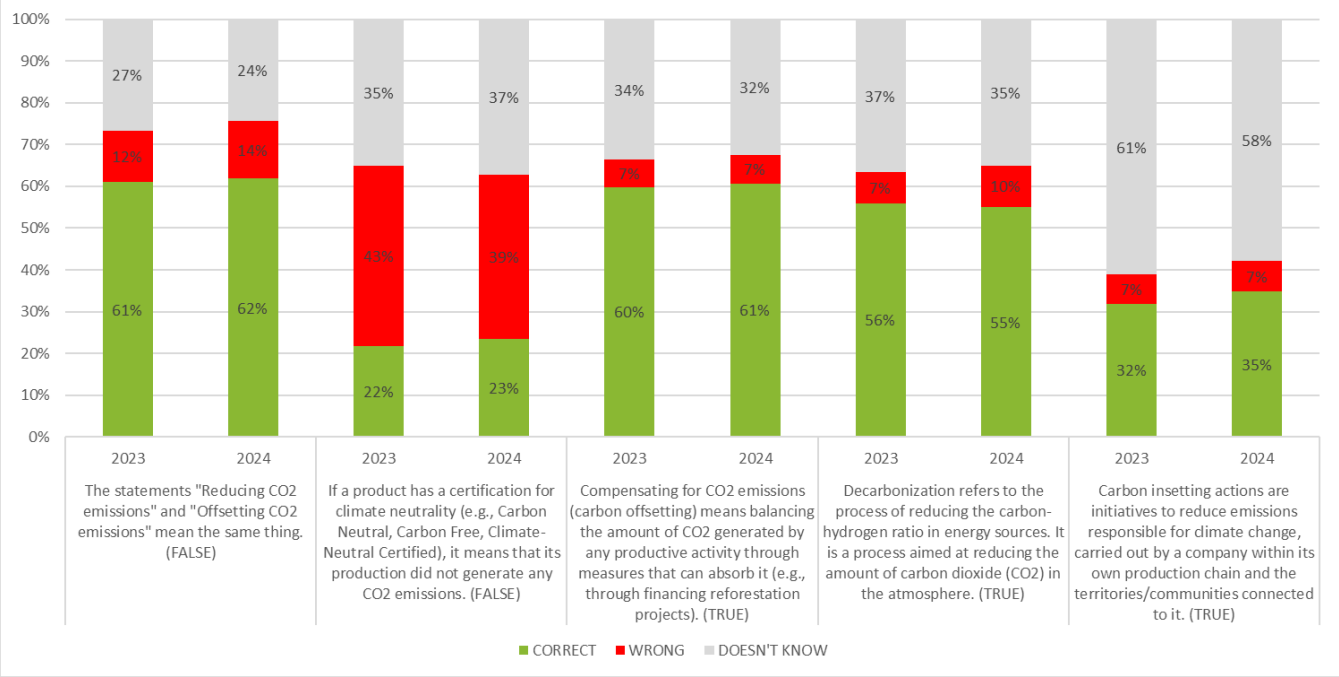


Figure 35: Knowledge of carbon claims (time comparison)

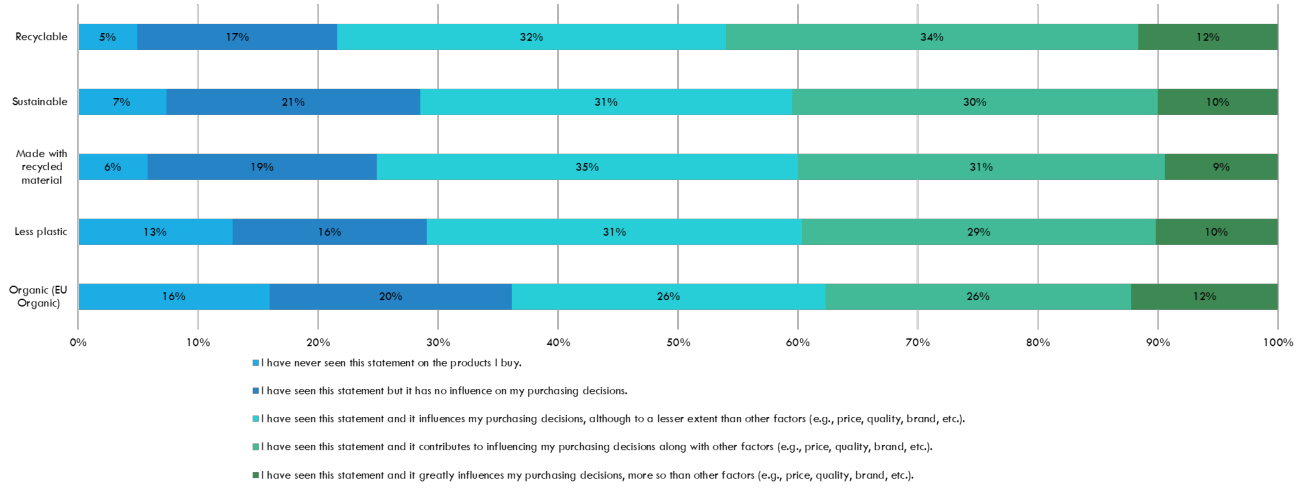


Influence of green claims

The influence of environmental green claims on consumers' self-reported purchasing behavior was investigated. For the analysis, five of the most common green claims were selected: "Recyclable," "Less Plastic," "Sustainable," "Made with Recycled Material," and "Organic (EU Organic)." Figure 36 presents the results of the influence of these claims on purchasing behavior. Specifically, consumers indicated the extent to which these claims influence their purchasing decisions, considering other factors such as price, quality, and brand.

The claim that most influences purchasing behavior is "Recyclable", with 46% of consumers stating they are influenced or strongly influenced by this claim. **This is followed by "Sustainable" (40%), "Made with Recycled Material" (40%), and "Less Plastic" (39%).** At the bottom, though with similar importance, is "Organic/Organic" (38%). The analysis **reveals that environmental claims play a non-negligible role in consumers' purchasing decisions**, though this influence is often balanced by other factors such as price, quality, and brand. Nevertheless, for all the claims examined, the majority of consumers acknowledged their influence, at least to some extent, on their purchasing behavior. Women appear to be slightly more influenced by such claims ($\beta = +0.125$; $p<0.05$). One concern is the influence of vague and unverifiable claims such as "Sustainable", demonstrating the risk that consumers may be drawn to exaggerated claims, potentially falling victim to greenwashing.

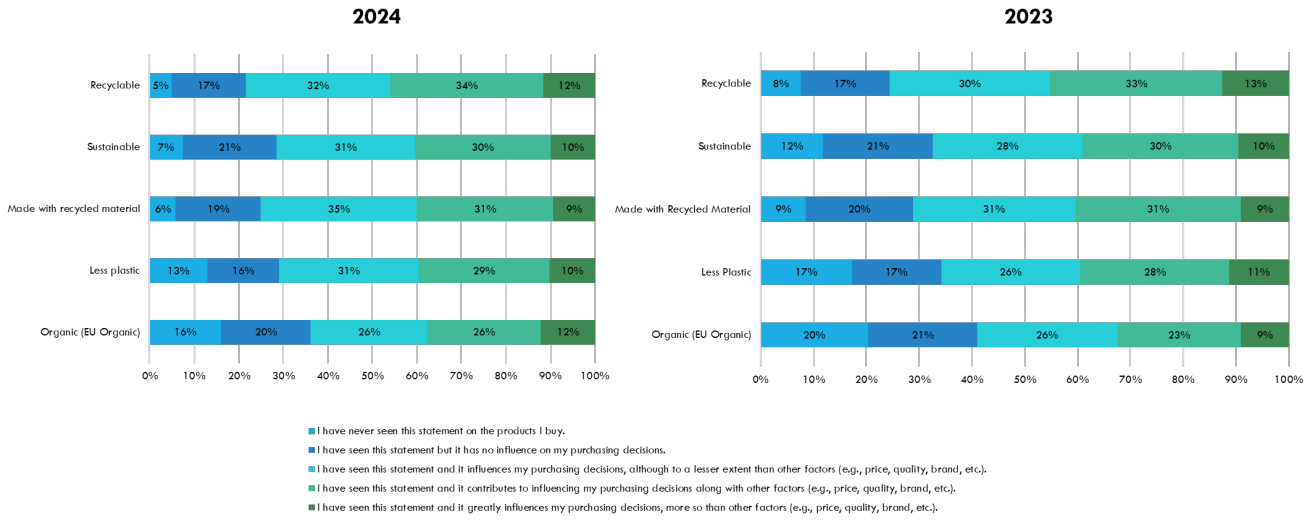
Figure 36a: Influence of green claims



Although there are minimal variations in absolute terms, the relevance of the various claims remains stable compared to the previous year. As shown in Figure 36b, the claim with the highest importance, “Recyclable,” shows no change from the previous year in its strong influence on purchasing decisions. Similarly, the claims “Sustainable,” “Made with Recycled Material,” and “Less Plastic” also show no variation in the extent of their influence on purchasing decisions.

The claim “Organic,” while still ranked lowest in terms of relevance, has gained a +7% increase in responses indicating a higher influence, confirming a growing consumer interest in green products.

Figure 36b: Influence of green claims - time comparison 2023 vs. 2024



Perception of misleadingness of claims

The survey explored the level of perception of greenwashing in product claims related to environmental sustainability. The analysis focuses on how consumers interpret companies'

communications regarding the environmental impact of their products or services.

Specifically, the study evaluated consumers' perception of the misleading nature of claims that violate the new prohibitions introduced by Directive 2024/825/EU[2]. Consumers were asked to assess the accuracy of various communication practices, such as claims of product carbon neutrality, exaggerated environmental benefits related to recycled material content or recyclability, and generic claims identifying products as "sustainable" or "eco" without supporting evidence. Table 7 lists the types of claims tested, inspired by the new prohibitions introduced by Directive 2024/825/EU. The second column provides details on the communication practices presented to respondents for their assessment of potential misleading qualities. Figure 37 presents the results of the evaluation, highlighting consumer perceptions of the misleading nature of these claims.

Table 7: Communication practices evaluated by respondents

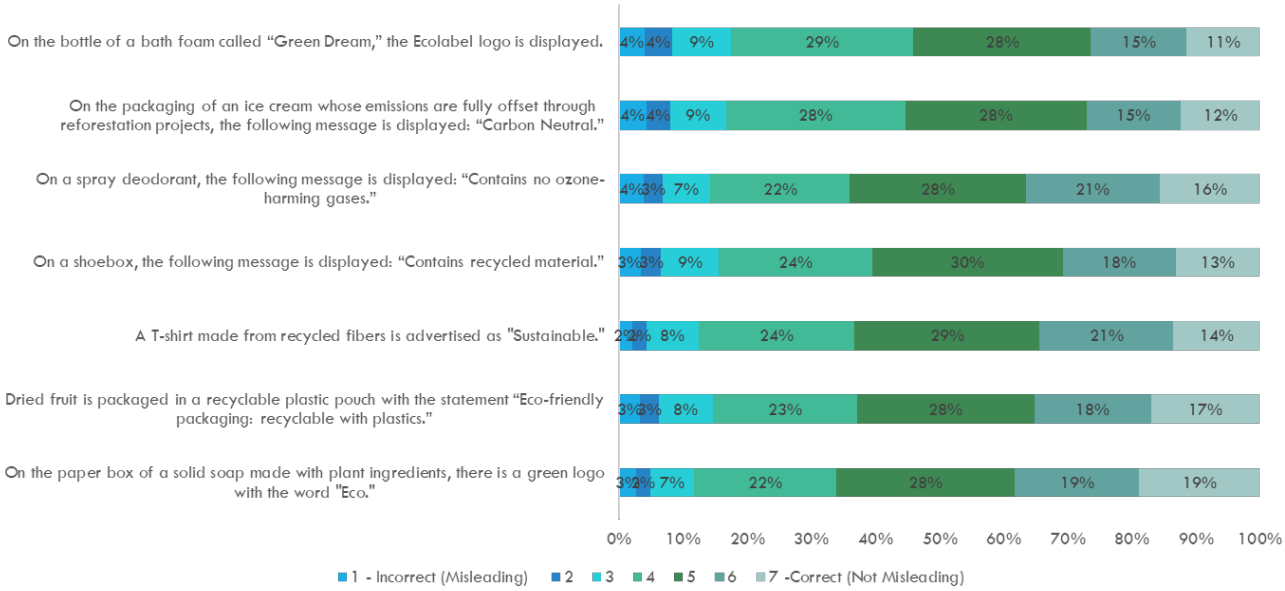
Types of Green Claims	**Environmental product communication practices submitted for respondents' evaluation**
Sustainability label not based on a certification system (prohibited)	On the cardboard box of a solid soap made with plant-based ingredients, there is a green logo with the label "**Eco.**" 
Generic claim without certification of excellence (prohibited)	Dried fruit is packaged in a recyclable plastic bag labeled "**Eco-friendly packaging: recyclable in plastic**."
Generic claim without certification of excellence (prohibited)	A T-shirt made with recycled fiber is advertised as "**Sustainable.**"
Claim that does not clearly specify the subject (prohibited)	The box of a pair of shoes features the message "**Contains recycled material.**"
Claim about features already imposed by law (prohibited)	A spray deodorant displays the message "**No ozone-depleting gases**."
Product carbon neutrality claim based on offsetting (prohibited)	The packaging of an ice cream, whose emissions are fully offset through reforestation projects, displays the message "**Carbon Neutral.**"

[2] The new prohibitions introduced by Directive 2024/825/EU in Annex I of Directive 2005/29/EC are as follows:

- Displaying a sustainability label that is not based on a certification system or not established by public authorities.
- Making a generic environmental claim for which the economic operator cannot demonstrate the recognized excellence of the relevant environmental performance.
- Making an environmental claim concerning the entire product or the entire activity of the economic operator when it pertains only to a specific aspect of the product or a particular element of the operator's activity.
- Claiming, based on greenhouse gas emission offsetting, that a product has a neutral, reduced, or positive impact on the environment in terms of greenhouse gas emissions.
- Presenting requirements mandated by law for all products in a given category in the Union market as if they were a distinctive feature of the economic operator's offering.

Generic claim with certification of excellence (allowed)	The bottle of a bath foam called "Green Dream" features the Ecolabel certification.

Figure 37: Perception of misleading environmental product communication practices



Regarding the results presented in Figure 37, the majority of consumers do not perceive the misleading nature of claims that violate the prohibitions introduced by Directive 2024/825/EU. **The only correct claim—a generic claim "Green Dream" supported by the Ecolabel, and therefore legitimate—is perceived as misleading by 15% of respondents**, while 29% are unsure whether it is misleading, and 54% consider it correct**. On average, 61% of consumers have an incorrect perception of the misleading nature of claims, while 24% are unable to evaluate whether a claim is misleading.** Only 15% of respondents, on average, correctly identify whether the various claims are misleading or not.

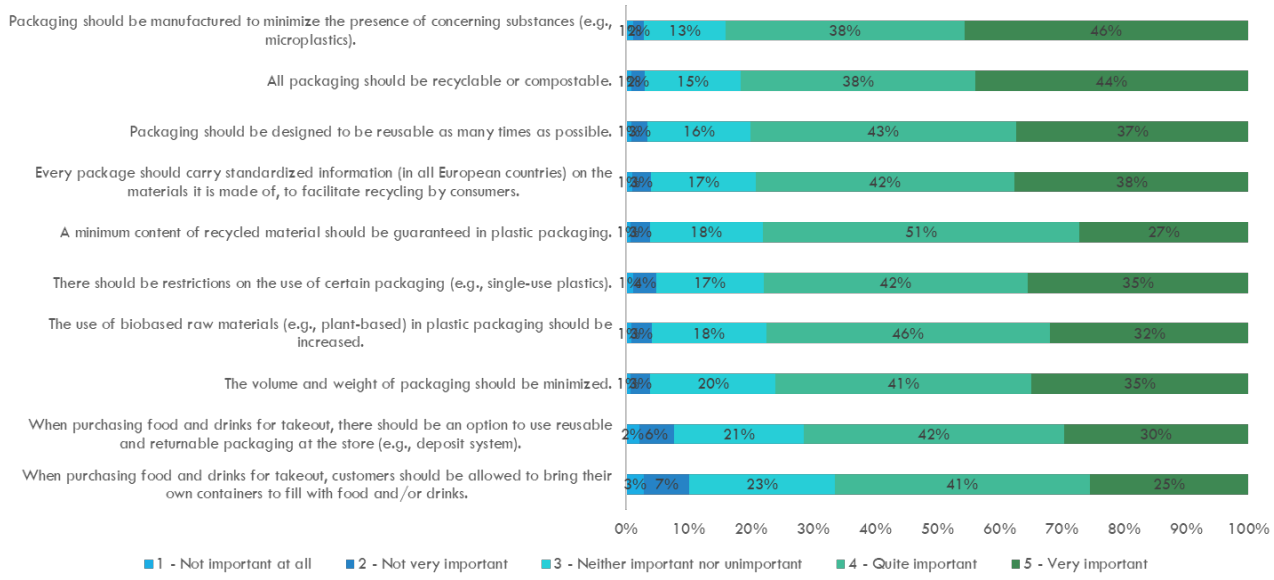
These findings highlight the challenge of educating consumers about environmental claims and the need to strengthen policies and communications that help consumers better understand the true meaning of different environmental assertions and when a claim can be considered compliant or misleading.

Perception of the environmental value of packaging-related measures

In response to growing environmental concerns and the need for more sustainable consumption practices, Europe is considering the introduction of uniform measures to reduce the environmental impact of packaging. This survey aims to capture consumer perceptions of the importance of various

potential initiatives that could influence the production, use, and disposal of packaging.

Figure 38: Perception of the environmental value of packaging-related measures

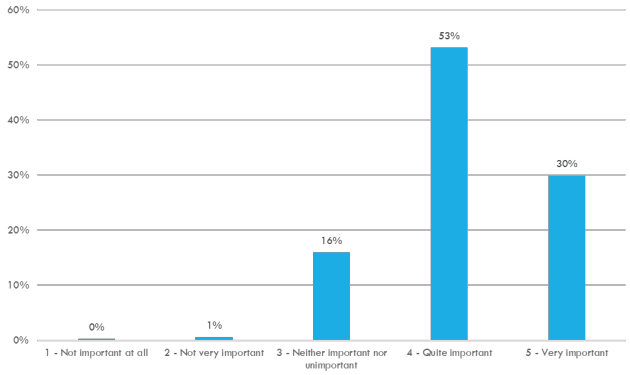


A strong majority of respondents support the standardization of packaging information to facilitate recycling (80%) and believe that all packaging should be recyclable or compostable (82%). Additionally, 84% of respondents consider it important or very important that packaging be manufactured to minimize the presence of harmful substances, such as microplastics.

Most respondents also find it somewhat or very important to allow consumers to bring their own containers when purchasing takeaway food and beverages (66%) and to use reusable and returnable packaging (72%). This reflects a growing interest in solutions that reduce the use of new resources and waste.

Approximately 76% of participants consider it important or very important to minimize the volume and weight of packaging, highlighting the demand for solutions that limit resource use. Measures that encourage the use of bio-based raw materials (e.g., plant-based) and restrictions on single-use plastic packaging were positively evaluated, with about 78% of respondents deeming them important. Furthermore, 78% believe that a minimum recycled content in plastic packaging should be ensured.

Figure 39: Perception of measures environmental importance (Aggregate distribution of responses)



Overall, the perception of the environmental value of potential packaging measures is very high, with 83% of consumers considering them, on average, somewhat or very important. 16% of consumers are indifferent to environmental measures concerning packaging, while only 1% of the sample considers them unimportant. These results highlight strong awareness and a willingness to support initiatives aimed at reducing the environmental impact of packaging.

Greenwashing belief

As part of the assessment of greenwashing perceptions, participants were asked to express their level of agreement with various statements describing how companies communicate sustainability to consumers. The objective was to explore consumers' perceptions of the authenticity and truthfulness of environmental claims made by companies. Specifically, the questionnaire investigated perceptions of greenwashing, focusing on how companies might mislead consumers through the use of ambiguous terminology and imagery, providing unverifiable or vague environmental information, and lacking transparency in presenting the ecological characteristics of their products.

The results (Figure 40) reveal a widespread perception of greenwashing in corporate communication practices, with a significant percentage of consumers expressing skepticism about the authenticity of environmental claims. For instance, about 72% of participants believe that most companies use misleading language to describe the environmental characteristics of their products, while a similar percentage (70%) perceive the use of deceptive images or graphics. Additionally, 74% of respondents believe that the environmental information provided is vague or unverifiable. In contrast, only a minority of consumers (between 16% and 19%) think that companies communicate the environmental characteristics of their products transparently and accurately, without exaggerations or omissions. These results indicate a high level of consumer skepticism regarding the integrity of corporate environmental communications, underscoring the need for companies to adopt more transparent, credible, and verifiable approaches.

Figure 40: Greenwashing belief

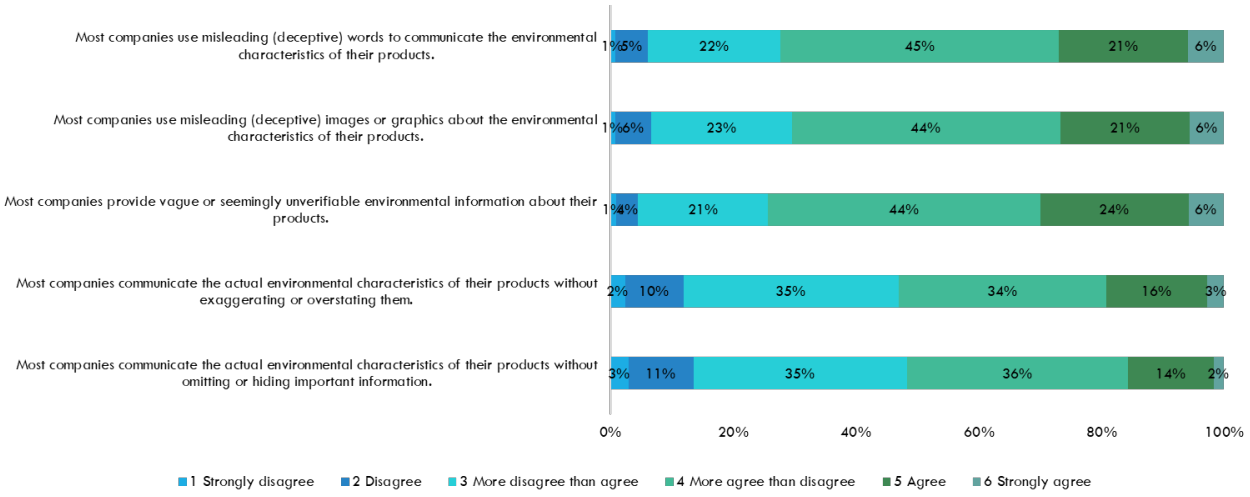
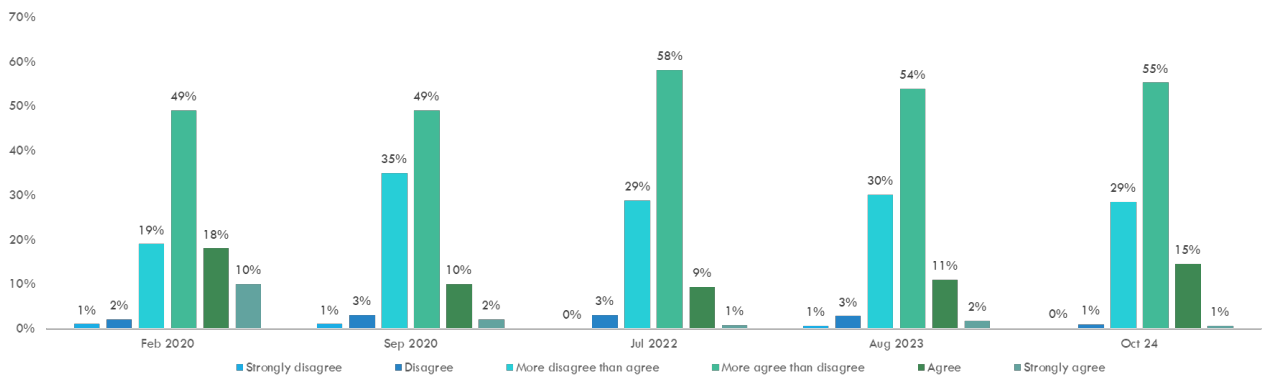


Figure 41 presents the temporal comparisons of results obtained from surveys conducted between 2020 and 2024. Compared to February 2020, there is a slight decrease in the percentage of consumers convinced that companies engage in greenwashing, dropping from 77% to 70% (sum of the options "More agree than disagree," "Agree," and "Strongly agree").

This overall trend may be the result of increasing caution by companies—partly due to recent European regulatory developments on green claims and greater media attention—when communicating environmental characteristics and performance. These factors may have contributed to improving the quality of information available in the market, slightly increasing consumer trust (or, conversely, reducing consumer skepticism).

Figure 41: Temporal Comparisons



4 | Experimental studies

4.1 Experiment 1

Consumer Preferences for Reusable and Single-Use Options in Restaurants

The aim of this experiment is to examine how customers' perceptions of a trattoria vary depending on the type of packaging used for condiments. Two types of packaging were selected: reusable bottles and single-use sachets. Additionally, the study analyzed the effect of the presence or absence of informational messages about the trattoria's motivations for adopting a specific packaging solution.

Design

Participants were randomly divided into two groups, ensuring as much homogeneity as possible in terms of sociodemographic characteristics. Group 1 viewed **Scenario 1**, where the respondent is seated at a table in the trattoria with five other people. Group 2 viewed **Scenario 2**, where the respondent is seated alone at the table (Table 8).

Table 8: The two preliminary scenarios of the experiment.

Scenario 1	Scenario 2
If you're in a Trattoria sitting at a table with five friends, ready to enjoy your ordered meal... You would like to enhance it with some condiments. The condiments (e.g., oil, salt, pepper, vinegar) are made available to you in the center of the table through the following solution:	You are in a trattoria, sitting at a table alone, and you are about to enjoy your ordered meal... You would like to enhance it with some condiments. The condiments (e.g., oil, salt, pepper, vinegar) are made available to you in the center of the table through the following solution:

Subsequently, each respondent was assigned to one of four stimuli (Figure 42):

- **Stimulus 1:** Reusable condiment bottles without any informational message.
- **Stimulus 2:** Single-use sachets without any informational message.
- **Stimulus 3:** Reusable condiment bottles accompanied by the message: *"Reusable bottles help reduce the use of natural resources and waste production."*
- **Stimulus 4:** Single-use condiment sachets accompanied by the message: *"Single-use sachets help ensure hygiene and safety for our customers."*

Figure 42: The four stimuli of the experiment.

	Reusable pack	Single-use pack
Without a message about the reason	 Reusable bottles	 Single-serving packets
With a message about the reason	 Reusable bottles On which the following message is displayed: The reason for our choice: Reusable bottles help to reduce the use of natural resources and waste production.	 Single-serving packets On which the following message is displayed: The reason for our choice: The single-serving packets help to ensure the hygiene and safety of our customers.

After viewing one of the two scenarios and being presented with one of the four stimuli, information was collected regarding **overall satisfaction with the type of packaging used by the trattoria, the perceived environmental value, the perceived safety in terms of hygiene, and the perceived trade-off with other aspects, particularly the convenience of use and the organoleptic characteristics of the product contained**. These dimensions were measured using questions composed of batteries of items (statements) where respondents were asked to indicate their personal level of agreement on a scale from 1 to 7.

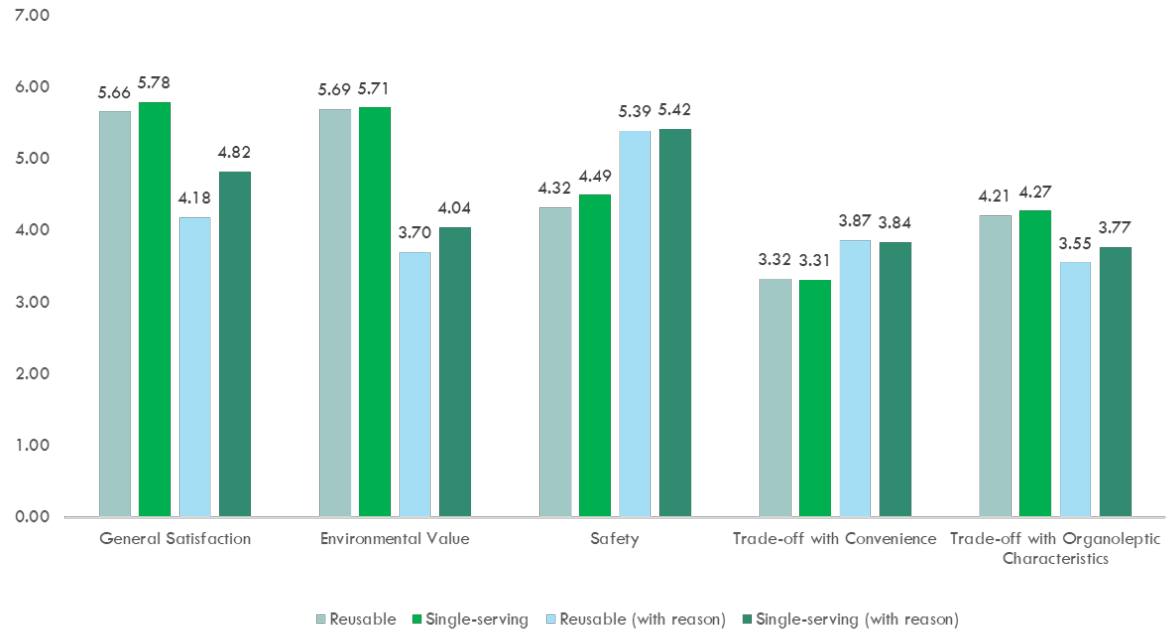
Results

The results of the experiment (Figure 43) indicate that consumers, on average, express **greater overall satisfaction with the reusable option** (an average score of 5.66 out of 7 without a message explaining the reason and 5.78 with an environmental justification message) **compared to the single-use option** (4.18 without a message and 4.82 with a justification message), highlighting a preference for the option perceived as more environmentally friendly.

Interestingly, the addition of an explanatory message about the environmental value of the reusable solution does not significantly increase overall satisfaction (5.66 vs. 5.78) or **the perceived**

environmental value (5.69 vs. 5.71). This suggests that consumers may already recognize the environmental benefits of this choice without the need for explicit messages or additional clarification. Regarding the single-use solution, the explicit message about hygiene and safety significantly increases the **perception of safety** (rising from an average score of 4.32 without a justification message to 5.3 with one). This indicates that consumers value information that justifies the adoption of less sustainable practices when these are associated with health benefits. Analyzing the trade-offs, the single-use solution is perceived as safer in terms of hygiene but less convenient to use compared to the reusable option. Conversely, **the reusable solution is perceived as riskier in terms of preserving the organoleptic characteristics of the product.** Finally, whether respondents were alone or in company did not influence the experiment's outcomes. The results for Scenario 1 and Scenario 2 are essentially the same.

Figure 43: Overall satisfaction, perceived environmental value, perceived safety, and trade off in the four groups (mean values)



Summarizing the key takeaways from the experiment:

- **The reusable solution generates greater overall satisfaction among consumers compared to the single-use option.**
- **Explicitly stating the environmental reason for adopting the reusable solution does not increase satisfaction or the perception of its environmental value.** We can infer that consumers already recognize that the reusable solution is more environmentally beneficial, and making this explicit through a message does not add anything to what they already implicitly perceive.
- **Highlighting the reason of safety/hygiene significantly increases satisfaction with the single-use solution.**

- **The single-use solution is perceived as safer** in terms of hygiene but less convenient to use.
- **The reusable solution is perceived as riskier** in terms of preserving the organoleptic characteristics of the product.
- **Being alone or in company does not influence the perceptio**n of the two packaging options in any way.

4.2 Experiment 2

Influence of Environmental and Hygiene Messages on the Choice of Takeaway Packaging

The experiment aims to explore consumers' choices regarding the use of reusable packaging (a bottle brought from home or provided by the shop) for takeaway beverages, as an alternative to single-use options. Another objective is to determine whether messages highlighting environmental benefits or providing reassurance about hygiene and safety can help shift consumer preferences toward reusable options.

Design

The sample was randomly divided into six groups, ensuring homogeneity in terms of sociodemographic characteristics. Groups 1-2-3 were presented with **SCENARIO A**, while Groups 4-5-6 were presented with **SCENARIO B** (Table 8). Each group was then asked to choose between several purchasing options.

Table 9: The two preliminary scenarios of the experiment.

Scenario A	Scenario B
You are at home. You decide to go to a nearby café to buy a takeaway drink (to consume once back at home). You know the café offers the following options. Which one would you choose?	**You are on the street. You want to buy a drink to take home and consume there. You go to a café that offers the following options. Which one would you choose?**

For respondents assigned to **Scenario A** (where the individual is initially at home), three purchasing options were proposed:

1. **Single-use bottle option:** Purchase the beverage in a single-use bottle (€2.50).
2. **Bring-your-own-bottle option:** Purchase the beverage by filling a personal bottle brought from home (€2.00).
3. **Reusable bottle provided by the shop:** Purchase the beverage by filling a reusable bottle provided by the bar (€2.50, with €0.50 refunded when the bottle is returned).

For Groups 1, 2, and 3, the purchasing options involving bringing your own bottle and using a reusable bottle provided by the shop were presented as follows:

- **Group 1 (control group):** Without any claims.
- **Group 2:** With an environmental claim.
- **Group 3:** With hygiene and safety claim.

The details of the purchasing options presented to Groups 1, 2, and 3 are provided in **Table 10**.

Table 10: Choice options for the 3 groups assigned to Scenario A.

	Option 1	Option 2	Option 3
Options Displayed by Group 1: without claim	Get your favorite drink already packaged in a bottle 1.5 L 2.50 euro	Bring your own bottle from home and fill it with your favorite drink 1.5 L 2.00 euro	Fill one of our reusable bottles with your favorite drink 1.5 L 2.50 euro (*but we return 0.50 euro if you bring back the bottle*)
Options Displayed by Group 2: with environmental claim	Get your favorite drink already packaged in a bottle 1.5 L 2.50 euro	Bring your own bottle from home and fill it with your favorite drink 1.5 L 2.00 euro With this choice, you contribute to protecting the environment!	Fill one of our reusable bottles with your favorite drink 1.5 L 2.50 euro (*but we return 0.50 euros if you bring back the bottle*) With this choice, you contribute to protecting the environment!
Opzioni visualizzate dal Gruppo 3: con claim sulla sicurezza/igiene	Get your favorite drink already packaged in a bottle 1.5 L 2.50 euro	Bring your own bottle from home and fill it with your favorite drink 1.5 L 2.00 euros	Fill one of our reusable bottles with your favorite drink 1.5 L 2.50 euro (*but we return 0.50 euros if you bring back the bottle*) *Our bottles are carefully sterilized before each reuse to ensure high standards of hygiene and safety!*

For respondents assigned to **Scenario B** (where the individual is on the street), two purchasing options were proposed:

1. **Single-use bottle option:** Purchase the beverage in a single-use bottle (€2.50).
2. **Reusable bottle provided by the shop:** Purchase the beverage by filling a reusable bottle provided by the bar (€2.50, with €0.50 refunded when the bottle is returned).

As in **Scenario A**, the reusable bottle option was presented to Groups 4, 5, and 6 as follows:

- **Group 4 (control group):** Without any claims.
- **Group 5:** With an environmental claim.
- **Group 6:** With hygiene and safety claim.

The details of the purchasing options presented to Groups 4, 5, and 6 are provided in **Table 11**.

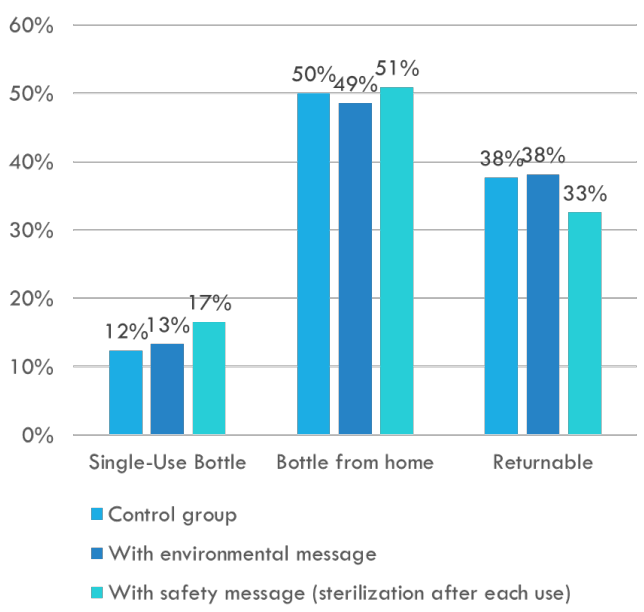
Table 11: Choice options for the 3 groups assigned to Scenario B.

	Option 1	Option 2
Options Displayed by Group 4: without claim	**Get your favorite drink already packaged in a bottle 1.5 L 2.50 euros**	**Fill one of our reusable bottles with your favorite drink 1.5 L 2.50 euros (but we return 0.50 euros if you bring back the bottle)**
Options Displayed by Group 5: with environmental claim	**Get your favorite drink already packaged in a bottle 1.5 L 2.50 euros**	**Fill one of our reusable bottles with your favorite drink 1.5 L 2.50 euros (but we return 0.50 euros if you bring back the bottle) With this choice, you contribute to protecting the environment!**
Options Displayed by Group 6: with safety/hygiene claim	**Get your favorite drink already packaged in a bottle 1.5 L 2.50 euros**	**Fill one of our reusable bottles with your favorite drink 1.5 L 2.50 euros (but we return 0.50 euros if you bring back the bottle) *Our bottles are carefully sterilized before each reuse!***

Results

The results of the analysis, presented in Figure 44, show a **significant variation in consumer preferences across the different purchasing options in Scenario A. The single-use option is the least popular among survey participants in all evaluated scenarios**, reflecting an overall growing environmental awareness. Option 2, which involves bringing a personal reusable bottle from home and having it refilled, registers the highest likelihood of being chosen. **There are no differences in choices between the control group and the group exposed to an environmental message**, likely because consumers are already aware of the environmental benefits associated with the adoption of reusable packaging.

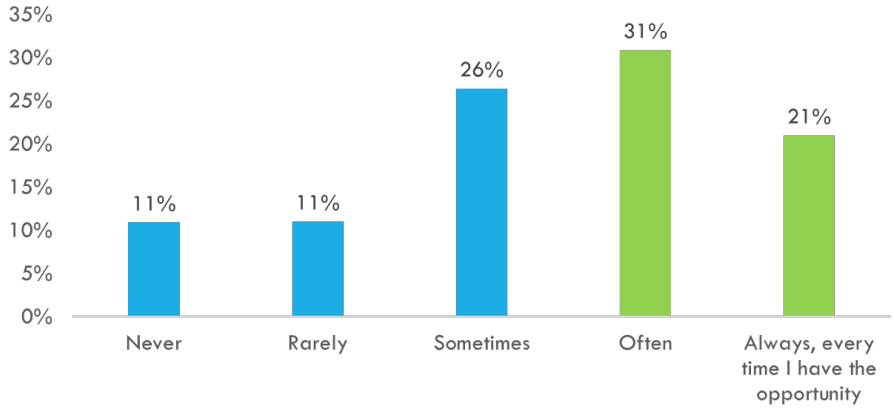
Figure 44: Choices of options in the 3 groups in Scenario A



In contrast, **the returnable bottle option shows a different likelihood of being chosen depending on the absence or presence of messages related to hygiene and safety.** Specifically, in the absence of hygiene-related messages, the probability of choosing this option is 38%. However, when hygiene messages are present, the likelihood of choice decreases to 33%. **This is likely because explicitly reminding consumers that the bottle has been used by someone else reduces their willingness to choose it.**

It is interesting to note that the percentage of consumers who chose the "Bring your own bottle" option (corresponding to 50% of observations) closely aligns with the combined percentage of respondents who, in another part of the survey, stated that they often (31%) or always (21%) carry a reusable bottle with them when they are out (Figure 45). This consistency supports the reliability of the experiment's results.

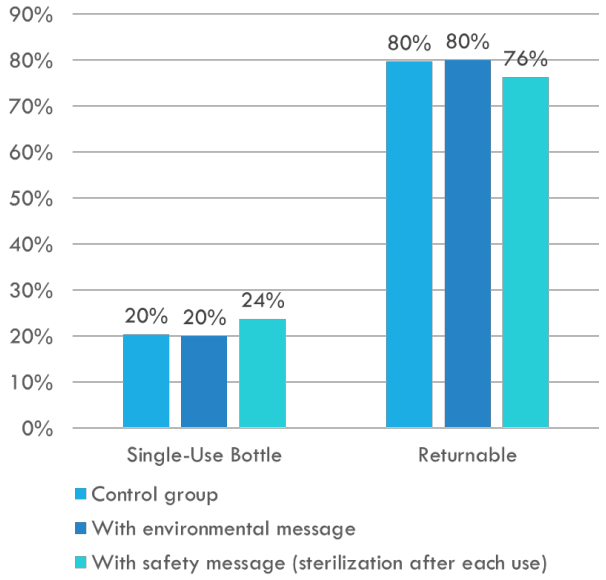
Figure 45: Metal bottle use outside the home.



Even when the consumer is on the street, there is a lower tendency to purchase pre-packaged beverages compared to reusable alternatives.

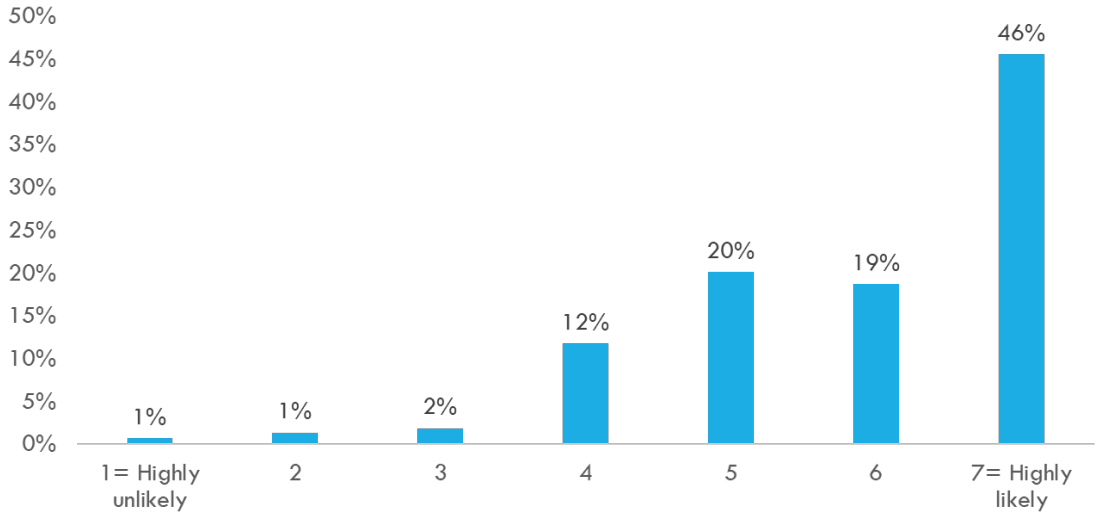
The results of the analysis, presented in Figure 46, indicate a significant difference in consumer preferences across the different purchasing options in Scenario B. **The second option, involving the returnable bottle, shows a high probability of being chosen both in the control group (80%) and in the presence of an environmental message (80%).**
In contrast, although still preferred over the single-use option, the probability of choosing the reusable bottle drops to 76% in the presence of a message about hygiene and safety after each use. Once again, consumers may be less inclined to use reusable packaging if they are explicitly reminded that it has previously been used by others.

Figure 46: Choices of options in the 3 groups in Scenario B



The high selection of the returnable bottle option aligns with the strong likelihood that consumers, at a later stage (after consuming the beverage), will return the bottle to the bar. Indeed, 46% of respondents consider the return of the bottle to the bar highly likely, while a total of 85% deem it likely, as detailed in Figure 47.

Figure 47: Probability of bottle return



Considering both scenarios analyzed, the following observations can be made:

- **In both scenarios** (whether the consumer starts from home or is already outside), **there are no differences in the choices made by the control group compared to the group exposed to the environmental message.** This is likely because consumers already understand the environmental benefits associated with the use of reusable packaging.

- **In both scenarios, when a hygiene message (sterilization after each use) is provided, choices differ compared to the control group:** the percentage of consumers choosing the single-use option increases slightly, while the percentage of consumers selecting the reusable bottle provided by the shop decreases. **This suggests that explicitly reminding consumers that the bottle has been used by someone else reduces their willingness to choose it.**

In summary: The environmental message has no effect on choices, while the hygiene message has a slightly negative impact on the selection of reusable packaging provided by the shop, shifting preferences slightly toward single-use options.

5 | Cluster Analysis

5.1 Aim and design

Cluster analysis is a descriptive analytical technique that identifies groups of consumers characterized by significant intergroup heterogeneity (differences between groups) and substantial intragroup homogeneity (similarities within the same group). In other words, members of each cluster share similar characteristics while differing markedly from members of other clusters. The survey revealed that consumers can engage in various actions to promote a more circular economy, both through their purchasing choices and by adopting virtuous behaviors during the consumption and use of products. Moreover, these circular choices and behaviors may occur with varying frequencies. Therefore, clustering techniques were employed to identify similarities and differences among respondent groups.

The characteristics selected for cluster formation include behaviors that promote the creation, preservation, and optimization of circular value during **both the purchasing and post-purchasing phases** (Figure 48). For instance, consumers can foster the creation of **circular value** by selecting products made from recycled materials and practicing effective waste separation. They can also **contribute to the preservation of circular value** by purchasing durable goods, maintaining them properly, and using them until the end of their life cycle, thereby avoiding unnecessary replacements. Alternatively, they may opt for purchasing second-hand items or renting products. Finally, consumers can **optimize circular value** by favoring products with minimalist and mono-material packaging and minimizing waste during consumption.

Figure 48: Behaviors chosen to build clusters

In the study, specific behaviors were associated with each category of circular value—creation, preservation, and optimization—measured through the questionnaire, as illustrated in Table 12. Subsequently, consumers were grouped into clusters based on these behaviors to identify different

consumer typologies. Specifically, the analysis revealed the existence of various groups of consumers characterized by distinct approaches to implementing and integrating the principles of circularity. **Each identified group demonstrates a varying ability to adopt virtuous behaviors across the three dimensions—creation, preservation, and optimization—both in purchasing choices and post-purchasing actions.**

Table 12: Behaviors associated with the creation, conservation, and optimization of circular value

Actions	Measured behaviors
Creation of circular value during purchase	When I buy soap for personal hygiene, I choose the one with the least environmental impact (i.e., the one with a label or statement indicating low environmental impact).
	When I buy laundry detergent, I choose the one with the least environmental impact (i.e., the one with a label or statement indicating low environmental impact).
	When I buy paper products, I always choose recycled ones when available.
	When I buy food products, I choose those with a low environmental impact (i.e., the ones with a label or statement indicating low environmental impact).
	When I buy biscuits or similar products, I look for those with recycled packaging when available.
	When I buy bottled beverages, I look for those with recycled packaging when available.
	When I need to choose personal care products (e.g., shampoo, shower gel, etc.), I buy the one with packaging made from recycled material.
	When I buy baked goods (e.g., bread, rolls, etc.), I choose those with simple packaging design (e.g., monomaterial, easy to disassemble).
	When I buy a product, I check if there is information about the recyclability of the packaging and ensure that the packaging is easily recyclable.
	When I buy fresh food products (e.g., dairy) with plastic packaging, I buy those with biodegradable plastic packaging.
	If I need to buy a paper product (e.g., toilet paper, napkins, etc.), I choose the one with environmental information on the packaging.
	When I buy bottled water, I choose the one with environmental information on the packaging.
	When I buy confectionery (e.g., biscuits), I choose products with clear indications for separate waste collection.
Conservation of circular value during purchase	When I buy clothing (clothes, accessories, etc.), I choose second-hand items.
	I buy quality clothes because I want them to stay in good condition for as long as possible.
	When I buy vegetables, I choose local produce.

Optimization of circular value during purchase	When I buy food products, I carefully evaluate the quantity I need to avoid waste.
	I often buy products with a near expiration date to help the supermarket reduce waste.
	When I buy non-alcoholic drinks, I carefully check that the packaging is intact and properly sealed.
	When possible, I buy bulk cleaning products.
	If I need to buy chocolate, I choose products with packaging made from one or a few materials.
Creation of circular value during use	When I finish using body wash, I place the bottle in the recycling bin.
	When I consume packaged food with multiple materials, I carefully separate the packaging materials to allow for recycling.
Conservation of circular value during use	When I finish using liquid hand soap, I usually reuse the bottle by refilling it.
	When I finish a packaged food product, if possible, I try to reuse the container for other purposes.
Optimization of circular value during use	When using shampoo, I use the strictly necessary amount to avoid product waste.
	When I do laundry, I follow the recommended dosage on the packaging.
	When preparing my meals, I carefully evaluate the necessary quantity to avoid waste.
	If a food product has a near expiration date, I eat it before other products.
	I consume food even after the "preferably by" date.

5.2 Results

The cluster analysis allowed for the division of consumers into four distinct groups, based on the frequency with which they adopt circular behaviors during purchasing and post-purchasing phases, as illustrated in Table 13. While consumers play a crucial role in the transition towards a circular economy, the use of cluster analysis reveals varying degrees of inclination towards the implementation of circular practices among the different groups. This heterogeneity highlights the urgency of developing distinguished approaches and targeted strategies aimed at increasing the engagement of less virtuous consumer clusters and fostering broader adoption of circular behaviors.

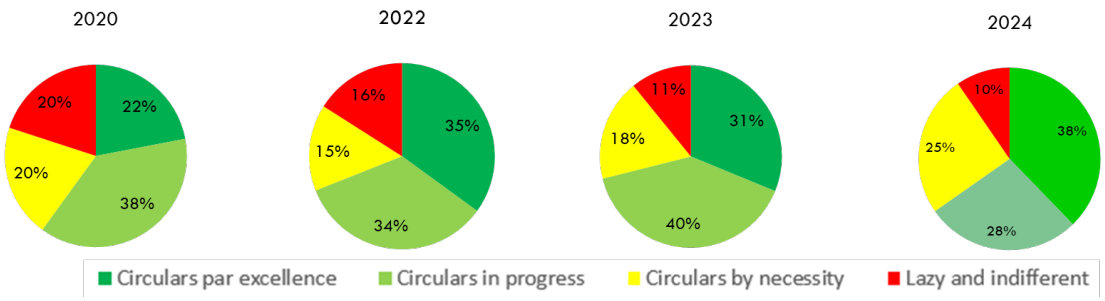
Table 13: Four clusters' description

Circulars par excellence	They very frequently adopt behaviours related to the creation, preservation, and optimization of circular value, both in the purchasing phase and in the usage and end-of-life phases.

Circulars in progress	In the post-purchase phases, they implement actions of generation, preservation, and optimization with high frequency, while in the purchasing phase, virtuous behaviours are adopted with a medium frequency.
Circulars by necessity	They very rarely adopt circular behaviours in the purchasing phase, but are more engaged in the post-purchase phase, where the benefits are also linked to economic utility (e.g., they avoid waste during consumption and perform recycling).
Lazy and indifferent	They show low commitment to adopting circular behaviours, which occur only occasionally in all phases (purchase, use, and end-of-life). This is the only group that does not regularly perform recycling – a behaviour now very ingrained in the population.

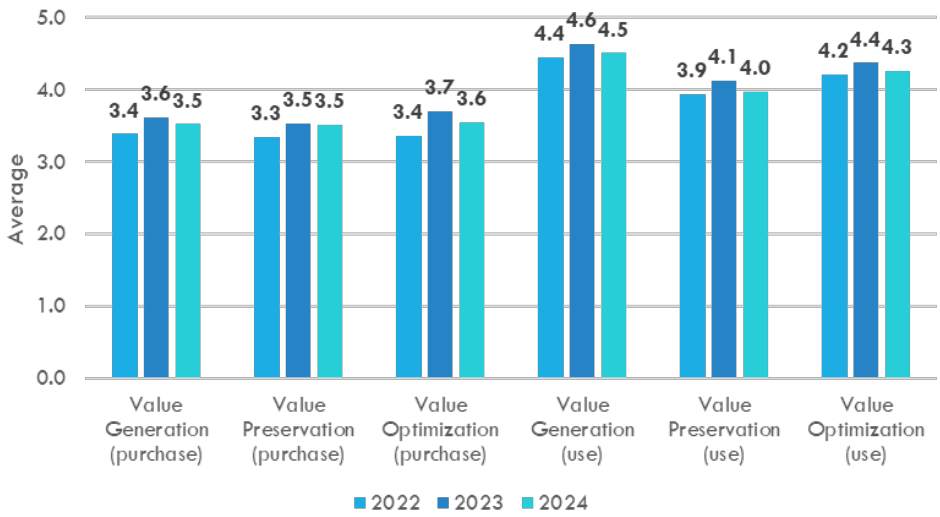
The implementation of cluster analysis in previous surveys, from 2020 to 2023, has enabled intertemporal comparisons to capture the evolution of consumer groups over time (Figure 49).
The share of "Circulars par excellence" consumers has increased significantly since 2020 (+16%) and slightly compared to last year (+7%). Similarly, **the proportion of "Circulars by necessity" has grown both compared to 2020 and the previous year.** Members of this cluster rarely adopt circular behaviors during the purchase phase but frequently engage in behaviors tied to economic benefits—such as waste prevention during use, reuse, and proper disposal at the end of a product's lifecycle. This 7% increase in this cluster may also be related to the growing inflationary trend, which has led to higher prices for many food and consumer goods. **The "Lazy and indifferent" cluster has shown a consistent decline** (-6% compared to 2022 and -10% compared to 2020), indicating that, in recent years, consumers have demonstrated increasing commitment to adopting more circular behaviors. **Surprisingly, the share of "Circulars in progress" consumers (28%) has significantly decreased compared to both 2020 (-10%) and 2023 (-12%).** This decline in the "Circulars in progress" group—consumers particularly attentive to generating, preserving, and optimizing circular value during the post-purchase phase—coincides with the growth of the "Circulars par excellence" and "Circulars by necessity" groups. While some previously categorized as "Circulars in progress" have transitioned to the "Circulars par excellence" group by extending their adoption of circular practices to the purchase phase, another portion has shifted focus toward economic convenience, reducing attention to circular practices.

Figure 49: Temporal variation of cluster composition



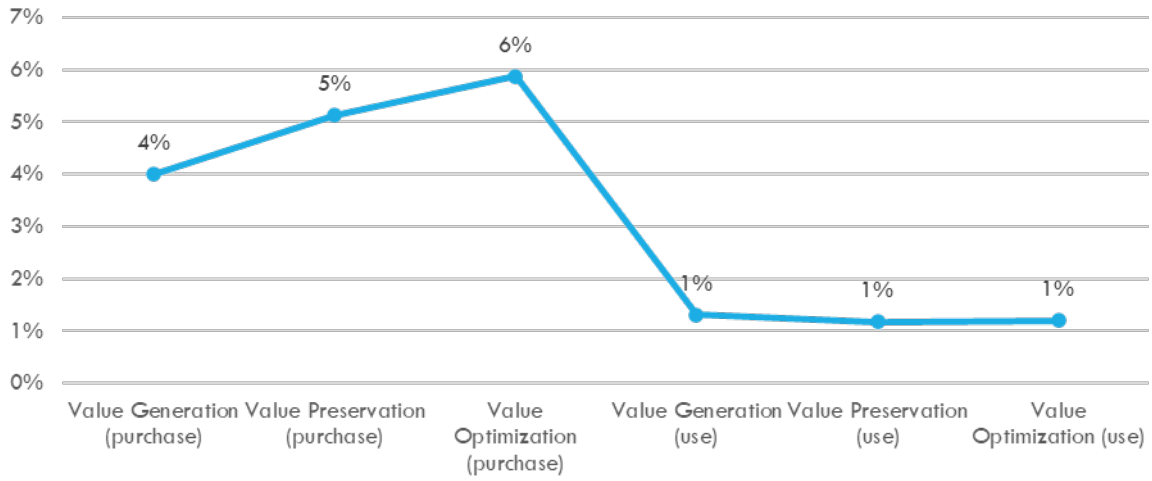
Analyzing the behaviors across all clusters, **the average frequency of all actions related to the generation, preservation, and optimization of circular value has increased over the past three years but slightly declined in the past year** (Figure 50). Consistent with previous years, **the most frequent behaviors overall pertain to the generation and optimization of value during product use (i.e., proper disposal and efficient product usage).** These findings also confirm that, due to the current socioeconomic situation and high inflation, consumers have increasingly adopted behaviors that provide both economic and environmental benefits.

Figure 50: Average Frequency of Behaviors – Temporal Comparison Over the Last Three Years



Although behaviors related to the usage phase are deep-rooted and frequent among the population**, the past three years have shown a particularly positive trend for behaviors related to purchasing**, with a +6**% increase in optimization behaviors**, a **+4% increase in generation behaviors, and a +5% increase in preservation behaviors (Figure 51).**

Figure 51: Variation in the Average Frequency of Behaviors Over the Last Three Years



5.3 Clusters description

Sociodemographic Variables

After grouping consumers into homogeneous and mutually exclusive clusters, it is possible to profile each group based on other relevant variables (sociodemographic, psychographic, cognitive, and behavioral) to investigate the main characteristics that distinguish each cluster. **The clusters tend to be cross-demographic, meaning that behaviors related to the generation, preservation, and optimization of circular value are not explained by sociodemographic differences but rather reflect personal and value-driven dimensions**. However, some slight differences (statistically significant with $p<0.05$) were observed concerning gender, age, and geographic origin (Figure 52).

The "**Circulars par excellence**" cluster shows a **female prevalence**, accounting for 56% of the group, and a higher representation of individuals from **Generation X** (aged 43–55). Additionally, there is a prevalence of individuals from the **South and Islands**, comprising 41% of the group—a consistent finding with cluster analyses conducted over the past two years.

Figure 52: Sociodemographic Profiling of Clusters

Circulars par excellence

- **Female prevalence** (56%)
- Compared to the sample distribution, **Generation X** (ages 43-55) is more represented (+3%)Greater origin from the South and the Islands (41%). *This result also emerged in the cluster analysis conducted in 2022 and 2023*
- There are no substantial differences in education level

Circulars in progress

- **Female prevalence** (52%)
- Compared to the sample distribution, the **Baby Boomer** generation (ages 56-70) is more represented (+9%)
- Homogeneous distribution by **geographic area**
- Slight prevalence above the average of consumers with a **lower secondary school diploma** (+4%)

Circulars by necessity

- **Male** prevalence (56%)
- All generations are evenly distributed: **Millennials** (ages 27-42) and **Gen Z** (ages 18-26) show a higher but slight representation (+2% and +7%, respectively) compared to the sample distribution
- Origin predominantly from **Northern Italy** (51%), especially **Northwest**

Lazy and indifferent

- **Male** prevalence (63%), in contrast with the strong female presence of 2023.
- Compared to the sample distribution, **Generation Z** (ages 18-26) is overrepresented (+6%), while the **Baby Boomer** generation is underrepresented (-9%).Origin predominantly from Northern Italy (53%).
- No substantial distinction by education level.

The "**Circulars in progress**" cluster also exhibits a slight **female prevalence** (52%). Notably, **Baby Boomers** (aged 56–70) are overrepresented in this cluster compared to the overall sample average (+9%). The geographic distribution of this cluster is uniform, suggesting its presence across different regions of the country. Additionally, there is a slight prevalence of individuals with a lower secondary school diploma.

In the "**Circulars by necessity**" cluster, there is a **male prevalence** (56%) and a relatively even distribution among generations, with a slight overrepresentation of **Millennials** (+2%) and **Gen Z** (+7%). Geographically, the majority of this group comes from **Northern Italy**.

The "**Lazy and indifferent**" cluster is characterized by a female prevalence and a strong representation of **Generation Z (**aged 18–26), while **Baby Boomers** are underrepresented (-9%).

This group also exhibits a geographically uniform distribution.

Overall, the analysis shows that behaviors related to the circular economy are present across all age groups and regions, albeit with slight variations. These insights emphasize that circular behaviors transcend sociodemographic categories and are more influenced by individual values and attitudes.

Psychographic, cognitive and behavioral variables

The profile of each group can also be outlined based on psychographic, cognitive, and behavioral variables. Below are the variables for which significant differences between groups were identified ($p<0.01$).

Although the overall **attitude toward the circular economy** is widely shared across the sample, with an overall average score that is relatively high, **it is more prominent among the "Circulars par excellence" and "Circulars in progress**" (Table 14). This finding highlights a consistent relationship between personal beliefs and the actual actions consumers take toward circular behaviors. Furthermore, the cluster of "Lazy and indifferent" consumers shows a slight decrease in attitude toward the circular economy, while the "Circulars by necessity" demonstrate a slight increase in their commitment.

Table 14: Attitude toward circularity in the four clusters - Time comparison

Attitude towards the circular economy Range [1;5]			
Cluster	2022	2023	2024
Circulars par excellence	4,32	4,49	**4,47**
Circulars in progress	4,17	4,27	**4,21**
Circulars by necessity	3,84	3,86	3,96
Lazy and indifferent	3,89	3,81	3,71

The "Circulars par excellence" and "Circulars by necessity" report the highest values in the use of online shopping and the search for digital information (via websites, apps, QR codes) about products purchased both in-store and online (Table 15). Although this may appear counterintuitive, there may be differences in underlying motivations. The "Circulars par excellence" might be driven by a desire to find more sustainable products that are not available locally. Conversely, the "**Circulars by necessity" may be motivated by economic convenience and the lower effort required for online shopping.** With a predominance of individuals from Generation Z, frequent use of online

services becomes more understandable, as they are digital natives and thus more inclined to integrate technology into their daily lives. This group of consumers has experienced significant growth in online shopping (+46%). In contrast, the "Lazy and indifferent" consumers show a noticeable decrease (-10%) in their engagement with online purchasing.

Table 15: Forms of online consumption in the four clusters - Time comparison

Forms of online consumption Range [1;5]			
Cluster	2022	2023	2024
Circulars par excellence	2,97	2,60	**2,95**
Circulars in progress	2,35	2,19	2,17
Circulars by necessity	1,96	1,77	**2,59**
Lazy and indifferent	2,66	2,61	2,35

All groups exhibit moderately high scores regarding the appreciation of additional product information accessible through websites or digital tools (Table 16). This appreciation is particularly strong among the "Circulars par excellence." Generally, access to additional information remains a relevant aspect for most consumers as it enhances trust, reducing skepticism and concerns about product quality. However, the lower scores and slight decline in values compared to 2023 among the "Lazy and indifferent" consumers suggest a reduced attention to such information within this group and a weaker perception of its added value.

Table 16: Information accessibility appreciation in the four clusters - Time comparison

Appreciacion of information accessibility Range [1;6]			
Cluster	2022	2023	2024
Circulars par excellence	4,46	**4,42**	**4,48**

Circulars in progress	4,07	**4,01**	**4,07**
Circulars by necessity	3,53	3,56	**3,92**
Lazy and indifferent	4,01	3,79	3,53

Compared to 2022 and 2023, 2024 shows a substantial improvement in the understanding of carbon claims. Notably, all consumer groups have significantly increased their knowledge compared to the previous year: even those less inclined toward circularity practices are becoming more informed about the impact of products on climate change. **The "Circulars par excellence" and the "Circulars by necessity" demonstrate a higher average understanding of carbon claims—specifically, assertions regarding companies' implementation of actions to reduce and offset CO2-equivalent emissions to combat the climate crisis** (Table 17). However, the "Circulars in progress" and the "Lazy and indifferent" groups have shown the most significant improvement in knowledge.

Table 17: Knowledge about carbon claims in the four clusters - Time comparison

Knowledge about carbon claims Range [-5;5]			
Cluster	2022	2023	2024
Circulars par excellence	1,66	1,68	**3,47**
Circulars in progress	1,68	1,67	**2,97**
Circulars by necessity	1,35	1,33	**3,12**
Lazy and indifferent	0,83	0,98	2,61

The willingness to pay was measured by presenting participants with a product valued at €3.00 and exploring their willingness to pay a premium for the same product with recycled packaging. **The results reveal that the "Circulars par excellence" maintain substantial stability in their willingness to pay for environmentally less impactful options** (Table 18). Conversely**, the "Lazy and indifferent" group has reduced their willingness to bear additional costs, despite initially being more inclined to do so.** Lastly, the "Circulars in progress" and "Circulars by necessity" exhibit a stationary trend in their willingness to pay.

Table 18: Willingness to pay for recycled packaging in the four clusters - Time comparison

Willingness to pay* for recycled packaging (€) Range [0;1]			
Cluster	2022	2023	2024
Circulars par excellence	0,36	0,38	**0,385**
Circulars in progress	0,31	0,31	**0,324**
Circulars by necessity	0,23	0,23	0,257
Lazy and indifferent	0,39	0,31	0,234

6 | Conclusions

The present study on Italian purchasing trends and consumption habits highlights a growing orientation toward sustainability, circular economy, and consumption practices aimed at reducing environmental impact. Italian consumers are increasingly aware of the consequences of human activities on the Planet and the depletion of natural resources to the detriment of future generations. This concern and awareness drive most of the population (approximately 90%) to adopt a positive attitude toward circular economy topics and a growing perception of the importance and effectiveness of individual actions in addressing various environmental challenges, including climate change. As a result, Italian consumers appear ready and willing to contribute to the ecological transition through their daily choices.

The most deeply ingrained behaviors in Italians' routines range from avoiding the purchase of excessive quantities of food and preventing waste during meal preparation to prioritizing local supply chains, choosing durable clothing, and correctly sorting waste for recycling. A comparison between 2023 and 2024 reveals an average increase of at least 3% in the adoption of environmentally friendly purchasing behaviors across all categories. Products labeled as having a low environmental impact, as well as those with recycled and recyclable packaging, are being purchased with notable frequency - a trend that has seen significant growth over the past four years. Attention is also increasing toward products that include information on corporate activities related to the use of renewable energy, the reduction of greenhouse gas emissions, and carbon offsetting.

The positive response of consumers to products featuring carbon footprint information is a clear indicator of growing awareness on these issues. However, certain habits remain less widespread, such as purchasing second-hand clothing (though this is increasing significantly over time), renting, and other alternative consumption models. Despite persisting sociocultural barriers, there is a positive trend toward reuse and a gradual openness to new forms of consumption that can reduce waste and the use of new resources. Digitalization and online purchasing methods are emerging as significant factors, with a marked increase in the use of QR codes to access detailed product information, including environmental impact. These behaviors reflect not only a shift in how consumers approach purchasing but also a growing demand for transparency to enable more informed choices.

There is a slight but noticeable decrease among consumers in the belief that companies engage in greenwashing. Undoubtedly, the presence of environmental labels based on third-party certification systems and the access to additional product information - including through digital tools such as QR codes - are important mechanisms to build consumer trust and guide purchasing decisions. On the one hand, labels and information have a positive impact in shifting demand toward circular and lower-impact products. On the other hand, it is crucial that the messages conveyed are clear and easily understandable.
Significant challenges remain, as most Italians are still confused about definitions such as "recycled"

and "recyclable" and struggle to discern the meaning or inaccurateness of various claims, thus becoming potential victims of greenwashing. Unable to recognize misleading environmental assertions, consumers often favor products with exaggerated and unsupported slogans, such as "sustainable" or "zero impact," rather than products with legitimate claims based on widely recognized methodologies or independent, third-party certifications of excellence, such as the Ecolabel. The fight against greenwashing and the need to educate consumers are essential to ensure informed and meaningful choices that truly benefit the environment. These efforts must focus on promoting the recognition of methodologically substantiated environmental claims that reflect genuine corporate practices of environmental excellence.

In response to greenwashing, the European Commission has launched several regulatory initiatives aimed at combating misleading claims by emphasizing transparency and rigor to facilitate informed purchasing decisions. One example is the new Directive 2024/825/EU, which introduces new definitions, provisions, and bans concerning environmental claims (so-called "green claims") by amending the historic Directive 2005/29/EC on unfair commercial practices. These new prohibitions target communication practices still widespread today but not yet easily recognizable by consumers. Efforts will need to focus on enhancing their ability to interpret and evaluate the environmental information available in the market.

Regarding the topic of packaging and the challenges of reducing its environmental impact, consumers show a strong inclination toward various measures. Eight out of ten believe that all packaging should be recyclable or compostable and support the standardization of packaging information to facilitate proper waste sorting. Additionally, 84% of respondents find it important or very important that packaging is manufactured to minimize the presence of harmful substances such as microplastics. There is also an openness to reusable packaging solutions. Most respondents consider it fairly or very important to allow consumers to bring their own food storage containers when purchasing takeaway food and beverages (66%) and to use reusable and returnable packaging (72%). Experiments further highlight a predisposition toward reusable packaging solutions, for which consumers implicitly recognize the environmental benefits.

The value attributed to packaging is also reflected in the fact that most consumers believe that packaging made from recycled materials costs more than "virgin" materials, and the majority are willing to pay a premium for this characteristic. However, willingness to pay has declined over time. This trend can be interpreted in light of the inflationary pressures that have reduced consumers' purchasing power in recent years. Additionally, it may result from a form of "commoditization," where a feature initially seen as innovative and distinctive becomes standard or increasingly common in the market, leading to an expected reduction in prices. Informally, this phenomenon could be described as a technology "going mainstream" or "losing its exclusivity" as it becomes more widespread. In this context, policymakers play a crucial role in economically supporting more circular, innovative, and environmentally friendly products and packaging. This could be achieved through differentiated taxation, shifting environmental costs to products and packaging that are more polluting and non-compliant with circular economy principles.

Despite current challenges, the available data highlights a positive and continuous trend toward more environmentally conscious purchasing and consumption behaviors, providing a solid foundation for further developments. A significant segment of the Italian population - over one-third - can be identified as "circular consumers". This group has the potential to grow further through tools and strategies designed to encourage more sustainable practices. In this phase of regulatory changes, it is essential for businesses to communicate the environmental attributes of their products in a specific, transparent, and reliable manner, thereby strengthening consumer trust and awareness. Equally important is raising public awareness and educating consumers through large-scale training initiatives to emphasize the need to shift from the current consumption model. To further promote circular consumption models, businesses should also commit to ensuring the quality and reliability of refurbished goods, second-hand products, and services related to sharing and renting, while highlighting the environmental benefits of these approaches. By adopting a comprehensive vision that takes into account all the factors influencing consumer choices, it will be possible to translate the growing interest in sustainability into concrete and lasting actions.