



Deliverable D2.2

# Report on consumer consultation

12.12.2023



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### Legal disclaimer

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## ABBREVIATIONS

Abbreviation	Definition
<b>EC</b>	European Commission
<b>EU</b>	European Union
<b>KPIs</b>	Key performance indicators
<b>MS</b>	Member state
<b>PROs</b>	Producer responsibility organisation
<b>EEE</b>	Electric and electronic equipment
<b>UEEE</b>	Used electric and electronic equipment
<b>WEEE</b>	Waste electric and electronic equipment
<b>WP</b>	Work package

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Chapter 1

# About the project

## 1. About the project

### Enhancing Collection of Small W/EEE and batteries

ECOSWEEE is a project co-funded by the European Union, under the LIFE Project Grants with the aim of practically testing several methods and incentives to increase the collection rate of small WEEE and portable batteries. Every product that is not collected for reuse or de-polluted and recycled represents a wasted opportunity in terms of loss of natural resources and energy, and a decreasing supply of (critical and/or valuable) materials to feed into manufacturing, which in turn puts the sector's resilience, the EU economy's autonomy and jobs in jeopardy. Since after twenty years of WEEE rules, Member States (MS) are falling short of reaching the EU minimum collection rate of 65%. The EU is committed to improving the small WEEE collection rate in the frameworks of the European Green Deal.

The project proposes to design and implement 10 new pilots in 8 Member States to test the practicability, achievability, usefulness, and viability of different collection strategies and incentives. Strategies to be tested include deposit return, buyback, and other reward schemes, e.g. donation, postal services, other collection routes, involvement of online retail, financial aspects, and improvement of the collection network. Another 11 ongoing or planned initiatives carried out by producer responsibility organisations (PROs) will also provide direct input to the project. Results of the pilot implementation will be analysed on the basis of pre-established criteria and indicators to measure the impacts and effectiveness (success) of the actions implemented, define potential areas of improvement, and provide recommendations to policymakers at Member States and EU levels.

The primary target users of the project results are PROs and other stakeholders involved in the collection of small WEEE and batteries across the MS, which will have access to the mapping of incentive-driven collection schemes, the good practices identified, and the recommendations developed by the project. Second, the project's results will be targeted at the EC and other EU bodies involved in decision-making and will contribute to the consultation process on the revision of WEEE legislation and the Commission proposal on Batteries Regulation. Finally, EU consumers, who will be directly involved in consultations as well as active participants in the piloting of different take-back solutions, will benefit from the project's results by testing the collection strategies developed in the project and acquiring additional knowledge on the small U/WEEE and portable battery collection.



Chapter 2

# Partners



## 2. Partners

<b>WEEE FORUM</b>	<b>WASTE OF ELECTRICAL AND ELECTRONICAL EQUIPMENT FORUM AISBL - WEEE Forum (Belgium)</b>
<b>UNITAR</b>	UNITED NATIONS INSTITUTE FOR TRAINING AND RESEARCH (Switzerland)
<b>SPI</b>	SOCIEDADE PORTUGUESA DE INOVACAO CONSULTADORIA EMPRESARIAL E FOMENTO DA INOVACAO SA (Portugal)
<b>RAMBOLL</b>	RAMBOLL DEUTSCHLAND GMBH (Deutschland)
<b>ECO</b>	ERION COMPLIANCE ORGANIZATION SCARL (Italy)
<b>ECYCLE</b>	APPLIANCES RECYCLING S.A. (Greece)
<b>ECOTIC</b>	ASOCIAȚIA ECOTIC (Romania)
<b>ELECTRÃO</b>	ELECTRÃO – ASSOCIAÇÃO DE GESTÃO DE RESÍDUOS (Portugal)
<b>GRS Batterien</b>	STIFTUNG GEMEINSAMES RUCKNAHMESYSTEM BATTERIEN (Deutschland)
<b>Stichting OPEN</b>	STICHTING ORGANISATIE PRODUCENTENVERANTWOORDELIJKHEID E-WASTE NEDERLAND (Netherlands)
<b>ZEOS DOO</b>	ZEOS RAVNANJE Z ELEKTRICNO IN ELEKTRONSKO OPREMO DOO (Slovenia)
<b>WEEE Ireland</b>	WASTE ELECTRICAL AND ELECTRONIC EQUIPMANT IRELAND (Ireland)
<b>Ecologic</b>	ECOLOGIC (France)
<b>Ecosystem</b>	ECOSYSTEM (France)
<b>Recupel</b>	RECUPEL AISBL (Belgium)
<b>RENAS AS</b>	RENAS AS (Norway)
<b>Stiftung SENS</b>	SENS Foundation (Switzerland)



Chapter 3

# Executive Summary

### 3. Executive Summary

The increasing problem of WEEE, especially small devices and batteries, is worsened by low collection rates, mainly due to consumers not knowing how to dispose of these items properly. Limited information on correct disposal methods, along with challenges like poor distribution and difficulty accessing collection points, hinder meeting collection goals.

Understanding consumer opinions is crucial for developing effective solutions and improving WEEE and waste portable battery collection. Simultaneously, it helps raise awareness about the importance of proper disposal. To gain insights, a survey was conducted in collaboration with Altroconsumo, an Italian consumer association, and distributed to consumers in seven European countries. The questionnaire aimed to investigate respondents' level of information on the subject and identify the most influential socio-economic parameters in this regard. It explored participants' experiences and disposal habits, examining whether these are influenced by a lack of information from the relevant authorities. Additionally, a section of the questionnaire sought to understand individuals' perspectives on the new collection methods to be tested in the project pilots. Finally, the last part focused on drivers influencing the preference for used items over new ones. The survey indicates that less than half of respondents are fully informed about existing waste disposal methods, with a slightly higher awareness for batteries. Municipal Collection Centers and city-specific bins are the most recognized methods, while retail options are less known. Increasing awareness and involving retailers is therefore crucial.

Regarding consumer habits, small household appliances and batteries are the least improperly disposed of, but small hi-tech products are often kept at home due to perceived value and data security concerns. Electronic components are frequently improperly discarded, with limited recognition as WEEE.

In terms of incentives, an increase in collection points is favoured, while new methods like postal services and parcel lockers are less popular. Economic incentives could enhance collection, but the effectiveness depends on the item's value. Deposit return schemes are less appreciated due to challenging implementation, and the perceived long life of products may deter consumers.

Finally, buying second-hand products is not the primary preference for most consumers, with economic reasons being the main motivation for those who choose this option.



Chapter 4

# Introduction

## 4. Introduction

### 4.1 Objective of the study

The growing issue of WEEE, especially for small devices and batteries, is compounded by the low collection rates, often stemming from consumers' lack of awareness regarding proper disposal. Insufficient information on how to dispose of these items correctly and, often, the poor distribution and difficulty in reaching collection points, contribute to the failure to achieve collection targets. Understanding consumer opinions could be crucial in developing effective solutions and increasing WEEE and waste portable batteries collection, while simultaneously promoting greater awareness of the importance of proper disposal. To gain insights on this issue, a survey was prepared and sent out to consumers, in cooperation with Altroconsumo (an Italian consumer association). The methodology used to develop and submit the survey is further explained in chapter 5 of this report.

The investigation, carried out as part of work package 2 within the LIFE ECOSWEEE Project, sought to attain the following key goals:

1. identification of the drivers and obstacles in the collection of small WEEE, batteries and EEE for re-use at the EU level;
2. current and preferred disposal routes indicated by consumers;
3. possible incentives and willingness to correctly dispose of small WEEE and waste portable batteries.

### 4.2 Background of the work package

In the European Union (EU), the WEEE Directive<sup>1</sup> and Battery legislation<sup>2</sup> have laid down ambitious collection and recovery targets. Yet, after twenty years from the enactment of the WEEE rules, the current

<sup>1</sup> As per the WEEE Directive, as of 2019, annual minimum collection rate is 65% of EEE put on the market or 85% of WEEE generated on the territory of that Member State. As of 2018, recovery targets of IT and telecommunications equipment is 80%. See: Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE) (recast) Text with EEA relevance. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32012L0019>.

<sup>2</sup> As per the new Battery Regulation, Member States shall achieve the following minimum collection rates: a) 45% by 31 December 2023; b) 65% by 31 December 2025; and c) 70% by 31 December 2030. See: Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC. See: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32023R1542>. The previous target set in the Battery Directive was 45% by 26 September 2016. See: Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC. <https://eur-lex.europa.eu/eli/dir/2006/66/oj>.

official statistics show that, despite having some of the highest WEEE collection rates in the world, EU Member States are falling short of reaching the EU minimum collection rate of 65%. An overall WEEE collection rate of 48.5%<sup>3</sup> is reported, of which small WEEE register the lowest figure of 15%<sup>4</sup>. Likewise, the new Battery Regulation, which entered into force in August 2023, introduces more ambitious collection targets requiring further efforts from MS to be achieved.

A study by UNITAR and the WEEE Forum<sup>5</sup> looking at the WEEE generation in the EU, Norway, United Kingdom, Switzerland, and Iceland, concludes that considerable amounts of WEEE are diverted to other undocumented flows, including:

- Collected with metal scrap, in which case they are recycled but not with the same environmental and material efficiency standards as WEEE formally managed would be;
- Disposed of with mixed residual waste and ending up in incinerators and landfills;
- Illegally exported outside the EU and exported for reuse.

Moreover, a certain amount of EEE/WEEE is hoarded in households. The types of EEE/WEEE mostly hoarded are smaller items, such as small IT equipment and small equipment.

Likewise, batteries are partly disposed of with mixed municipal waste streams instead of being separately collected and treated, increasing the risk of fires at municipal treatment plants. Additionally, batteries are often part of electronic products and disposed of together with such at the end of life, without removing the batteries, which is also a risk for fires igniting in WEEE treatment plants<sup>6</sup>.

Acknowledging these issues, the European Commission (EC) commissioned a study aimed at identifying and conceptualizing EU-level policy measures to support take-back schemes for small WEEE and small UEEE to ensure higher collection rates and facilitate re-use, repair, refurbishment, and recovery of this

<sup>3</sup> Eurostat, 2023. Waste statistics – electrical and electronic equipment. [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Waste\\_statistics\\_-\\_electrical\\_and\\_electronic\\_equipment#Electronic\\_equipment\\_.28EEE.29\\_put\\_on\\_the\\_market\\_and\\_WEEE\\_collected\\_by\\_country](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Waste_statistics_-_electrical_and_electronic_equipment#Electronic_equipment_.28EEE.29_put_on_the_market_and_WEEE_collected_by_country).

<sup>4</sup> The highest collection rate for mobile phone alone in the EU is estimated at 15% of devices put on the market. See “Study on options for return schemes of mobile phones, tablets and other small electrical and electronic equipment in the EU” (European Union, 2022).

<sup>5</sup> Baldé, C.P., Iattoni, G., Xu, C., Yamamoto, T., 2022. Update of WEEE Collection Rates, Targets, Flows, and Hoarding – 2021 in the EU-27, United Kingdom, Norway, Switzerland, and Iceland, 2022, SCYCLE Programme, United Nations Institute for Training and Research (UNITAR), Bonn, Germany. [https://weee-forum.org/wp-content/uploads/2022/12/Update-of-WEEE-Collection\\_web\\_final\\_nov\\_29.pdf](https://weee-forum.org/wp-content/uploads/2022/12/Update-of-WEEE-Collection_web_final_nov_29.pdf).

<sup>6</sup> Further information on the status quo of small WEEE and portable waste battery collection in the EU, and the regulatory context in the EU, and previous work on the issue of small WEEE and battery collection is provided in deliverable 2.1.

equipment<sup>7</sup>. The study highlighted existing challenges related to the separate collection of small WEEE and small UEEE and furthermore proposed different policy measures which were identified to improve overall separate collection rates. Subsequently, in October 2023, the European Commission issued a Commission Recommendation: a set of policy recommendations<sup>8</sup> aimed at Member States to improve and incentivise the return of used and waste mobile phones, tablets, laptops and their chargers. The recommendations include using financial incentives, increasing the use of postal services, establishing partnership between reuse organisations and operators of take-back schemes, and increasing awareness and improving the convenience and visibility of collection points where people can return small electronics.

### 4.3 Regulatory context

The activities of the project and the Work Package move within the legislative context at EU level on WEEE and batteries. Please refer to chapter 4.3 of D2.1 ([https://www.ecosweee-life.eu/wp-content/uploads/2023/11/D2.1-Best-practice-collection-initiatives\\_Report-and-Booklet.pdf](https://www.ecosweee-life.eu/wp-content/uploads/2023/11/D2.1-Best-practice-collection-initiatives_Report-and-Booklet.pdf)) for an explanation of the current legislation on this topic.

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<sup>7</sup> European Commission, Directorate-General for Environment, Romagnoli, V., Bruijne, E., Drapeau, P., et al., Study on options for return schemes of mobile phones, tablets and other small electrical and electronic equipment in the EU, Publications Office of the European Union, 2022, <https://data.europa.eu/doi/10.2779/237189>

<sup>8</sup> Commission recommendation of 6.10.2023 on improving the rate of return of used and waste mobile phones, tablets and laptops. C(2023) 6618 final. [https://environment.ec.europa.eu/system/files/2023-10/C\\_2023\\_6618\\_1\\_EN\\_ACT\\_part1\\_v3.pdf](https://environment.ec.europa.eu/system/files/2023-10/C_2023_6618_1_EN_ACT_part1_v3.pdf)



Chapter 5

# Methodology of the consumers' consultation



## 5. Methodology of the consumers' consultation

The consumer survey, developed in cooperation with Altroconsumo, the largest independent consumer organization in Italy, leveraged on their deep expertise in orchestrating citizen surveys. Their pivotal role encompassed the design of the survey instrument, the methodological approach, and the execution of a test survey in Italy.

The questionnaire was then distributed also in Greece, Ireland, Malta, Portugal, Slovenia, and Romania, through the European partners of ECOSWEEE.

The intention behind carrying out these additional consultations was not to derive scientifically valid quantitative results, as the stipulated sample size was in the range of 100-300 responses by country, and the sample representativity of the national population could not always be guaranteed. Rather the objective was to get useful insights and trends in the identification of drivers and obstacles in the collection of WEEE and portable batteries.

Further research is needed to gain scientifically valid and statistically comparable results on these trends. Also due to the differences in methodological approaches, respondent recruitments and interview methods, any comparison between countries based on these data should be avoided. The differences in the various consultations will be delineated in Chapter 6 – Results of the consumer survey, categorized by country. The questionnaire, comprising 30 questions, demanded a completion time of 10 minutes.

The survey is divided into 5 sections: Introduction; Level of information; Experiences with small WEEE and batteries; Perceptions and Attitudes; and Second-hand small EEE.

### 1. INTRODUCTION

This serves as the introductory section, where generic information about the respondent is collected to construct a profile of the survey participants. The demographic variables predominantly employed for analytical purposes include age and education. These variables were selected a priori, due to their perceived significance within the purview of the investigation, with an anticipation that they wield considerable influence on disposal practices. Moreover, these variables were considered particularly useful to derive recommendations at the European level.

### 2. LEVEL OF INFORMATION

The second section delves into evaluating the respondent's foundational knowledge on the subject matter. Fundamental knowledge encompasses an understanding of the primary modes of disposal for small

WEEE and batteries, accompanied by a self-assessment of the respondent's level of awareness and sensitivity concerning the analysed theme.

### 3. EXPERIENCES WITH SMALL WEEE AND PORTABLE BATTERIES

The third section constitutes the largest part of the questionnaire, where participants' habits regarding the disposal of target objects are systematically investigated. In addition to examining disposal habits, this section delves into the underlying causes of any non-compliant behaviours. This inquiry aims to discern whether such behaviours stem from a lack of information or if they are influenced by the communication practices of the authorities responsible for the collection and disposal locations of small WEEE appliances and batteries. In particular, it was decided to investigate more in-depth the realm of small electricals by categorizing the questions into three subgroups: small household appliances, small hi-tech devices, electronic accessories, and components. This was done to discern potential variations in behaviour related to these different types of equipment.

### 4. PERCEPTIONS AND ATTITUDES

In the fourth section, inquiries aim at elucidating the respondents' opinions regarding novel methods designed to enhance the collection of target items, which will be tested in the ECOSWEEE project. The investigated systems include deposit return, online retail, direct payment, visible fee, and the collection of small WEEE and portable batteries through postal services. The objective is to gather information that can inform the development of pilot projects, establishing a foundational basis for implementation.

### 5. SECOND-HAND SMALL EEE

The final section of the questionnaire is devoted to habits related to second-hand target objects. Specifically, participants are queried about the extent of their expenditure preference for such items compared to new appliances, and the motivations that drive this preference.

## 5.1 Evaluation criteria

In the following chapter, the results of the surveys will be presented for each participating MS.

The methodologies employed in administering the questionnaire vary due to factors such as the number of respondents, composition and weighting of the sample, questionnaire administration method, survey recruitment and data analytical methods – which were not consistent among the different MS. While the comparison between states was not possible, due to the lack of scientific validity, few considerations on the main trends observed across the different states are presented in the next chapter.



Chapter 6

# Results of the consumer surveys

## 6. Results of the consumer surveys

This chapter presents the results of the consumer surveys conducted in seven Member States, namely: Italy, Slovenia, Ireland, Portugal, Greece, Malta, and Romania.

### 6.1 Summary table of participating Member State

The surveys were conducted from August to October 2023. Each Member State chose its own methodology for submitting the questions, choosing between an online survey, or administering it via telephone depending on its organisation. All consultations were conducted with at least 100 responses as a target.

The following table summarises the consultations with the main KPIs:

*Table 1. Summary table of participating Member State*

Member State	Number answers	Data collection method	Scope WEEE/ portable batteries (small waste)
Greece	300	Online form	Both
Ireland	758	Online form	Both
Italy	945	Online form	Both
Malta	100	Online form	Both
Portugal	132	Online form	Both
Romania	1500	Telephone	Both
Slovenia	300	Online form	Both

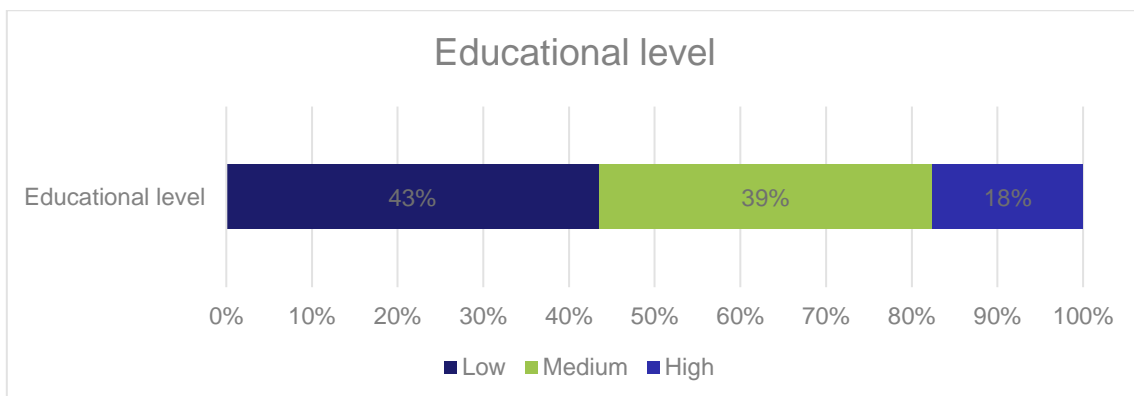
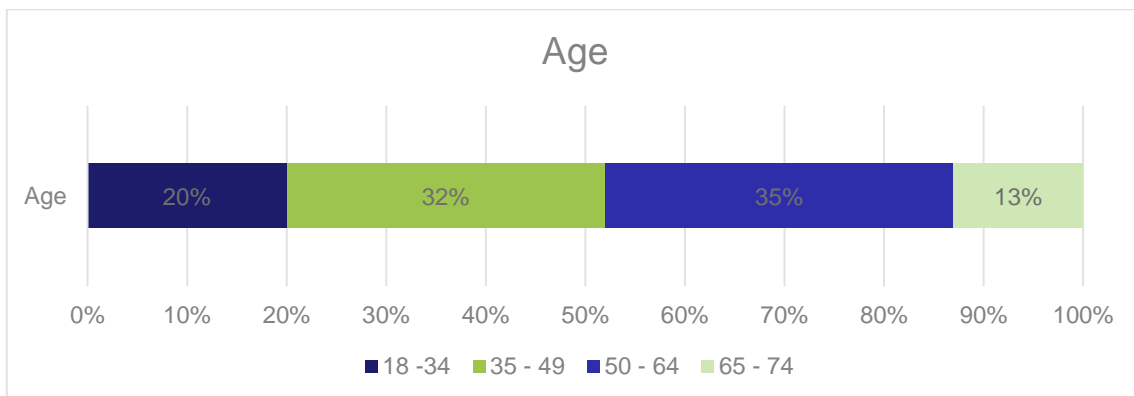
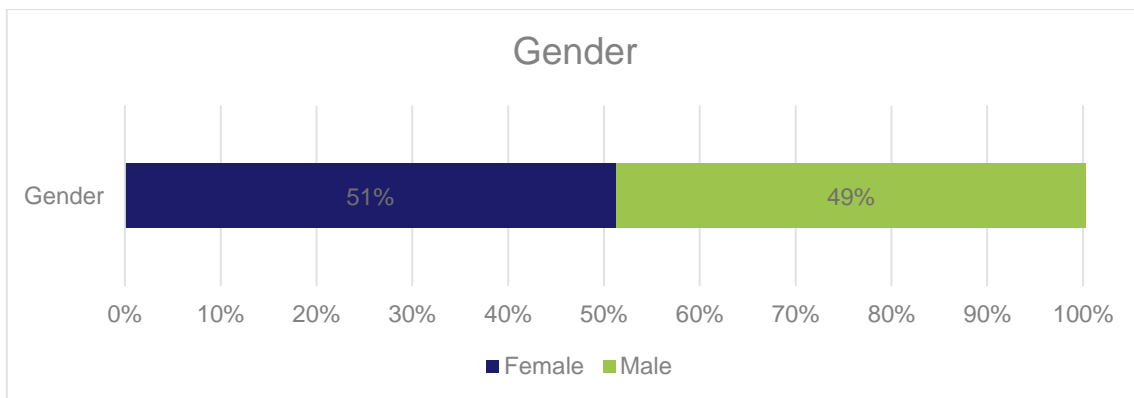
### 6.2 Italy

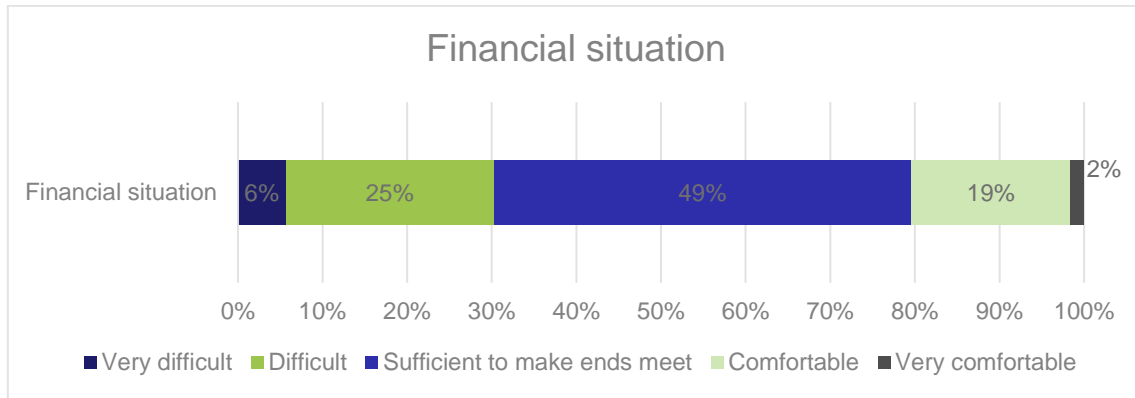
The Italian online survey targeted the general population, aged 18-74. Responses were garnered through an external panel.

Fieldwork was conducted on September 14-15, 2023, yielding a commendable 1002 valid responses. The sample was a priori stratified based on gender, age, and geographical parameters, with a post hoc weighting procedure applied to rectify discrepancies in educational levels. Survey results, presented in this document, align with the target population across gender, age, geography, and educational strata.

In this section, the main questions of the questionnaire carried out in Italy will be reported and commented upon. The most important ones have been selected for the purposes of the project, in order to understand what the habits and main obstacles for consumers are, when disposing of small WEEE and waste portable batteries, and what is their thinking and attitude towards collection incentives. The same approach will be taken in the following paragraphs for the other Member States.

The following graphs summarize the main characteristics of the Italian sample of 945 respondents, in terms of Gender, Age, Educational level and Financial situation:





*Figure 1 - Italian sample of consumers*

Q9 and Q10 investigated the consumers' knowledge of how to dispose of e-waste (small WEEE and batteries).

According to Q9, around 15% of respondents feel poorly (or not at all) informed about the correct disposal method for small WEEE and portable batteries. Only half of the sample feels well or fully informed (44% for small electricals and 51% for portable batteries).

According to almost 4 out of 5 respondents, small electricals should be taken to a municipal collection center (Q10). This disposal method was selected only by half of the sample, for portable batteries. One third of the sample (35% for small electricals, 33% for portable batteries) knows they can give the products back to the retailer. Half of the respondents (52%) knows that portable batteries should be collected through special bins on the streets but only 10% selected this method for small electronics (this might be influenced by the fact that on-street special bins are not available in all cities).

More than 90% of the respondents are aware that small electricals and portable batteries are not general or plastic waste and know at least one proper method for their disposal. The analysis did not show any statistically significant differences by age, educational level, financial situation, region, or type of living area.

Finally, it was asked whether they were aware of the 1 vs. 1 and 1 vs. 0 disposal methods<sup>9</sup> carried out by retailers. Respondents don't seem well informed about retailers' responsibilities for the safe disposal of e-waste. Only 57% of respondents gave at least 3 (out of 4) correct answers. The analysis did not show any

<sup>9</sup>one-to-one: distributors must ensure at the time of the supply of a new EEE intended for household use, the free take back of the used equipment if it is of an equivalent type.

one-to-zero: distributors with sales areas relating to EEE of at least 400 m<sup>2</sup> must provide for the collection, in their stores or in their immediate proximity, of very small WEEE (no external dimension more than 25 cm) free of charge to end-users and with no obligation to purchase an EEE.

statistically significant differences by age, educational level, financial situation, region, or type of living area.

Afterwards, **the questionnaire investigated the disposal experiences of consumers**, in order to understand their choices and motivations for the actions they have taken. As previously mentioned, in this section the questions were divided into three subcategories of small WEEE in addition to waste portable batteries: small household appliances, small hi-tech products (such as smartphones, laptops and tablets) and electronic components (such as cables, plugs). In Q14 respondents are asked what they did once a particular product (WEEE or batteries) reached the end of its life. The consumers' choice of disposal method varies by category of product:

- small household appliances: 63% brought it to a municipal collection center and 12% to the retailer; only 9% of respondents threw it in the general or plastic waste bin;
- small hi-tech devices: 34% brought it to a municipal collection center and 12% to the retailer. 33% still have the device at home, even if they stopped using it. Only 5% threw it in the general or plastic waste bin;
- electronic accessories/components: 42% brought it to a municipal collection center and 12% to the retailer. 19% of respondents threw it in the general or plastic waste bin. 18% kept it at home, even if they stopped using it;
- portable batteries: 45% of respondents threw them in a specific bin (placed on-street or at the local supermarket). 22% brought it to a municipal collection center and 20% to the retailer. Only 8% threw it in the general or plastic waste bin.

Q15 explored the reasons why the items were not disposed of properly. The main reasons for not getting rid of a product varies according to its category:

- small household appliances: they could still be useful (as a backup/spare, 70%), lack of time (42%) and limited availability of collection points (32%);
- small hi-tech devices: they could still be useful (52%) and they contain personal information (50%);
- electronic accessories and components: lack of time (39%), they contain personal information (28%), they could still be useful (26%);
- portable batteries: limited availability of collection centers (78%) and they could still be useful (40%).

The survey then explored what consumer attitudes were towards e-waste (Q23) and their thoughts on the importance of proper management. It appears that almost nine out of ten respondents (89%) believe that recycling small electricals and portable batteries is important, whether for environmental (83%), public health (83%) or financial reasons (75%). And 70% of the respondents say that they share this belief with their family and friends. Nevertheless, only half of the respondents feel that they have enough information available about how to dispose of small e-waste (56%) or about the benefits of recycling it (50%). 42% don't have many small electricals and portable batteries collecting points near their house and 56% don't trust their Municipality to properly recycle them. The analysis shows that respondents who are over 45 feel more informed about how to dispose of small electricals and portable batteries than younger ones.

Concerning the incentives, a number of questions were asked in order to understand the **attitudes, importance and willingness of consumers** towards the various incentives that will be tested in the project, in particular:

- Q17 focusing on the increase of collection points and the possibility of introducing new innovative ways (e.g. collection through the postal service or the use of lockers of e-commerce platforms);
- Q18 and Q19 to find out whether they are more willing to dispose of waste in exchange for an economic incentive, for what minimum amount and how;
- Q20 to find out what they think about the introduction of deposit return also for small WEEE and waste portable batteries and for what amount they would be motivated to change their habits;
- Q22 to find out whether consumers are aware of the existence of the eco-contribution in the price of the products they buy, and whether knowing this makes them more aware of making the right choice.

Q17 results show that the most appreciated incentive is the presence of specific bins: more than 4 out of 5 respondents find it convenient, no matter if they're placed at the supermarket (87%), at the electronic appliance's retailers (85%) or on the street (84%). Almost two thirds of respondents find the door-to-door withdrawal convenient (61% by online delivery, 57% by the postal service). Only around half of the sample (52%) appreciated the possibility of dropping the products at parcel lockers. The least convenient of the incentives proposed is the possibility to send the products via postal service through a prepaid envelope (33% of the sample find it convenient). Those aged 65 to 74 years old find the possibility of using parcel lockers or sending a prepaid envelope via postal service less convenient than younger respondents.

Analysing the results of Q18 and Q19 shows that financial incentives are more appreciated for the most expensive items (smartphones or coffee machines). Nevertheless, most of respondents would be more willing to dispose of USB flash drives (72%) and stylus batteries (71%) if they received a financial incentive.



The value of the financial incentive required appears to be correlated with the products value. For instance, an amount of 5€ would motivate just a little more than half of respondents (who declare to be sensitive to financial incentives) for smartphones (57%) and coffee machines (58%), but the figure rises to nine out of ten, when it comes to USB flash drives (87%) or stylus batteries (92%). The analysis<sup>10</sup> shows that the average incentive needed for smartphones is higher among those under the age of 50. For stylus batteries the differences between age ranges are not statistically significant. The most appreciated financial incentive is monetary (chosen by 60% of respondents).

With regard to the question on deposit return (Q20) it was found that respondents appear less sensitive to this type of incentive, compared to the financial one. Only 42% of them would be more willing to correctly dispose of a smartphone (40% a coffee machine) and the figure is even lower (30%) for USB flash drives and stylus batteries. The minimum amount for the deposit is in line with the amount expected for the financial incentive. An amount of 5€ for the deposit would motivate just a little more than half of respondents who declare to be sensitive to the deposit incentive, for smartphones and coffee machines (55%), but almost nine out of ten, when it comes to USB flash drives (85%) or stylus batteries (87%). The analysis does not show any statistically significant differences in the average amount needed for the deposit by age, educational level, financial situation, region, or type of living area.

Over one third of the sample (37%) affirms that being able to clearly see how the cost for waste management affects the price (Q22), when purchasing an electronic item, will surely motivate them to better dispose of that item in the future. Among those who are aware that waste management costs are included in the final price of an electronic product, this figure is higher (44%, Table 25). The analysis did not show any statistically significant differences by age, educational level, financial situation, region, or type of living area.

Finally, the survey poses some questions on **second-hand purchases of electrical and electronic products**. Q24, Q25 and Q26 ask how often consumers buy used products, which ones and for what reason. Almost half of the sample (48%) occasionally purchases second-hand small electricals. Only 4% of respondents often buy them second-hand. The analysis<sup>11</sup> shows that respondents over the age of 40, living in rural or semi-urban areas, buy second-hand small electricals less frequently. Respondents under the age of 30 are the ones that buy them more often. Among those who buy second-hand items, 42% buy small household appliances, 35% smartphones and 21% tablet or laptops. The main driver for buying

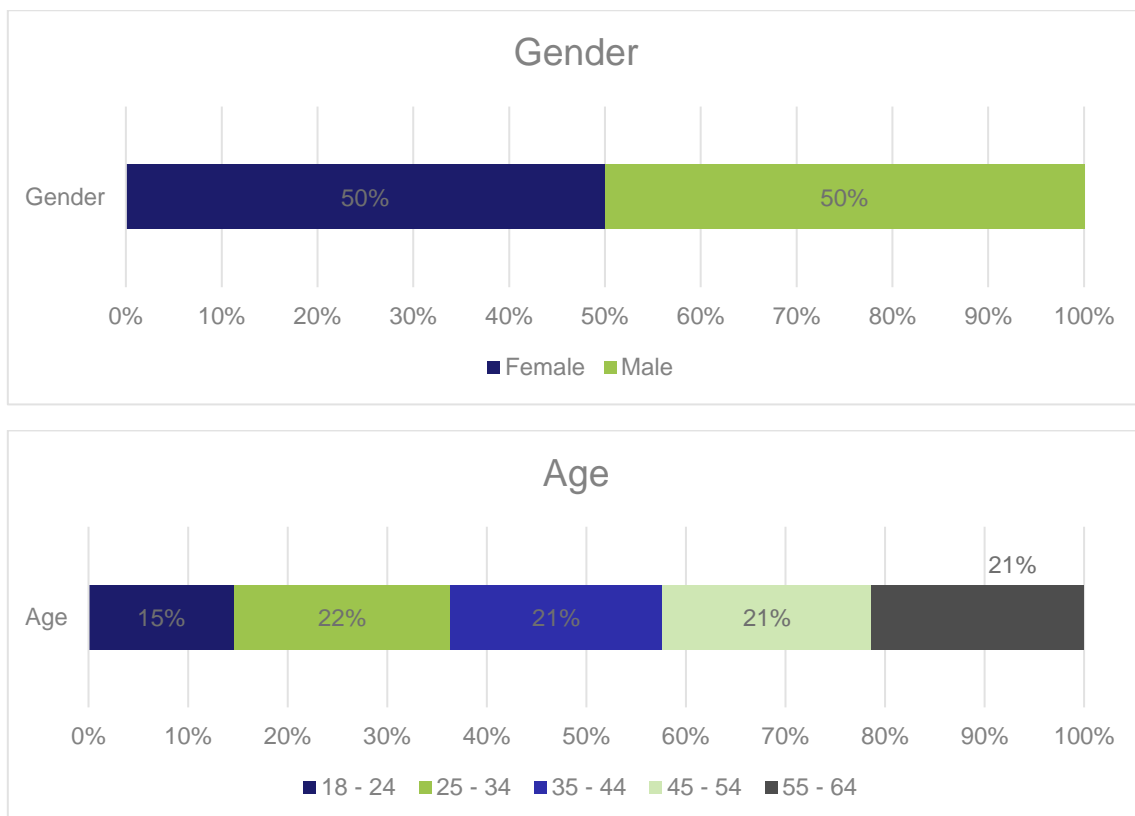
<sup>10</sup> A CHAID (Chi-square automatic interaction detection) analysis has been performed for the detection of interaction between the average incentive needed and the following independent variables: age, educational level, financial situation, type of living area and geographical region.

<sup>11</sup> A CHAID (Chi-square automatic interaction detection) analysis has been performed for the detection of interaction between the frequency of second-hand small electricals buying and the following independent variables: age, educational level, financial situation, type of living area and geographical region.

second-hand small electricals is financial: 96% of respondents take this aspect at least partly into account and for half of them it's very important. Environmental reasons are considered as highly important by only a quarter of the sample 25%.

### 6.3 Greece

The survey was administered in the form of an online interview to a sample of 300 people living in different areas of Greece. The following graph shows the sample of people (300) who were subjected to the questionnaire divided by gender and age:



**Figure 2 - Greek sample of consumers**

The structure of the questionnaire is described in the methodology and included in the Annex.

**Consumers' knowledge of how to dispose small WEEE and batteries** was investigated, asking them whether they felt informed about how to dispose of them and the ways they dispose of them.

More than half of the respondents (55%) feel well informed about disposal methods, while a considerable part (45%) of them do not consider themselves well informed about the proper way to dispose small WEEE & batteries. The age group of 45 - 54 feels slightly more informed on the proper way to dispose small WEEE and batteries (61%). The 20% of 55–64-year-olds find themselves uninformed.

Specific recycling bins were the first choice for the perceived proper disposal place for both small WEEE and batteries, with 78% and 81% respectively; followed by electrical and electronic shops (72% for WEEE and 66% for batteries). 12% of the respondents perceive the recycling bins for packaging material as a proper way to dispose WEEE and the same is true for 8% of the people when it comes to batteries.

Even today, the role of retailers in the collection of WEEE & batteries is not clear for at least 2 out of 10 people.

Afterwards, **the questionnaire investigated the disposal experiences of consumers**, in order to understand their choices and motivations for the actions they have taken. As previously mentioned, in this section the questions were divided into three subcategories of small WEEE in addition to waste portable batteries: small household appliances, small hi-tech products (such as smartphones, laptops and tablets) and electronic components (such as cables, plugs). The consumers' choice of disposal method varies by category of product:

- small household appliances: 58% of disposals end up in EEE stores and collection points. 14% end up in = recycling bins for packaging & general waste bins.
- small hi-tech devices: more than 3 out of 10 people keep their small appliances of high technology at home, upon discontinuation of usage. Still, the percentage that ends up in general bins or blue recycling bins is smaller than that of small WEEE (6% and 14% respectively);
- electronic accessories/components: the most common behaviour with electronic accessories and components is to keep them at home (30%). 23% dispose them in the wrong place: in general waste bins (15%) and in recycling bins for packaging (8%). Interestingly, significantly more respondents between 18–24-year-olds are disposing them in general waste bin (24%). This is perhaps related to the fact that the younger generation is less informed on the topic;
- portable batteries: 66% of people dispose their batteries in the appointed places. Still, it is a product category with significant fluctuations based on age and gender 15% of the people dispose their batteries in the recycling bins for packaging and this is true for significantly more people between 35-44 years-old (24%).

In the next question, the reasons for not proper disposal were investigated. The main reasons for not getting rid of a product varies according to the specific category:

- small household appliances: they could still be useful (as a backup/spare), lack of time and the limited availability of collection points;

- small hi-tech devices: they could still be useful (as a backup/spare), lack of time, the limited availability of collection points and they contain personal information;
- electronic accessories and components: the fact that electronic accessories and components take up little space is the main reason for keeping it at home. The second reason is the not easy access at collection points;
- portable batteries: 1 out of 4 respondents think that batteries should be disposed of in general waste or recycling bins. The second most common reason for this behaviour is the lack of easy access in collection points.

As mentioned earlier, in order to understand the attitudes, importance and willingness of consumer towards the various incentives, questions related to the topic were asked. Here are the results:

Q17 results show that the most appreciated incentive is the presence of specific bins: more than 4 out of 5 respondents find it convenient, no matter if they're placed at the supermarket, at the electronic appliance's retailers (87%) or on-street (81%). Almost two thirds of respondents find the door-to-door withdrawal convenient. Around half of the sample (62%) appreciated the possibility of dropping the products at parcel lockers.

The results of Q18 and Q19 show that financial incentives are more appreciated for the most expensive items. The incentive seems to play a major role in directing people into proper disposal of their appliances (around 90%). Smartphones are the devices for which people require a higher amount to be persuaded to return them. For small WEEE, an incentive of 10€ would be an effective amount to motivate 76% of people. Cash is by far the most impactful financial incentive (73%), especially for younger groups (18-24 years old, 84%).

With regard to deposit return (Q20), it was found that respondents appear less interested to this type of incentive, compared to the financial one. More than 6 out of 10 people would be willing to pay in advance disposal expenses and have them returned when they dispose their appliances in a proper way.

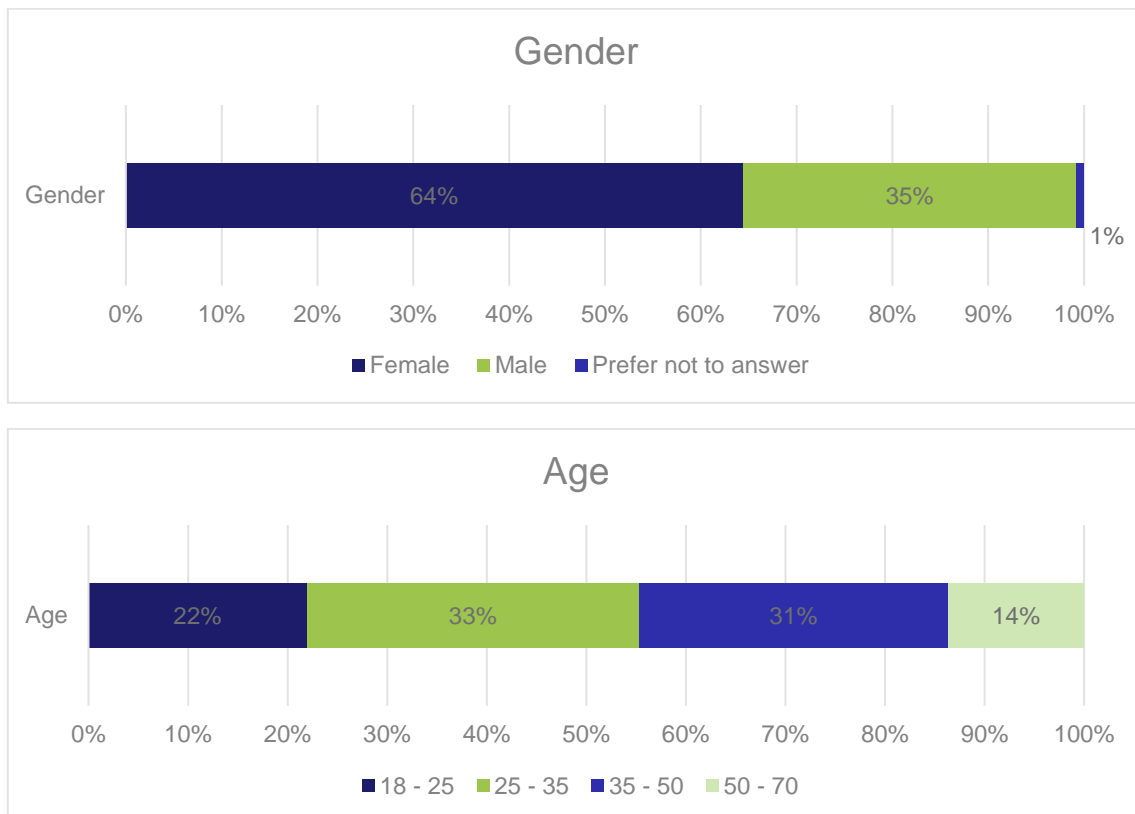
Almost one third of the sample (33%) affirms that being able to clearly see how the cost for waste management affects the price (Q22), when purchasing an electronic item, will surely motivate them to better dispose of that item in the future.

Finally, the survey poses some questions on **second-hand purchases of electronic products**. Q24, Q25 and Q26 ask how often consumers buy used products, which ones and for what reason. Only 4% of respondents often buy them second-hand. More expensive products that become easily obsolete, such

as smartphones and tables, seem to prevail in the market of used and refurbished EEE. Today, it is the financial benefit that motivates people towards used or refurbishes EEE equipment (71%).

## 6.4 Portugal

The survey was administered in the form of an online interview to a sample of 132 people living in different areas of Portugal. The following graph shows the sample of people who were subjected to the questionnaire divided by gender and age:



**Figure 3 - Portuguese sample of consumers**

The structure of the questionnaire is described in the methodology and included in the Annex.

Less than half of the respondents (39%) feel well informed, while a considerable part (61%) of them do not consider themselves well informed regarding the proper way to dispose small WEEE and batteries (Q9). Retailers are the most used collection points for both small WEEE (61%) and batteries (54%), followed by municipal collection points (27% and 24% respectively) (Q10).

Afterwards, **the questionnaire investigated the disposal experiences of consumers**, in order to understand their choices and motivations for the actions they have taken. In this part, as described in the methodology, questions were asked, in addition to batteries, for three subcategories of small WEEE: small household appliances, small hi-tech products (such as smartphones, laptops and tablets) and electronic

components (such as cables, plugs). The consumers' choice of disposal method varies by category of product:

- small household appliances: 35% of disposals end up in EEE stores and collection points (but 18% answered 'other', due to different modes of disposal in Portugal). 13% end up in plastic recycling bins & general waste bins. 29% is kept at home;
- small hi-tech devices: 60% say they keep it at home and 14% said they would resell or donate it;
- electronic accessories/components: the most common way to dispose electronic accessories and components is by keeping them at home (42%). 18% dispose them in general waste bins and 3% with plastic;
- portable batteries: 44% of people dispose their batteries in the appointed places (19% answered 'other' referring to a different specific place used in Portugal). A good percentage, 25%, keep it at home, and 12% dispose it in the wrong place.

The main reasons for not getting rid of a product varies according to its category:

- small household appliances: lack of time and the limited availability of collection points;
- small hi-tech devices: they could still be useful (as a backup/spare), lack of time, the limited availability of collection points and they contain personal information;
- electronic accessories and components: the fact that electronic accessories and components take up little space is the main reason for keeping it at home. They also keep it at home (keep it as backup/spare);
- portable batteries: the most common reasons for this behaviour are the lack of time and because they can perhaps be used for other purposes in the future.

As mentioned earlier, in order to understand the attitudes, importance and willingness of consumer towards the various incentives, questions related to the topic were asked. The most appreciated incentive is the presence of specific bins: more than 4 out of 5 respondents find them convenient, no matter if they're placed at the supermarket, at the electronic appliance's retailers (87%) or on the street (88%). Almost 60% of respondents find the door-to-door withdrawal convenient. Around half of the sample (47%) appreciated the possibility of dropping the products at parcel lockers. Only 42% of the respondents find the postal service convenient. (Q17).

Financial incentives are more appreciated for the most expensive items. The incentive seems to play a major role in directing people into proper disposal of their appliances (more than 80%). As a method of payment, 53% vote for direct payment, the remaining half split between voucher or donation to charity. (Q18, Q19).

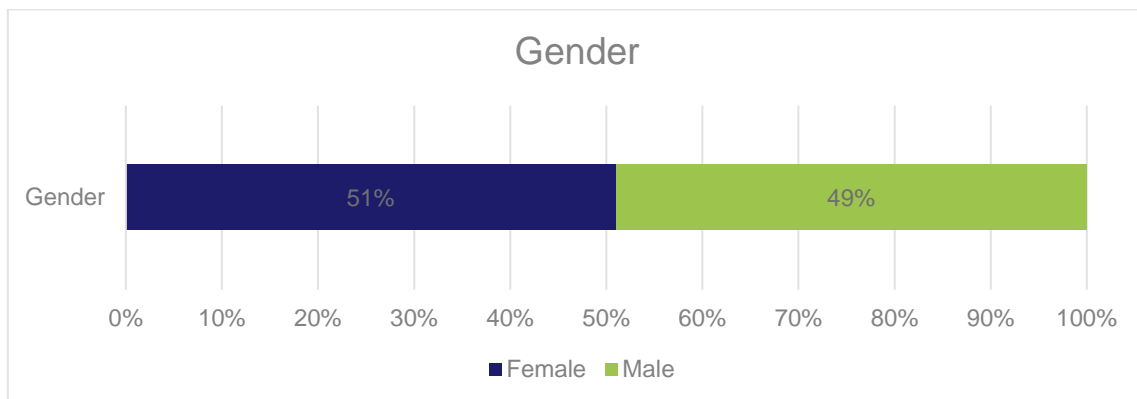
With regard to deposit return (Q20), respondents appear less sensitive to this type of incentive, compared to the financial one. Around 6 out of 10 people would not be willing to pay in advance disposal expenses and take it back if they dispose properly.

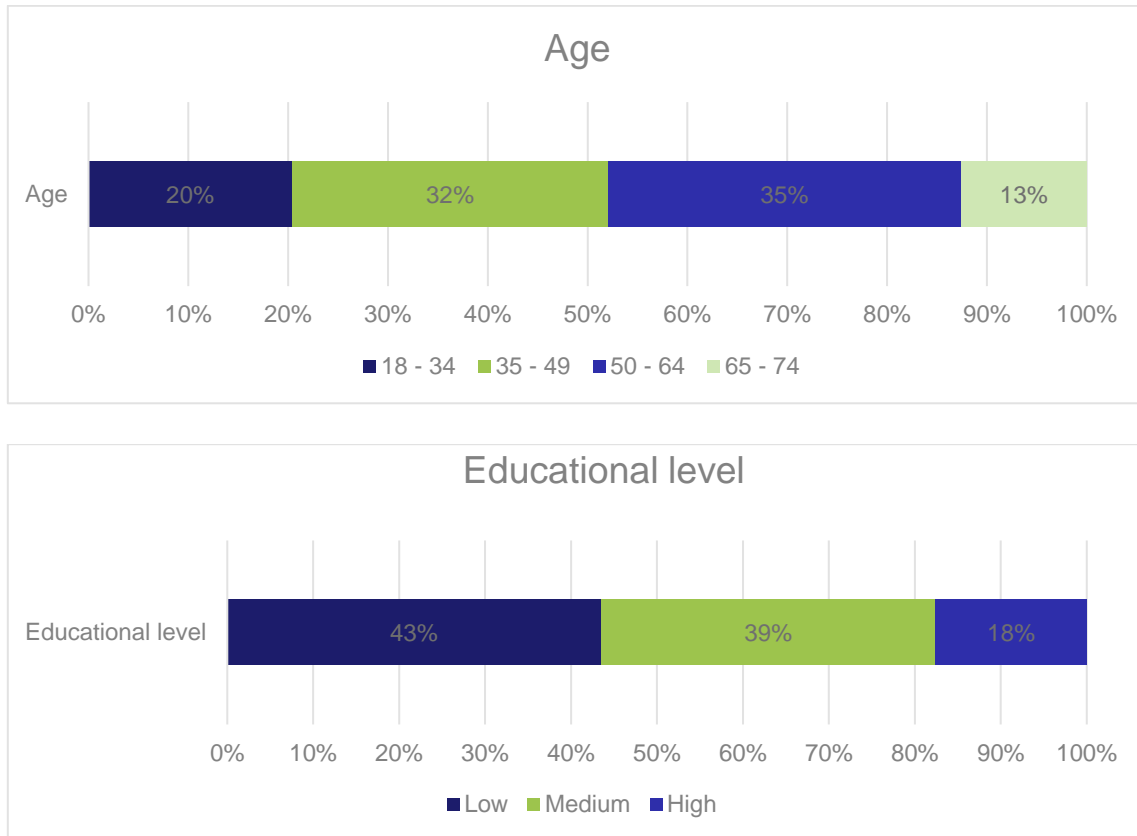
Only the 42% knows that disposal costs are included in the price of the product. The 76% affirms that being able to clearly see how the cost for waste management affects the price (Q22), when purchasing an electronic item, will surely motivate them to better dispose of that item in the future.

## 6.5 Ireland

Research was conducted through an online survey across a nationally representative sample of 758 adults aged 18+. Quotas were placed on gender, age, social class, and region with weighting applied to ensure final data was representative of the respective quotas.

The following graph shows the sample of people (758) who were administered the questionnaire divided by gender, age, and educational level:





**Figure 4 - Irish sample of consumers**

The structure of the questionnaire is described in the methodology and included in the Annex, however no questions on reuse and refurbishment were included in the Irish version, for reasons related to the organization's positioning towards consumers, it was decided not to implement this part within their survey. About 3 in 5 respondents feel well or fully informed on how to dispose of each of small electricals and portable batteries. The biggest part of them is aged 55+ (71% for small electricals, 70% for portable batteries). Almost 2 in 3 respondents say small electrical appliances should be disposed of through retailers, while the others are inclined to believe batteries should go to public collection centers.

Finally, it was asked whether they were aware of the 1:1 and 0:1 take-back obligations by retailers (e.g. 1 take-back for every 1 new appliance sold and take-back obligation without any appliances sold). At least two thirds of consumers are aware of these possibilities for disposal and believe that retailers are obliged to have take-back systems inside their stores. Large retailers are expected to offer more options to consumers.

Afterwards, **the questionnaire investigated the disposal experiences of consumers**, in order to understand their choices and motivations for the actions they have taken. In this part, as described in the methodology, questions were asked, in addition to batteries, for three subcategories of small WEEE: small household appliances, small hi-tech products (such as smartphones, laptops and tablets) and electronic



components (such as cables, plugs). The consumers' choice of disposal method varies by category of product:

- small household appliances: 6 in 10 respondents brought them to a public collection centre or retailer for disposal, 13% threw them into the general waste bin or plastic waste bin;
- small hi-tech devices: people are much more likely to keep such appliances at home (1 in 3), with just 4 in 10 either bringing to a retailer or public collection centre for disposal;
- electronic accessories/components: just under half of the respondents (45%) disposed them through a retailer or public collection centre, over 1 in 5 (21%) either threw them in the general waste or plastics bin;
- portable batteries: portable batteries are most commonly brought to supermarkets or convenience stores for disposal as opposed to electronic retailers, with 1 in 4 bringing them to public collection centres and 9% throwing them in the general waste.

In the next question, Q15, the reasons were asked why it was not disposed of properly. The reasons are different according to the category of waste e for the method of disposal:

- small household appliances: 37% of the respondents wish to keep as a backup or for other specific reasons, 29% for the lack of easy access to collection centres. Disposing in either general or plastic waste is typically done out of a lack of knowledge or awareness of correct disposal, or else due to not having easy access to collection centres;
- small hi-tech devices: the single primary factor cited for hanging onto small hi-tech devices is the fact they hold personal information, with hanging onto it as a backup is also a factor. The number of consumers disposing of small hi-tech devices in the waste is low overall (only 7%); among those who do so, lack of understanding is the biggest reason;
- electronic accessories and components: keeping accessories or components as back up is the most common reason, followed by having no pressing need to dispose of it and lack of easy access to collection centres. Uncertainty around how to dispose of such items or mistaken belief that they were doing the right thing in how they disposed of it account for the majority of reasons people disposed of electronic accessories or appliances incorrectly;
- portable batteries: while only a small proportion keep older batteries at home, this is more typically due to lack of time, inclination, or easy access to collection centres. 12% in total disposed of

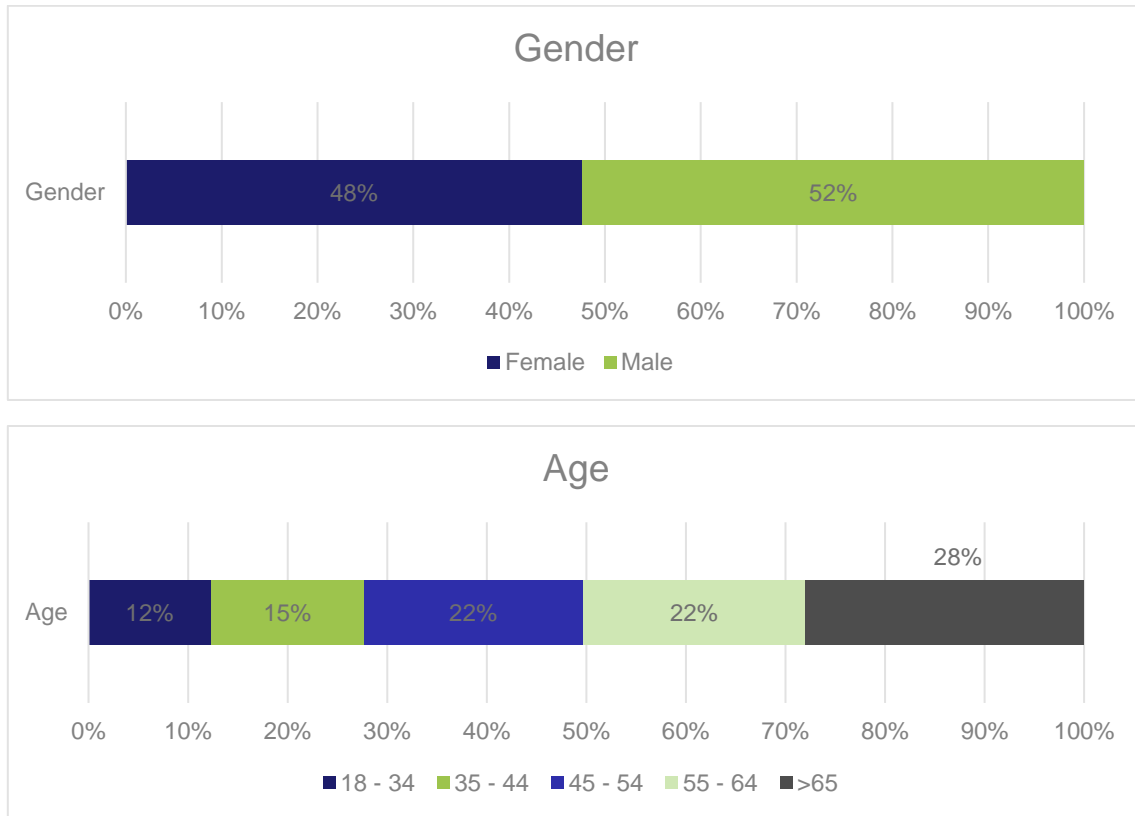
batteries either in general or plastic waste, with uncertainty or lack of knowledge about where to dispose of it as the number 1 reason for this.

As mentioned earlier, in order to understand the attitudes, importance and willingness of consumer towards the various incentives, questions related to the topic were asked.

- The most appreciated incentive is the presence of specific bins: the presence of specific bins for small WEEE and portable batteries is seen as the most convenient solution for consumers, especially at supermarkets and electronics retailers (89% and 86%). Positive reaction also to collection, postal (65%) and parcel locker options (57%), but not nearly to the same degree (Q17).
- Financial incentives are more appreciated for the most expensive items. 82% of respondents are willing to dispose of at a collection point in return for a financial incentive for AA batteries, with over two thirds also saying they are likely to do so for smartphone. Lower levels, but still over half of respondents are willing to do so for coffee machines or flash drives. While a minority would be happy with a charity donation, and 1 in 4 would take vouchers or discounts off other products, a two thirds majority would be looking to receive the incentive in cash (Q18 and Q19).
- With regard to the question on deposit return (Q20), it was found that across all product categories, a narrow majority of about 6 in 10 would be willing to dispose of products at collection points if they had a deposit to redeem.
- 52% of the interviewed consumers believe that recycling costs are included in the price paid by consumers for electronic products, with 16% saying no and 1 in 3 saying they don't know. Belief that recycling costs are included increases among the older age groups and is lowest among under 35s'. 80% say they would be more willing to recycle if they could clearly see the amount paid for recycling, with just 8% less willing.

## 6.6 Slovenia

The survey was carried out online involving 300 respondents. The sample is representative by gender, age, education and region. The following graph shows the sample of people who were subjected to the questionnaire divided by gender and age:



*Figure 5 - Slovenian sample of consumers*

The structure of the questionnaire is described in the methodology and included in the Annex.

More than half of the respondents (62% for small WEEE and 64% for waste portable batteries) feel well informed about disposal methods, while around 37% of them do not consider themselves well informed regarding the proper way to dispose small WEEE & batteries. Municipal collection points, retailers and specific on-street bins are the most used collection points for both small WEEE and batteries. Only about 1% declare that they use general waste and plastic collection to dispose of this waste.

Finally, it was asked whether they were aware of the 1 vs. 1 and 1 vs. 0 disposal methods carried out by retailers. Just under two thirds are aware of the possibility of retailers taking back small WEEE, the percentage increases for batteries.

Afterwards, **the questionnaire investigated the disposal experiences of consumers**, in order to understand their choices and motivations for the actions they have taken (Q14). In this part, as described in the methodology, questions were asked, in addition to batteries, for three subcategories of small WEEE: small household appliances, small hi-tech products (such as smartphones, laptops and tablets) and electronic components (such as cables, plugs). The consumers' choice of disposal method varies by category of product:

- small household appliances: 55% of disposals end up in EEE stores and municipal collection points, about 23 % in specific street bins. Only 2% end up in plastic recycling bins & general waste bins. 12% of respondents keep them at home;
- small hi-tech devices: 38% of consumers say they keep them at home and 8% respond that they would resell or donate them. 45% declare that they used the correct channels for collection;
- electronic accessories/components: the most common way to dispose of electronic accessories and components are at municipal collection points and specific on-street bins (58%). Only 6% dispose them in general and plastic waste bins. 26% of respondents keep them at home;
- portable batteries: 87% of respondents dispose of their batteries in the appointed places. 7% keep it at home, and only the 3% dispose of it in the wrong place.

The main reasons for not getting rid of a product varies according to its category (Q15):

- small household appliances: keep it as backup/spare, lack of time, the limited availability of collection points;
- small hi-tech devices: they could still be useful (as a backup/spare), lack of time, the limited availability of collection points and they contain personal information;
- electronic accessories and components: the fact that electronic accessories and components take up little space is the main reason for keeping it at home. They also keep it at home (keep it as backup/spare) and for the limited availability of collection points;
- portable batteries: the most common reasons for this behaviour are the lack of time, the fact that they can perhaps be used for other purposes in the future and they take up little space at home.

As mentioned earlier, in order to understand the attitudes, importance and willingness of consumer towards the various incentives, questions related to the topic were asked. Here are the results:

- The most appreciated incentive is the presence of specific bins: more than 4 out of 5 respondents find it convenient, no matter if they're placed at the supermarket, at the electronic appliance's retailers (90%) or on-street (91%). Almost 60% of respondents find the door-to-door withdrawal convenient. Less than half of the sample (40%) appreciated the possibility of dropping the products at parcel lockers. Only 44% of the respondents find the postal service convenient (Q17).
- Financial incentives are more appreciated for the most expensive items. The incentive seems to play a major role in directing people into proper disposal of their appliances (around 80%). As a

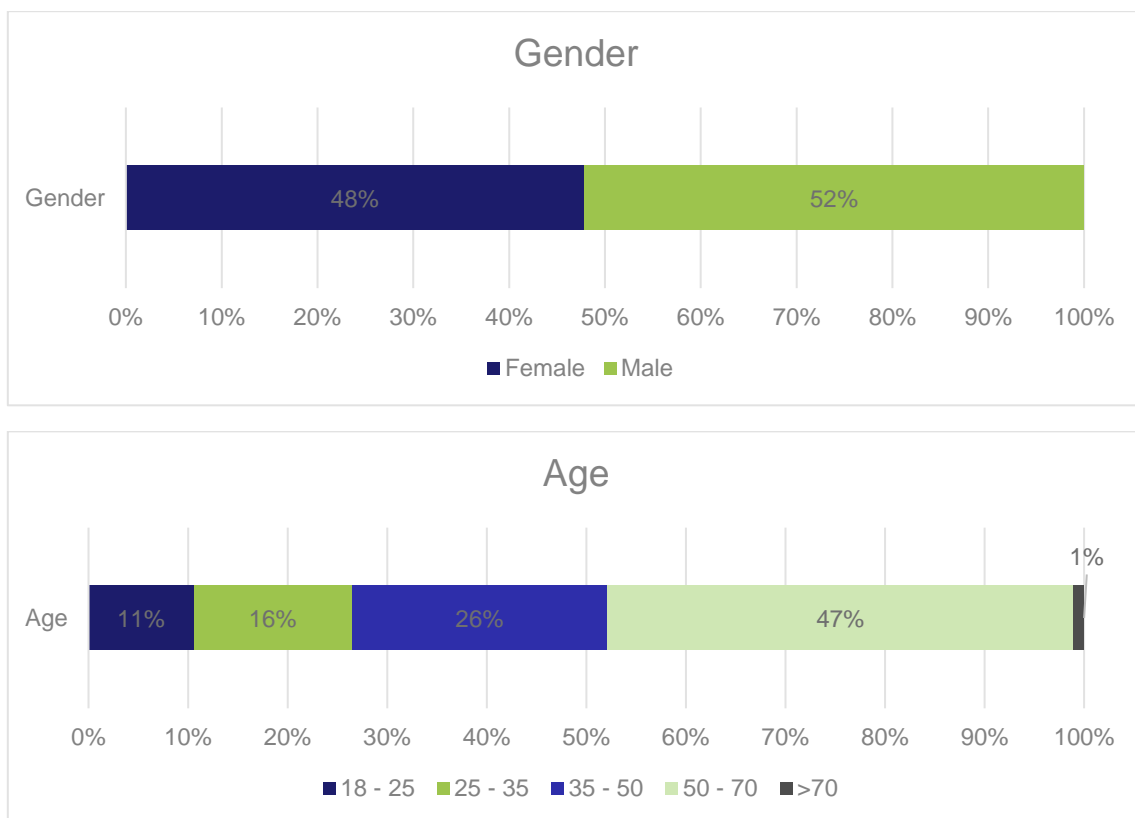
method of payment, 54% of consumers vote for direct payment. The remaining half, splits between voucher or donation to charity (26% and 20%) (Q18 and Q19).

- With regard to the question on deposit return (Q20), it was found that respondents appear less sensitive to this type of incentive, compared to the financial one. Around 6 out of 10 people would not be willing to pay disposal expenses in advance and take them back if they dispose properly.
- Around 58% of respondents know that disposal costs are included in the price of the product. The 76% of them affirm that being able to clearly see how the cost for waste management affects the price, when purchasing an electronic item, will surely motivate them to better dispose of that item in the future (Q22).

Finally, the survey poses some questions on **second-hand purchases of electronic products**. Only 4% of respondents often buy them second-hand. Today, it is the financial benefit that motivates people towards used or refurbished EEE equipment (84%).

## 6.7 Romania

The survey was submitted by telephone to a sample of 1500 consumers. The following graph shows the sample of people who were subjected to the questionnaire divided by gender and age:



*Figure 6 - Romanian sample of consumers*

The structure of the questionnaire is described in the methodology and included in the Annex. On the latest consumer experiences, differently from the other Member States, questions were only asked about smartphones, tablets, laptops and portable batteries. Questions on second hand apparels were not asked.

Less than half of respondents (44%) feel well informed and a considerable part (56%) of the people do not consider themselves well informed regarding the proper way to dispose of small WEEE & batteries. Retailers are the most used collection points for both small WEEE (39%) and batteries (38%), followed by municipal collection points (30% and 26% respectively) and specific on-street bins (25% and 31% respectively). Only about 5% of consumers declare that they use general waste and plastic collection to dispose of this waste.

Afterwards, **the questionnaire investigated the disposal experiences of consumers**, in order to understand their choices and motivations for the actions they have taken (Q14). The consumers' choice of disposal method varies by category of product:

- smartphone e tablet: 48% of respondents keep them at home and 27% say they would resell or donate it. Only 16% place it immediately in the right place;
- laptop: 45% of respondents keep them at home and 28% say they would resell or donate it. Only 19% place it immediately in the right place;
- portable batteries: 63% of people dispose of their batteries in the appointed places. A good percentage, 24%, keep it at home, and 11% dispose of them in the wrong place.

In the next question (Q15), the reasons were asked why it was not disposed of properly. The main reasons for not getting rid of a product varies according to its category:

- smartphone, tablet and laptop: the main reasons are the possible future uses, the difficulty in reaching the pick-up points and the presence of personal data inside;
- portable batteries: the most common reasons for this behaviour are the lack of time and because they can perhaps be used for other purposes in the future. 25% say they keep them at home to accumulate them for one trip to the disposal point.

As mentioned earlier, in order to understand the attitudes, importance and willingness of consumer towards the various incentives, questions related to the topic were asked. Here are the results:

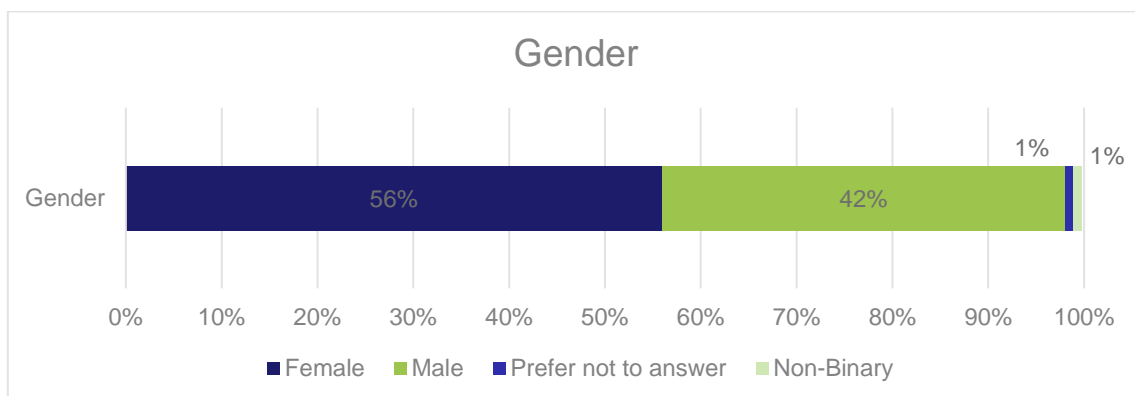
- The most appreciated incentive is the presence of specific bins: no matter if they're placed at the supermarket, at the electronic appliance retailers (64%) or on-street (70%). Almost 60% of respondents find the door-to-door withdrawal convenient. Around half of the sample (47%)

appreciated the possibility of dropping the products at parcel lockers. Only 40% find the postal service convenient.

- Financial incentives are more appreciated for the most expensive items. The incentive seems to play a major role in directing people into proper disposal of their appliances (more than 90%). As a method of payment, 41% of respondents vote for direct payment. the remaining half split between voucher or donation to charity. (Q18 and Q19).
- With regard to the question on deposit return (Q20), it was found that respondents appear sensitive to this type of incentive. Around 7 out of 10 respondents would be willing to pay disposal expenses in advance and take it back if they dispose of properly.
- Only the 15% of respondents know that disposal costs are included in the price of the product. 82% of them affirms that being able to clearly see how the cost for waste management affects the price , when purchasing an electronic item, will surely motivate them to better dispose of that item in the future (Q22).

## 6.8 Malta

The survey was carried out online with 108 respondents. The sample is representative by gender, age, education and region. As for the other countries, the structure of the questionnaire is described in the methodology and included in the Annex.



*Figure 7 – Malta sample of consumers*

Less than half of the respondents (34% for small WEEE and 44% for waste portable batteries) feel well informed about disposal methods, while around 20% of them do not consider themselves well informed regarding the proper way to dispose small WEEE & batteries. Municipal collection points, retailers and specific on-street bins are the most used collection points for both small WEEE and batteries. Lower percentages declare that they use general waste and plastic collection to dispose of this waste (8,4% for small WEEE and 1,9% for waste portable batteries).

It was asked whether they were aware of the 1 vs. 1 and 1 vs. 0 disposal methods carried out by retailers. About half of the respondents are aware of the possibility of retailers taking back small WEEE and waste portable batteries.

Afterwards, the questionnaire investigated the disposal experiences of consumers, in order to understand their choices and motivations for the actions they have taken (Q14). In this part, as described in the methodology, questions were asked, in addition to batteries, for three subcategories of small WEEE: small household appliances, small hi-tech products (such as smartphones, laptops and tablets) and electronic components (such as cables, plugs). The consumers' choice of disposal method varies by category of product:

- small household appliances: 39% of disposals end up in EEE stores and municipal collection points. Around 9% end up in plastic recycling bins & general waste bins. Almost 33% of respondents keep them at home;
- small hi-tech devices: 61% of consumers say they keep them at home and 10,5% respond that they would resell or donate them. Only 18% declare that they used the correct channels for collection;
- electronic accessories/components: the most common way to dispose electronic accessories and components is to keep them at home (41%). 27,5% dispose them in general and plastic waste bins. Only 20% of respondents used the correct channels for collection;
- portable batteries: 69% of people dispose of their batteries in the appointed places. 20% keep it at home, and only the 6% dispose of it in the wrong place.

The main reasons for not getting rid of a product varies according to its category (Q15):

- small household appliances: keep it as backup/spare, lack of time, the limited availability of collection points;
- small hi-tech devices: they could still be useful (as a backup/spare), lack of time, the limited availability of collection points and they contain personal information;
- electronic accessories and components: the fact that electronic accessories and components take up little space is one of reason for keeping it at home. They also keep it at home (keep it as backup/spare) and for the limited availability of collection points;
- portable batteries: the most common reasons for this behaviour are the lack of time, the fact that they can perhaps be used for other purposes in the future, and they take up little space at home.



As mentioned earlier, to understand the attitudes, importance and willingness of consumer towards the various incentives, questions related to the topic were asked. Here are the results:

- The most appreciated incentive is the presence of specific bins: more than 4 out of 5 respondents find it convenient, no matter if they're placed at the supermarket, at the retailers or on-street. The use of parcel lockers or postal services were among the lowest rated services.
- Financial incentives are more appreciated for the most expensive items. The incentive seems to play a major role in directing people into proper disposal of their appliances. As a method of payment, 60% of consumers vote for direct payment. The remaining half, splits between voucher or donation to charity (Q18 and Q19).
- Regarding the question on deposit return (Q20), it was found that respondents appear less sensitive to this type of incentive, compared to the financial one. Around 6 out of 10 people would not be willing to pay disposal expenses in advance and take them back if they dispose properly.
- Around 40% of respondents know that disposal costs are included in the price of the product. The 72% of them affirm that being able to clearly see how the cost for waste management affects the price, when purchasing an electronic item, will surely motivate them to better dispose of that item in the future (Q22).
- Finally, the survey poses some questions on second-hand purchases of electronic products. Only 3% of respondents often buy them second-hand. Today, it is the financial benefit that motivates people towards used or refurbished EEE equipment.



Chapter 7

# Conclusions

## 7. Conclusions

In this chapter, the main conclusions that can be drawn from the results of each individual Member State will be presented. As described in chapter 5, the results cannot be combined and compared for methodological reasons; therefore, the conclusions are recommendations/considerations based on the trends of each State.

From the responses regarding **consumers' awareness and knowledge of waste disposal methods**, it appears that, on average, less than half of the individuals are fully informed (slightly higher percentage for batteries). The most recognized disposal method is certainly the municipal collection center or specific bins in cities, with retail usage being less known among consumers. Surely, increasing awareness and greater involvement of retailers will be necessary actions.

From the analysis of the **consumer habits**, it appears that small household appliances, along with batteries, are the least improperly disposed products. Unfortunately, small hi-tech products (smartphones, laptops, and tablets) are still predominantly kept in citizens' homes, mainly due to their value and fear of personal data leakage. Electronic components are among the most improperly disposed items, with few consumers recognizing them as WEEE.

Moving on to the results regarding **incentives**, it appears that the increase in collection points is definitely the most appreciated choice, while the introduction of new methods such as **postal services** and the use of **parcel lockers** is less favoured. **Economic incentives** could certainly increase consumers' willingness to enhance collection, but they are closely tied to the value of the item. The choice of a **deposit return** is less appreciated, mainly due to its challenging implementation. The "long" life of products could certainly deter consumers.

In general, we can say that in none of the States where we conducted the survey, the majority of people are aware of the **eco-contribution**. However, in all of them, the majority of respondents affirm that after learning about it, they might change their disposal habits. This trend confirms the enormous importance of communication in increasing citizens' awareness.

Lastly, the choice to buy **second-hand products** is not the first preference for the vast majority of people. The few who opt for this choice are motivated mainly by economic reasons.



# Annexes

## The survey:

### TO START

#### 1. You are...?

1 = female

2 = male

3 = non-binary

4 = prefer not to answer

#### 2. How old are you? \_\_ years old

#### 3. Educational level (ADAPTED BY COUNTRY)

1 = mandatory school

2 = high school

3 = university

#### 4. Region of residence (ADAPTED BY COUNTRY)

#### 5. How would you define your living area?

1 = Urban

2 = Semi-urban (e.g., small town)

3 = Rural

#### 6. Your household composition (people living with you):

Nr. of adults (including yourself) \_

Nr. of minors (less than 18-year-old) \_

**7. How would you describe your financial situation?**

1 = very difficult

2 = difficult

3 = sufficient to make ends meet

4 = comfortable

5 = very comfortable

**8. To what extent do you take measures to live in an environmentally friendly way?**

1 = none

2 = few

3 = some

4 = a lot

**LEVEL OF INFORMATION**

**9. To what extent do you feel informed on how to correctly dispose...?**

1 = not informed at all

2 = poorly informed

3 = somewhat informed

4 = well informed

5 = fully informed

**Small WEEE** \_

**Waste Portable Batteries** \_

**10. In your opinion, where small electricals and portable batteries must be disposed? [Tick all that apply. For Small WEEE and Waste Portable Batteries]**

General waste

Plastic waste

Specific on-street bins

Municipal collection centers

Electronics and appliance retailers

None of these EXCLUSIVE OPTION

**11. According to your personal knowledge, are the following statements regarding the collection of waste small electricals and portable batteries true or false?**

1 = false

2 = true

Large retailers of electronics and appliance are required by law to takeback in store small electricals even if I don't buy a replacement product;

Small retailers of electronics and appliance are required by law to takeback in store small electricals even if I don't buy a replacement product;

Large retailers selling portable batteries are required by law to takeback in store;

Small retailers selling portable batteries are required by law to takeback in store.

**EXPERIENCES WITH SMALL WEEE AND WASTE PORTABLE BATTERIES**

**12. When was the last time that you replaced or stopped using each of the following types of products, because they were out of use, not well functioning anymore, or out of date?**

1 = less than 12 months ago

2 = between 1 and (less than) 2 years ago

3 = between 2 and (less than) 4 years ago

4 = 4 years ago or more

5 = It never happened to me

- A. Small household appliances (e.g., kettle, blender, toaster, iron, hair dryer, shaver...)
- B. Small hi-tech devices (e.g., smartphone, tablet, digital camera...)
- C. Electronic accessories and components (e.g., USB flash drive, Sim card, earphones, cable, charger...)
- D. Portable batteries

**SHOW IF Q12A<5.**

### **SMALL HOUSEHOLD APPLIANCES**

**Think about the last small household appliance (e.g., kettle, blender, toaster, iron, hair dryer, shaver...) you have replaced or stopped using, and please answer the following questions based on your experience.**

#### **13. A. This product was...?**

- 1 = completely out of use
- 2 = not functioning well anymore
- 3 = still functioning well

#### **14. A. What did you do with this product after you stopped using it?**

- 1 = I kept it at home
- 2 = I threw it in the general waste bin
- 3 = I threw it in the plastic waste bin
- 4 = I brought it to a municipal collection center
- 5 = I brought it to an electronics/appliance retailer for disposal
- 6 = I gave it to someone else (e.g., relatives, friends...) or donated it
- 7 = I sold it (the whole product or its components) to a refurbish company or a repair shop
- 8 = I sold it (the whole product or its components) to an individual person
- 9 = other [specify:] \_\_\_\_\_



**SHOW IF 14A=1****15. A. Why didn't you get rid of it? [You can provide up to 2 main reasons.]**

Lack of easy-to-reach collection centers

I didn't have time to do it

It still has an economic value

I can still use it in case of need (keep it as backup/spare)

It has a sentimental value to me

I keep it as decor / for my collection

Other [specify:] \_\_\_\_\_

**SHOW IF 14A=2 OR 14A=3****16. A. Why did you dispose of it this way? [You can provide up to 2 main reasons.]**

I think that's how it should be disposed

I didn't know / I was not sure where else to dispose it

Lack of easy-to-reach collection centers

I didn't have time to do it differently

It's not important for me where to dispose it

I don't think it is of benefit to dispose it at collection centers

Other [specify:] \_\_\_\_\_

**SHOW IF Q12B<5.****SMALL HI-TECH DEVICES**

**Think about the last small hi-tech device (e.g., smartphone, tablet, digital camera...) you have replaced or stopped using, and please answer the following questions based on your experience.**

Repeat questions 13 14 15 16.

SHOW IF Q12C<5.

### ELECTRONIC ACCESSORIES AND COMPONENTS

Think about the last electronic accessory or component (e.g., USB flash drive, Sim card, earphones, cable, charger...) you have replaced or stopped using, and please answer the following questions based on your experience.

Repeat questions 13 14 15 16.

SHOW IF Q12D<5.

### PORTABLE BATTERIES

Think about the last portable battery you have replaced or stopped using, and please answer the following questions based on your experience.

**14. D. What did you do with this portable battery after you stopped using it?**

1 = I kept it at home

2 = I threw it in the general waste bin

3 = I threw it in the plastic waste bin

4 = I threw it in a specific on-street bin

5 = I brought it to a municipal collection center

6 = I brought it to an electronics/appliance retailer for disposal

7 = other [specify:] \_\_\_\_\_

SHOW IF 14D=1

**15D. Why didn't you get rid of it? [You can provide up to 2 main reasons.]**

Lack of easy-to-reach collection centers/specific bins

I didn't have time to do it

I can still use it in case of need (keep it as backup/spare)

It's not a problem to keep it home (it takes little space)

Other [specify:] \_\_\_\_\_

**SHOW IF 14D=2 OR 14D=3**

**16D. Why did you dispose it this way? [You can provide up to 2 main reasons.]**

I think that's how it should be disposed

I didn't know / I was not sure where else to dispose it

Lack of easy-to-reach collection centers/specific bins

I didn't have time to do it differently

It's not important for me where to dispose it

I don't think it is of benefit to dispose it at collection centers

Other [specify:] \_\_\_\_\_

**PERCEPTIONS AND ATTITUDES**

**17. How convenient would be for you each of the following solutions to collect small electricals and portable batteries?**

1 = very inconvenient

2 = rather inconvenient

3 = neither convenient nor inconvenient

4 = rather convenient

5 = very convenient

Possibility to send them via postal service through a prepaid (free of charge) envelop;

Door-to-door withdrawal by the postal service (e.g., during the delivery of a letter);

Door-to-door withdrawal by online delivery services (e.g., during the delivery of products, food...);

Possibility to drop them off at parcel lockers;

This is a test question, please answer 'rather convenient' to proceed with the questionnaire;

Presence of specific on-street bins for small electricals and portable batteries;

Presence of specific bins for small electricals and for portable batteries at electronic/appliance retailers;

Presence of specific bins for small electricals and portable batteries at supermarkets.

**18. Would you be more willing to dispose the following products (smartphone, coffee machine, USB flash drive, stylus battery) at collections points if you received a financial incentive to do it? If yes, which is the minimum amount that would motivate you?**

**More willing with a financial incentive?**

0 = no

1 = yes

**Minimum amount of the incentive:**

1 = 0,20 €

2 = 0,50 €

3 = 1 €

4 = 2 €

5 = 5 €

6 = 10 €

7 = 25 €

8 = a higher amount

**19. How would you prefer the incentive to be provided?**

1 = money

2 = voucher/discount/points for purchasing another product

3 = charity donation

**20. Would you be more willing to dispose the following products (smartphone, coffee machine, USB flash drive, stylus battery) at a retailer if you had to pay a deposit when purchasing them**

and have it back when you bring them there? If yes, which is the minimum amount that would motivate you to dispose them at collection points?

**More willing if paying a deposit?**

0 = no

1 = yes

**Minimum amount of the deposit:**

1 = 0,20 €

2 = 0,50 €

3 = 1 €

4 = 2 €

5 = 5 €

6 = 10 €

7 = 25 €

8 = a higher amount

**21. According to your knowledge, are waste management costs included in the price consumers pay for electronic products?**

1 = no

2 = yes

3 = I don't know

**22. If you could clearly see the amount you pay for waste management when purchasing an electronic product, would you be more willing to dispose it in the correct way afterwards?**

1 = surely not

2 = probably not

3 = probably yes

4 = surely yes

5 = I don't know

**23. To what extent do you agree or disagree with the following statements?**

1 = completely disagree

2 = rather disagree

3 = neither disagree nor agree

4 = rather agree

5 = completely agree

I have many small devices at home that I don't use anymore;

I have many waste portable batteries at home;

There are a lot of small WEEE and portable batteries collecting points near my house;

I have enough information available about how to dispose small electricals and portable batteries;

I have enough information available about the benefits of recycling small electricals and portable batteries;

I trust my Municipality to properly recycle the collected small electricals and portable batteries;

My friends and family consider it important to recycle small electricals and portable batteries;

If I don't recycle small electricals and portable batteries, my friends and family will be angry at me;

It is important for me to recycle small electricals and portable batteries so as not polluting the environment;

It is important for me to recycle small electricals and portable batteries so as not harming human health;

It is important for me to recycle small electricals and portable battery because it is a source of valuable raw materials.

## SECOND-HAND SMALL ELECTRICALS

### 24. When purchasing small electricals, how often do you buy them second-hand?

0 = never

1 = rarely

2 = sometimes

3 = often

4 = (almost) always

### 25. What type of second-hand small electricals did you buy? [Tick all that applies.]

Smartphones

Tablet/Laptop

Small household appliances

Other small devices

### 26. To what extent your choice to buy them second-hand is driven by the following aspects?

1 = not at all

2 = partly

3 = a lot

Money saving                    \_

Environmental reasons        \_