

Measuring and enabling reuse: methods and policy insights



Authors:

Jurate Miliute-Plepiene (IVL), Maja Dahlbom (IVL), Dirk Nelen (VITO),
Elisabeth Pernmyr (IVL), Tom Duhoux (VITO)



Cover design: ETC CE
Cover image: ©Lina Östling
Layout: ETC CE

Publication Date 12 May 2026

EEA activity Circular Economy and resource use

Legal notice

Preparation of this report has been co-funded by the European Environment Agency as part of a grant with the European Topic Centre on Circular economy and resource use (ETC CE) and expresses the views of the authors. The contents of this publication do not necessarily reflect the position or opinion of the European Commission or other institutions of the European Union. Neither the European Environment Agency nor the European Topic Centre on Circular economy and resource use is liable for any consequence stemming from the reuse of the information contained in this publication.

ETC CE coordinator: Vlaamse Instelling voor Technologisch Onderzoek (VITO)

ETC CE partners: Banson Editorial and Communications Ltd, česká informační agentura životního prostředí (CENIA), Collaborating Centre on Sustainable Consumption and Production (CSCP), Istituto Di Ricerca Sulla la Crescita Economica Sostenibile, Istituto Superiore per la Protezione e Ricerca Ambientale, IVL Swedish Environmental Research Institute, Norion Consult, Università Degli Studi Di Ferrara (SEEDS), German Environment Agency (UBA), Teknologian Tutkimuskeskus VTT oy, Wuppertal Institut für Klima, Umwelt, Energie gGmbH, World Resources Forum Association.

Copyright notice

© European Topic Centre on Circular economy and resource use, 2025
Reproduction is authorized provided the source is acknowledged. [Creative Commons Attribution 4.0 (International)]

More information on the European Union is available on the Internet (<http://europa.eu>).

DOI 10.5281/zenodo.20132963

European Topic Centre on
Circular economy and resource use
<https://www.eionet.europa.eu/etcs/etc-ce>

Contents

1	Introduction – The role of reuse in the EU circular economy and waste prevention	1
1.1	Structure of this report	2
1.2	Data sources and methodology	2
2	Overview of legal requirements and reporting obligations including policy measures.....	4
2.1	Qualitative data.....	4
2.2	Quantitative data	5
2.3	Quality check report.....	6
3	Improving data collection methodologies for reuse	7
3.1	The methods behind the numbers	7
3.2	Household surveys	9
3.2.1	Straightforward scaling from sample to national level	9
3.2.2	Designing the sample: random or quota?	9
3.2.3	Survey mode: online, phone, or face-to-face?	10
3.2.4	Getting the questions right.....	10
3.2.5	Capturing multiple channels of reuse.....	11
3.2.6	Capturing multiple subcategories.....	12
3.2.7	The recall problem.....	12
3.2.8	From pieces to kilograms.....	13
3.2.9	Beyond quantities: behaviours and attitudes	14
3.2.10	Validation	14
3.3	Operator-based data collection	16
3.3.1	Capturing business-related reuse.....	16
3.3.2	Operator records as a basis for reuse statistics.....	17
3.3.3	Reuse versus preparation for reuse	18
3.3.4	Difficulties in defining reuse operators	18
3.3.5	Problematic scaling.....	19
3.3.6	Low response rate	20
3.3.7	Data collection from reuse operators through EPR schemes or other agreements	21
3.4	Combination of methods	22
3.4.1	Reducing household self-reporting bias.....	23
3.4.2	Capturing reuse beyond households.....	24
3.5	Conversion factors	25
3.5.1	Approaches.....	25
3.6	Other methods or approaches.....	28
3.7	Conclusions and reflections	28
4	Mapping and assessing reuse policies.....	31

4.1	Classification of policy measures and types of policy instrument	31
4.2	Evaluation of effectiveness of reuse policies	40
4.2.1	Identification of quantitative reuse targets.....	43
4.2.2	Identification of reuse indicators.....	44
4.2.3	Indicator data availability to enable monitoring	46
4.2.4	Suitability of target-indicator-monitoring frameworks in MS to assess the effectiveness of reuse measures	51
5	References.....	55
6	List of abbreviations	58

Acknowledgements

The authors of this report would like to thank João Costa from the European Environment Agency (EEA) and Livia El Khawad from the Collaborating Centre on Sustainable Consumption and Production (CSCP) for their valuable contributions and input.

Executive summary

Reuse is a key component of the EU circular economy and waste prevention agenda. By extending product lifetimes, reuse reduces the demand for new material extraction, production and waste treatment, while contributing to climate mitigation. Beyond environmental benefits, reuse generates important socio-economic value by creating local jobs, recovering residual product value, and supporting social enterprises, often involving disadvantaged groups. Evidence shows that reuse can create several hundred more jobs per given amount of material than disposal options such as incineration or landfilling. It also strengthens community resilience by enabling citizens, businesses and municipalities to shift from linear, disposal-oriented systems towards circular, use-based models.

Given the diversity of actors, channels and products involved, effective progress in reuse depends on well-designed policy measures and robust monitoring frameworks. These are needed both to address existing barriers and to track progress and assess policy effectiveness over time.

Since 2023, EU Member States, together with Norway and Iceland, have been required to report quantitative data on reuse and information on reuse-related policy measures under Commission Implementing Decision (EU) 2021/19 for the product groups textiles, furniture, electric and electronic equipment and construction materials and products. Experiences from the first reporting cycle, supported by an ETC/EEA survey conducted in early 2025, show that quantitative reporting remains challenging and that the effectiveness of reported policy measures is not yet well understood.

Against this background, this report aims to (1) support future reporting rounds by reviewing and sharing good practices for quantitative data collection, (2) provide an overview of reported policy measures and identify common patterns, and (3) assess and propose improvements to the monitoring and evaluation of reuse policy effectiveness.

Data collection and reporting

For the 2023 reporting cycle, 26 countries submitted quantitative reuse data. Most relied on questionnaires or interviews with households or reuse operators, as specified in the Implementing Decision. Household surveys offer broad coverage, including informal reuse channels such as gifts, donations and private sales, and allow higher disaggregation by product subgroup. However, they are affected by recall bias, self-estimation errors and potential coverage gaps. These uncertainties can be reduced through careful questionnaire design, pre-testing, shortening recall periods and using mixed survey modes.

Operator-based data collection draws on systematically recorded information such as inventories, sales or accounting data and can capture business-to-business flows not visible to households. While generally more reliable, these methods face challenges related to identifying relevant operators, achieving representative response rates and scaling results to national level. Combining business registers, NACE codes and expert input can improve coverage.

In principle, combining household and operator-based methods can provide the most complete picture of reuse, but such approaches are resource-intensive and require careful coordination to avoid double counting.

Across methods, conversion factors remain a major source of uncertainty. Country-specific, measured factors are more reliable than generic assumptions, but transparency on how factors are derived and applied is currently limited. Improved reporting formats could support clearer documentation and comparability.

Overall, comparability between countries remains limited in this first reporting cycle due to differing interpretations of reuse definitions, scopes and coverage. These differences partly reflect the late finalisation of guidance, underscoring the need for earlier and clearer direction in future reporting rounds.

Policy measures and effectiveness

Most reported reuse policy measures are voluntary and information-based, such as awareness-raising and education initiatives. Logistic measures supporting collection systems are common, while regulatory and economic instruments are rarely used.

Assessing the effectiveness of reuse policies remains challenging due to weak monitoring frameworks. Few countries have set quantitative reuse targets or linked them to clear indicators and reliable data sources. There is a clear need for harmonised indicators, clearer guidance and robust target–indicator–monitoring systems to enable evidence-based evaluation of reuse policies and ensure they effectively support waste prevention and circular economy objectives.

1 Introduction – The role of reuse in the EU circular economy and waste prevention

The European Union (EU) is advancing the transition from a linear to a circular economy, with the core objective of keeping products and materials in use for as long as possible. By extending product lifetimes, the circular economy reduces demand for virgin resource extraction, lowers environmental pressures and prevents waste generation (EEA, 2024a). These objectives are embedded in key EU policy frameworks, including the Circular Economy Action Plan adopted in 2020, which prioritises product durability, longer lifetimes across value chains and improved preparation for reuse. The forthcoming Circular Economy Act is expected to further strengthen markets for secondary raw materials and accelerate the shift towards more resource-efficient systems (EC, 2020, 2025a). Circular economy principles are also anchored in EU waste legislation. The Waste Framework Directive (WFD) 2008/98/EC places waste prevention at the top of the waste hierarchy and explicitly recognises reuse as a core waste prevention measure and a key strategy for achieving circular economy objectives.

Reuse is increasingly recognised as a high-impact circular strategy with substantial environmental, economic and social benefits. By extending product lifespans, reuse reduces the need for resource extraction, manufacturing and waste treatment. For example, the consumption of new textiles in Europe requires significant amounts of land, water and raw materials and generates substantial greenhouse gas emissions (EP, 2025). Keeping products in circulation through reuse can deliver considerably greater climate benefits than recycling, which often leads to downcycling. For textiles, preparing for reuse or reuse can be up to six times more beneficial in terms of potential climate impacts per kilogram than material recycling, while reuse of electrical and electronic equipment, particularly IT, can reduce climate impacts by approximately 30–80 % by avoiding the production of new devices (Miliute-Plepiene and Sundqvist, 2024; Boldoczki et al., 2020; Pini et al., 2019).

In addition to environmental benefits, reuse supports local employment, recovers residual product value and strengthens social enterprises, often involving disadvantaged groups. It can generate several hundred more jobs per given amount of material than disposal options such as incineration or landfilling and contributes to community resilience by supporting a shift from disposal-oriented systems towards circular, use-based models (EEA, 2024d)(Fjellander and Miliute-Plepiene, 2025). More broadly, as part of the circular economy, reuse also contributes to strengthening the EU's strategic resilience and internal security. By reducing dependence on external resources and increasing the availability of secondary raw materials, circular approaches support greater material and energy security.

Effective policy measures and robust monitoring systems are essential to enable reuse at scale and to assess whether policies deliver intended outcomes. Reliable data are a prerequisite for tracking progress, identifying barriers and evaluating the effectiveness of reuse policies. The Commission Implementing Decision (EU) 2021/19 therefore introduced an obligation for Member States, Norway and Iceland to report quantitative reuse data every three years and qualitative information on reuse-related policy measures annually, using 2021 as the reference year.

The first reporting cycle has established an initial baseline for reuse in Europe but has also revealed significant variation in national approaches, limiting data comparability. These challenges, confirmed by an ETC/EEA survey conducted in early 2025, highlight the need for clearer guidance, greater methodological consistency and shared learning. As preparations for future reporting rounds, supporting countries through the exchange of good practices is particularly important.

Against this background, this report aims to:

1. support the future reporting rounds by reviewing and sharing good practices for quantitative reuse data collection;
2. provide an overview of reported policy measures and identify common patterns across countries; and
3. propose improvements to the assessment, monitoring and evaluation of the effectiveness of EU reuse policy measures.

1.1 Structure of this report

The report is structured as follows. Chapter 2 provides an overview of the legal requirements and reporting obligations. Chapter 3 focuses on methods for collecting reuse data, presenting current practices, outlining methodological challenges, and offering practical examples of potential solutions. Chapter 4 reviews policy measures promoting reuse and examines their effectiveness including how countries report these measures and the types of instruments they use, as well as approaches to monitoring, target setting, and indicator development.

1.2 Data sources and methodology

The Waste Framework Directive distinguishes between two related concepts, reuse as a waste prevention measure and preparing for reuse as an operation applied to discarded items (Box 1.1). The main difference is that preparing for reuse concerns items that are classified as waste, while reuse refers to products that are still considered goods. In practice, however, the boundary between goods and waste status is not always clear or possible to determine consistently. For this reason, although the primary focus of this report is on reuse, the analysis is extended to include preparation for reuse where relevant.

Box 1.1 Definitions in EU legislation

Prevention refers to measures taken before a substance, material, or product has become waste, that reduce:

- (a) “quantity of waste, including through re-use of products or the extension of the life span of products;
- (b) the adverse impacts of the generated waste on the environment and human health; or
- (c) the content of harmful substances in materials and products” (WFD, Article 3(12)).

Reuse means “any operation by which products or components that are not waste are used again for the same purpose for which they were conceived” (WFD, Article 3(13)).

Preparing for reuse means “checking, cleaning, or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be reused without any other pre-processing” (WFD, Article 3(16)).

Source: Directive 2008/98/EC (WFD) (European Parliament, Council of the European Union 2024).

The scope of this report follows the product groups defined in the EU reporting obligations for reuse, namely textiles, electrical and electronic equipment (EEE), furniture and construction products, as well as other product groups for which measures were adopted. These categories form the basis of MS submissions for the 2021 reference year and therefore frame the primary focus of this study.

The report draws on several data sources, including those reported under the Commission Implementing Decision (EU) 2021/19 (quality check reports, quantitative reuse datasets, and policy measures submitted by 25 MS and Norway (EEA, 2024b)), national reports¹ provided directly by countries, latest available country waste prevention fact sheets (EEA, 2025), and an additional targeted literature review. Different methodological approaches were applied in the two analytical parts of the report, Chapters 3 and 4. See Annex 1 Data sources and methodology for more details on data sources and methodology.

¹ As background for their reporting, many countries have conducted specific studies, typically to support quantitative reporting and in some cases both quantitative and qualitative reporting. In this report, these studies are referred to as *national reports*

2 Overview of legal requirements and reporting obligations including policy measures

In line with the Commission Implementing Decision (EU) 2021/19 (European Commission, Directorate-General for Environment, 2020), countries of the European Economic Area² exclusive Liechtenstein are required to report data on reuse for specific product categories (listed below), as a part of their obligations under the Waste Framework Directive (2008/98/EC, Article 9(4) (European Parliament, Council of the European Union, 2024). Reporting must follow the format laid down in the Annex of the Implementing Decision. Under (EU) 2021/19, MS must submit:

- Qualitative data (Annex A): reported annually;
- Quantitative data (Annex B): reported at least once every three years;
- Quality check report (Annex C): submitted with each reporting cycle.

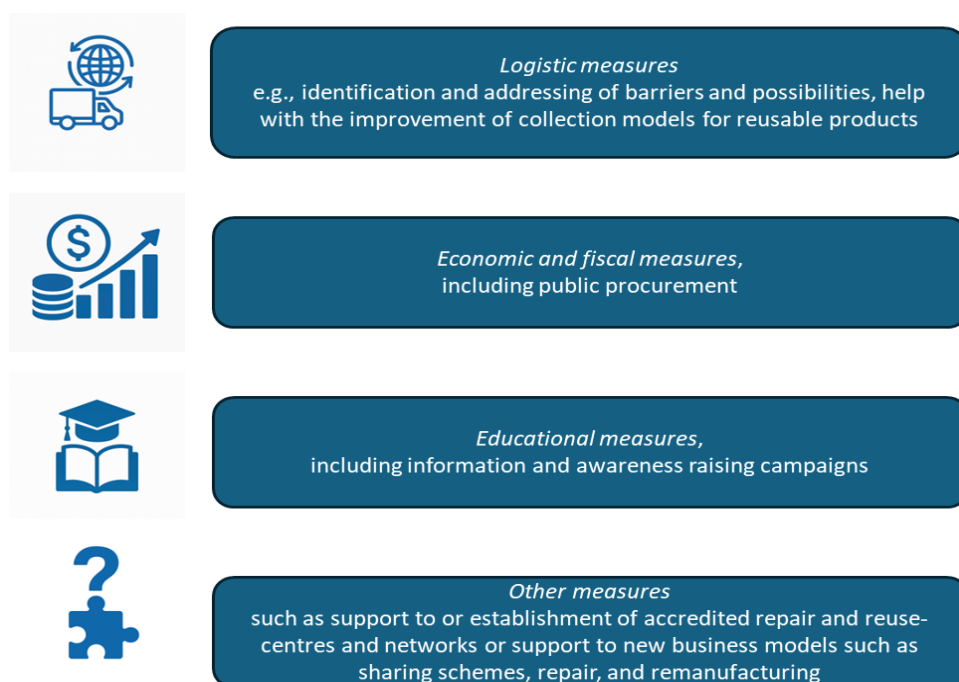
2.1 Qualitative data

MS should report on measures targeting reuse. If a reporting country has more than one measure the measures should be listed as Measure A, Measure B, Measure C etc. For each measure, the following information is required:

- **Responsible authorities:** the public authorities responsible for adopting and implementing the measures;
- **Products addressed:** textiles, electrical and electronic equipment, furniture, construction materials, and products or other products;
- **Reuse operations covered:** e.g. second-hand shops, flea markets etc.
- **Content of the measure,** categorised as follows (see Figure 2.1): *logistic measures, economic and fiscal measures, educational measures, other measures*
- **Actions to monitor and assess reuse;**
- **Other (optional).**

² The European Economic Area consists of the Member States of the European Union, Iceland, Lichtenstein and Norway (EC, 2025c)

Figure 2.1 Categorisation of measures



Source: European Commission (Directorate-General for Environment 2020)

2.2 Quantitative data

For quantitative reporting, reporting countries must report the total quantity in tonnes of reused products at least for textiles, EEE, furniture, construction products and materials, and other products for which measures were adopted. Reporting of additional details is optional but encouraged. This includes:

- **Product subcategories** (e.g., clothing, shoes etc. as part of textiles and so on);
- **Channels** through which the reused products changed ownership, such as physical shops/markets, online platforms, private gifts/donations, and other channels as listed in the Implementing Decision;
- **Number of reuse operators** in the country's territory - either the number of operators that are members of accredited centres or networks, or an estimate of the total number of operators.

Quantitative data can be collected using any of the following methods, a combination of these, or other equivalent approaches that ensure **relevance, representativeness, and reliability**:

- a) Direct measurement of reuse (e.g. weighing reused products).
- b) Mass balance calculations (based on inputs and outputs of reuse operations).
- c) Questionnaires and interviews with reuse operators or households.
- d) Diaries maintained by individuals to regularly log reuse activity.

2.3 Quality check report

For each reporting cycle, MS must also submit a **quality check report** (Annex C) to evaluate and document the methodologies used, the quality and reliability of the data, and any significant changes or issues in data collection. This report includes:

- Objectives of the data quality review.
- General information on the reporting organisation and period.
- Detailed descriptions of sources, methods, and sampling approaches.
- Explanations of significant methodological changes or discrepancies between reporting periods.
- Identification of any problems encountered in data collection.
- Information about data validation processes and potential uncertainties.

3 Improving data collection methodologies for reuse

Measuring reuse is vital for tracking progress on circular economy and waste prevention, yet collecting reliable data remains challenging. This chapter summarises how countries collected reuse data for the 2021 reference year, analyses key methodological challenges, and presents practical examples of how these were addressed. The aim is to support more consistent, reliable, and transparent reuse reporting in future reporting cycles.

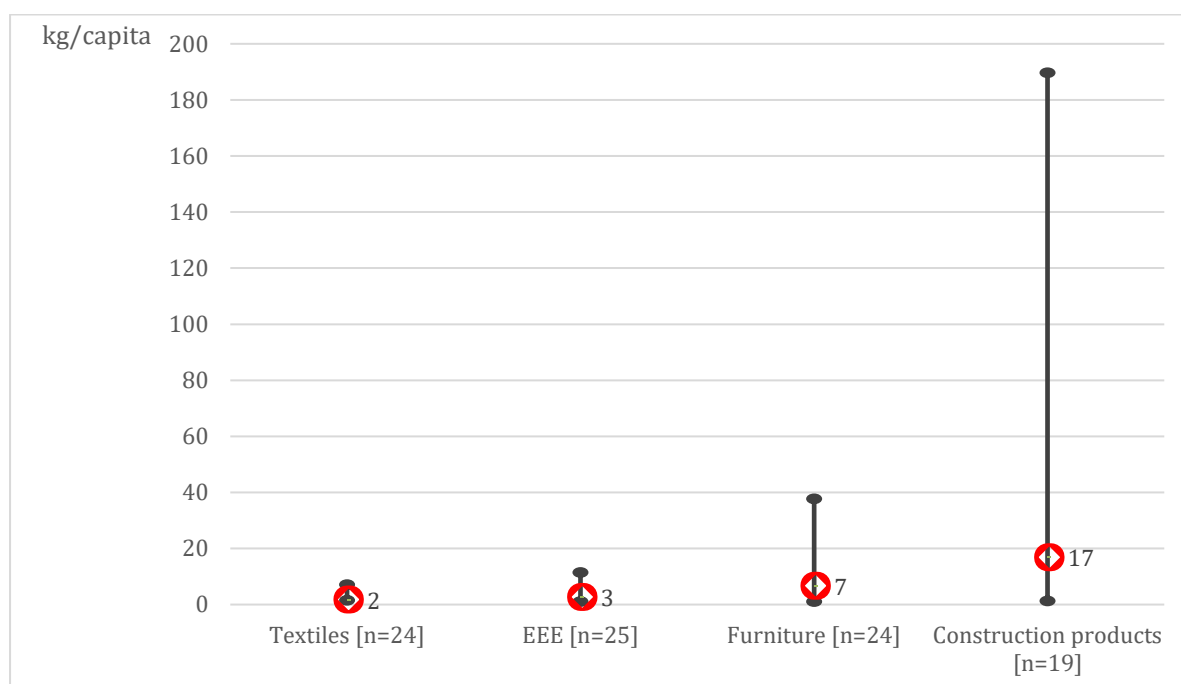
3.1 The methods behind the numbers

For the first reporting year (reference year 2021 with reporting in 2023), most countries relied on surveys or questionnaires targeting reuse operators and households. These approaches varied considerably in terms of methodology, challenges encountered, and their respective advantages and limitations. Only a few countries applied alternative data collection methods.

The first reporting cycle covered the reference year 2021, with reporting taking place in 2023. 26 of those 29 countries, that are obliged to report, provided quantitative data. Of these 26 countries, 25 were used as a basis for this study as one reporting country reported zero as amount.

The reported values show high variation between countries (Figure 3.1). Vertical lines in the figure indicate the range between the lowest and highest values reported. Furniture and construction products show the largest variation across countries, while textiles display relatively consistent values. Construction products have the highest average reuse at around 17 kilograms per capita, whereas textiles have the lowest at about 2 kilograms, reflecting differences in the typical size and weight of items in each category. The wide variation in data also reflects the differences in national data collection approaches and inconsistent interpretations of what counts as waste or reuse, as previously noted by the EEA (2024d).

Figure 3.1 Average reuse amounts reported per capita for reference year 2021



Sources: updated figure from EEA (2024d), with the most recent data from EEA (EEA, 2024b)

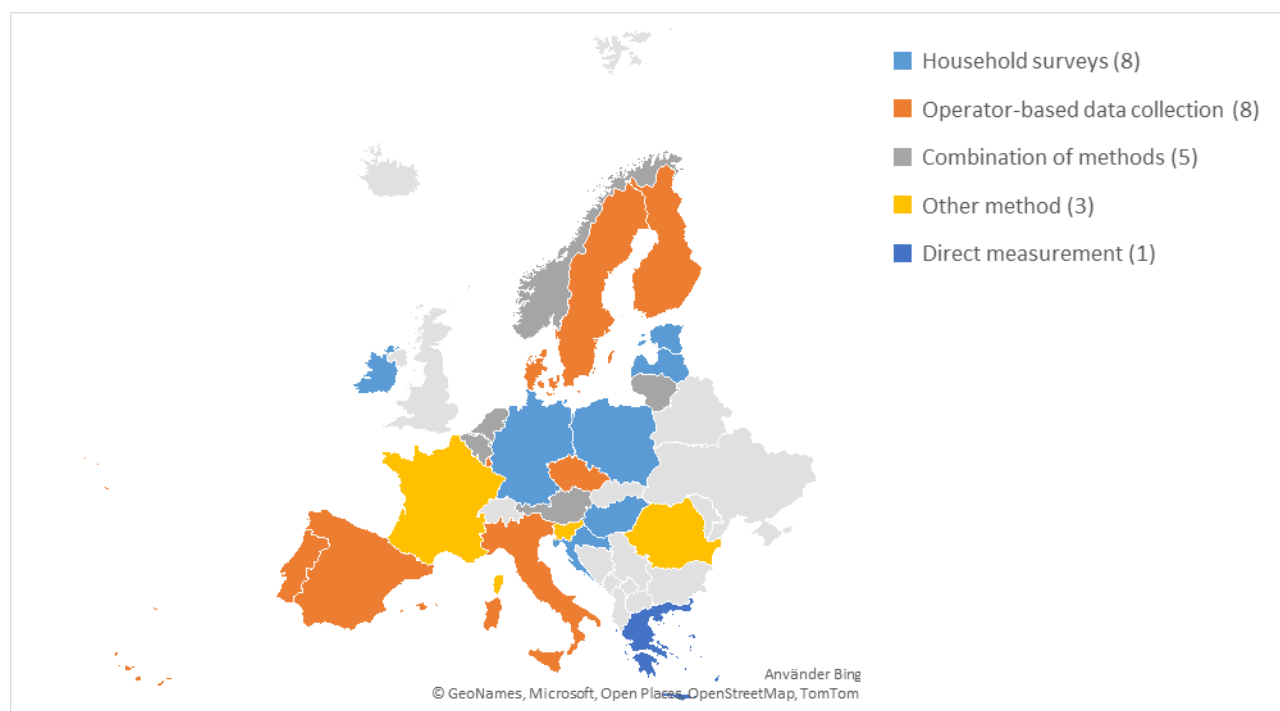
Most countries selected methods falling under approach (c) - *questionnaires and interviews with reuse operators or households* - as defined in the Implementing Decision. Since data collection from reuse

operators and from households differs considerably in methodological terms, this report analyses them as two separate approaches: household surveys and operator-based data collection. The latter also includes the example of France, where data came primarily from extended-producer responsibility (EPR) schemes rather than formal questionnaires with second-hand operators. Despite this difference, the main methodological challenges were similar to those encountered in operator surveys and are therefore described in the section *operator-based data collection* together with surveys of reuse operators.

Thirteen countries used household or population surveys specifically designed³ for reporting quantities, either as their sole method or in combination with other approaches. The other thirteen countries used questionnaires or other forms of dialogue with second-hand operators, also either alone or in combination with other methods. Belgium, Austria, Lithuania, Norway, and the Netherlands combined household surveys with operator data. Czechia, in addition to an operator survey, specifically reported using direct measurements, defined in the Implementing Decision as approach (a) - *direct measurement of reuse (e.g., weighing reused products)* - to establish conversion factors. Similar direct measurements were likely used in other countries as well, although they were not explicitly indicated in the quality check reports. Greece reported using direct measurements as its main method for collecting quantitative data, while Slovenia and Romania also applied other approaches that did not rely on surveys or questionnaires.

Figure 3.2 gives an overview of the main methods used by the reporting countries.

Figure 3.2 Overview of main methods used for collecting data on reuse



Note: The figure shows only the main data collection methods dedicated to reporting quantities; supplementary sources and methods (e.g., literature reviews, direct measurements for conversion factors) are excluded for simplicity. When the main methods differed considerably from surveys and questionnaires in many countries, they were classified as "other".

Sources: Author's compilation based on used methods reported by countries (EEA, 2024b)

³ Some countries also used other methods, for example operator surveys for identifying operators, defining policy measures or establishing conversion factors, which are not directly related to reporting quantities. For simplicity, these additional studies are not included here or in the figure below.

3.2 Household surveys

Household surveys allow for relatively straightforward scaling of sample results to the national level and can capture a wide range of reuse channels with detailed subcategories. However, they are subject to recall and self-estimation bias, coverage limitations, and tend to underrepresent product groups that are less frequently reused, such as construction materials and products.

Household or population surveys⁴ were used by a total of thirteen countries, with some variation in purpose and design. Estonia, Latvia, Croatia, Germany, Hungary, Malta, and Poland relied entirely on household surveys to estimate reuse. Similarly, Ireland used a household survey as its primary data source but also drew on a previous research study and another survey (not specifically designed for reporting) to estimate the number of reuse operators, support data validation, and develop product conversion factors. Other countries combined household surveys with operator-based data: in Lithuania, surveys were used only to estimate informal consumer-to-consumer reuse where operators were not involved, while in Belgium, Austria, the Netherlands, and Norway, survey results were used to scale up available or collected operator data for other reuse channels where direct data was missing (see Combination of methods).

3.2.1 Straightforward scaling from sample to national level

Using household surveys is attractive because the population frame is usually easy to define: some countries used households as the sampling unit, while others used individuals (Annex 2). In both cases, reliable population statistics make scaling from sample to national level relatively straightforward. Whether households or individuals are the better unit depends on the product group. For textiles, where reuse is widespread, individual behaviour may be more relevant and easier for respondents to recall, while for items such as furniture, large home appliances, or construction materials and products, household-level data may be more appropriate. National scaling should therefore reflect the product groups being measured and units of the sample. Specifically, if questions referred to the amount reused at the household level, national scaling should be based on household quantities. Conversely, if the unit of analysis was individual adults, scaling should be carried out using the adult population.

3.2.2 Designing the sample: random or quota?

When information was available in quality or national reports, countries reported using either random sampling (simple or stratified) or quota sampling⁵ (see Annex 2 Overview of household and population survey designs by country). Both approaches are valuable, each with its own advantages and limitations.

In theory, random sampling is considered statistically superior because it is less biased and has a strong theoretical foundation for estimating population parameters. However, it can occasionally overlook small but important subgroups (e.g. rural communities, older adults, or minority populations). It also typically requires a good sampling frame—which can be difficult to obtain. These challenges may not always be critical, but they should be taken into account. For example, Latvia used random sampling that was representative of key variables (gender, age, nationality), but overrepresented people with higher education. They addressed this by comparing reuse behaviour across education groups, finding no significant differences that could bias final results.

⁴ For reasons of simplicity, in this report the term “household survey” is further used to cover both household and population surveys.

⁵ Quota sampling means selecting respondents to match specific population characteristics (like age, gender, region), helping ensure all key groups are represented.

Quota sampling, in contrast, makes it easier to ensure representation of specific subgroups by design. However, it also has limitations: it isn't truly random and can introduce selection bias if quotas miss important differences. It relies on accurate, up-to-date population data and may overlook unmeasured factors affecting reuse behaviour. It can be improved by:

- including more sociodemographic variables (e.g. Ireland used quotas on age, gender, region, urban/rural, and social grade);
- increasing sample size (countries using quotas typically had samples at least twice as large as those with simple random sampling);
- applying post-stratification weighting after data collection to adjust the sample to match population demographics (used in all quota-based countries with available national reports).

Income could also be an important variable when defining quotas, particularly if second hand goods are significantly cheaper than new products. However, based on the available quality check reports, we did not find evidence that income was included as a criterion for quota sampling. This may, however, reflect limited information provided in the reports rather than its absence in practice.

3.2.3 Survey mode: online, phone, or face-to-face?

Random selection is generally harder to apply in online surveys, which was the predominant mode used by countries (Annex 2). This is often due to the challenge of obtaining a complete sampling frame of internet users. Quality and national reports did not always clearly explain how these sampling frames were defined. Croatia, as one of the few exceptions, noted in its quality check report that they used a research company's email database of Croatian residents as the sampling frame. Online surveys are generally cheaper to conduct, which likely explains their widespread use.

There were also notable exceptions. Lithuania relied solely on face-to-face interviews combined with phone interviews, while Norway relied on phone interviews. Although more expensive, these approaches can offer higher-quality data, as interviewers can clarify questions, reduce misunderstandings, and reach populations with limited internet access.

Germany used a mixed-mode approach combining online and phone interviews to reduce coverage bias. This method helped include households without internet access—an inherent limitation of online-only surveys which was also highlighted in Croatia's quality check report and is likely relevant elsewhere.

Malta and Poland applied the CATI (Computer Assisted Telephone Interview) method. However, Poland highlighted its limitations of particularly short interview times and restricted opportunities to ask more complex questions. These constraints affected data collection for textiles and construction products.

3.2.4 Getting the questions right

Sample size is critical for reliable survey results. Most countries achieved large final samples between 450 and nearly 2,800 respondents (Annex 2). However, large target samples do still face the challenge of low response rates. For example, Hungary contacted nearly 4,000 participants but achieved only around 900 completed answers. This underscores the need for good survey design, clear questions, and appropriate delivery modes to achieve both sufficient size and high-quality responses.

A key advantage of surveys is the ability to collect data across multiple channels and generate detailed subcategories. At the same time, survey design must balance the need for specific, detailed questions while remaining clear, focused, and manageable in length so that respondents can complete it comfortably without fatigue or drop-out. Germany, for example, carefully tested its survey with about 100 people before full launch, identifying issues of logic, clarity, and filtering. This helped ensure the final version was both comprehensive and user-friendly for the full sample of 1,500.

3.2.5 Capturing multiple channels of reuse

Household surveys can generate detailed data for reporting in terms of reuse channels. Of the nine countries that provided channel-specific information, seven used household surveys either alone or in combination with other methods. In general, most countries using households surveys covered the channels listed in the Implementing Decision (physical shops/markets, online platforms, private gifts/donations), though not all reported them separately (Annex 2). There were some differences between countries. For example, Estonia excluded non-monetary interactions entirely, so its' reported "Private gift/donation" channel refers only to person-to-person sales. Lithuania's household survey only asked about two channels—online platforms (individual transactions) and family/friends—while data on reuse through companies were gathered separately via operator questionnaires.

Some countries (such as Latvia, Belgium, Austria, the Netherlands, and Ireland) included more channel categories in their surveys than the four standard ones listed in the Implementing Decision. Typically, these more detailed categories were aggregated during analysis to reduce uncertainty from small sample sizes (e.g., donations from aid organisations or lending) and to align with reporting guidelines. For example, Latvia's survey separately asked about buying behaviour (second-hand shops, online platforms, private ads, acquaintances, other), receiving behaviour (friends/family, aid organisations, other), and lending. These categories were then combined into fewer groups for reporting. Similarly, Ireland, Belgium, Austria, and the Netherlands included extra channels in their surveys but ultimately reported them in a simplified, standardised format (Table 3.1).

Table 3.1 Examples of countries using more channels in surveys than reported

Country	Channels asked in survey	Channels reported
Latvia	Detailed split: second-hand shops, online platforms, private ads, acquaintances, aid organisations, friends/family, lent, other	Aggregated to four: online platform, private gift/donation, other
Ireland	Six channels: charity shops, online platforms, private gifts/donations/swap groups, retailers, local authority facilities, other	Not reported separately; provided as aggregate
Belgium	Seven channels: accredited shops, private second-hand shops, online channels, flea markets, friends/family, charities and other.	Reported in four categories as per Implementing Decision
Austria	Eight channels: online platforms/ads, flea markets, private sharing, charitable shops, commercial thrift stores, book cabinets, swap parties, other	Aggregated; no channels reported separately
The Netherlands	Nine channels: thrift stores, vintage shops, flea markets, online marketplaces (e.g. Facebook, Vinted), online stores, friends/family, swap initiatives, other	Reported in four categories as per Implementing Decision

Sources: Author's compilation based on information from quality check reports (EEA, 2024b) and available national reports

Certain forms of informal reuse are likely to be underrepresented in survey-based data, particularly activities involving vulnerable groups, which are often difficult to reach through standard survey methods. However, given their relatively small share of the total population, their overall contribution to total reuse volumes is likely to be limited⁶.

⁶ Some information was not included in the quality check report but was provided by the country during the report revision process.

3.2.6 Capturing multiple subcategories

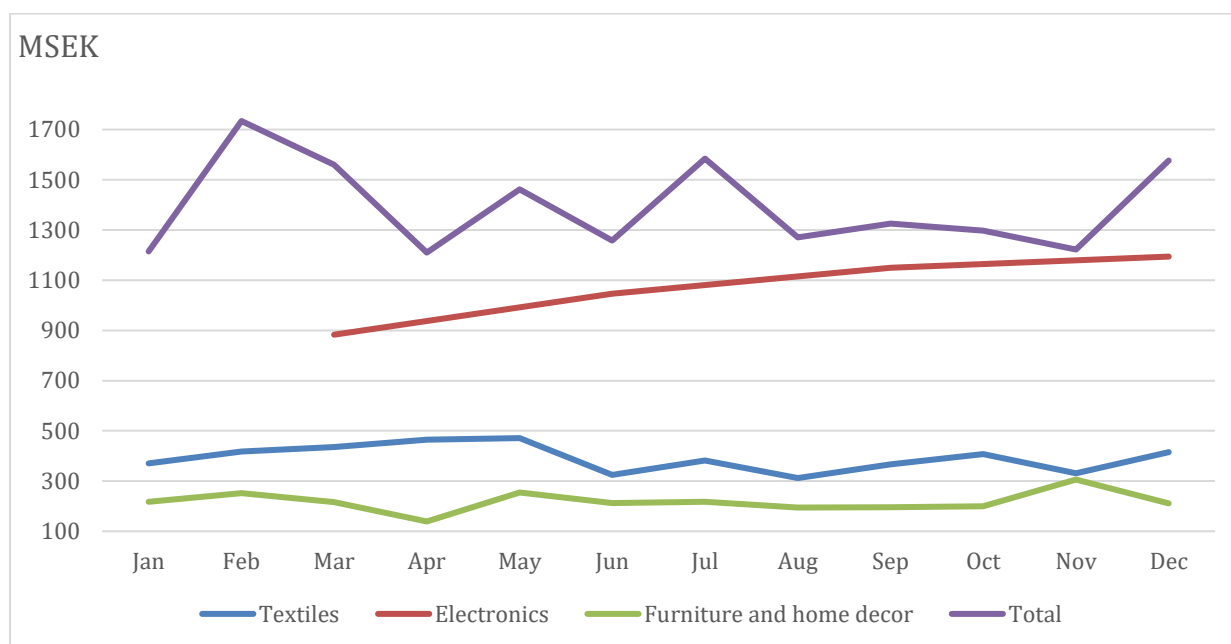
Household surveys can also generate highly detailed data for reporting in terms of subcategories. Of the 23 countries, ten that used household surveys, either alone or in combination with other methods, reported additional product subcategories. In addition, many countries asked about more detailed product subcategories than they reported (Annex 2). This extra detail can improve understanding of behaviour and better weight estimations, but it also risks unreliable results if sample sizes for certain subcategories are too low. Germany, for instance, used two subcategories for construction and up to four for EEE, but aggregated low-response items to avoid misleading precision. Their national report also recommended presenting results in 1000-tonne units to better match accuracy. Similar practices of collecting detailed subcategories but reporting them in more aggregated form were common in other countries as well (Annex 2). In some cases, such as Austria, entire categories were excluded from survey results - like construction materials and products - because of too few responses (152 out of 2052), making extrapolation to the full population too uncertain. Instead, other data sources were used to fill these gaps.

3.2.7 The recall problem

One of the most fundamental challenges in surveys is recall bias. Most countries (except Latvia and Norway) asked respondents about their behaviour over the entire previous year. Many also conducted surveys 6 - 11 months after the reference year, adding further uncertainty (Annex 2). Recall is especially difficult for high-volume, low-value categories like textiles, where purchases or gifts may happen many times a year. In contrast, IT products are less frequent, higher value purchases that are easier to recall.

A potential solution is to conduct surveys during the reference year. For example, Latvia ran its survey in the middle of the reference year and extrapolated it for the rest. While this reduces recall bias, it introduces uncertainty about whether behaviour stays constant throughout the year. Sweden tested an alternative approach in 2024, surveying reuse behaviour monthly (Figure 3.3). Results showed low variation overall for total reuse (2% difference between the two half-years), but higher variation for textiles (11%, though price inflation may also play a role).

Figure 3.3 Monthly variation in reuse sales in Sweden, in million Swedish kronor (SEK), 2024



Source: Author's compilation based on data from the Swedish Trade Association (2025)

While Swedish data may not be representative of all countries, it suggests that more frequent surveys—especially during early reporting cycles—can help capture seasonal patterns and inform methodology adjustments. Countries could consider asking about short-term recall (e.g. the past month or quarter) for frequently reused items like textiles, while using annual recall for infrequent items like IT equipment. For surveys covering the entire year, as is the case in most countries, it is recommended to conduct them at the very beginning of the following year to minimise recall bias.

3.2.8 From pieces to kilograms

Reporting reuse quantities in mass units presents challenges in survey-based methods, since households rarely know weights. Many countries addressed this by asking for the number of items (pieces) instead and later converting these to weight using predefined conversion factors during data analysis (Annex 2 Overview of household and population survey designs by country). However, even estimating the number of reused items can be difficult- especially for high-volume categories like textiles, and when surveys ask about behaviour over longer periods (e.g. six months or a year).

To address this, Latvia asked respondents to indicate textile reuse within predefined quantity brackets (e.g. up to 5; 5-9; 10-19; 20-50; 50-149; more than 150 items), with each bracket assigned a coefficient to estimate weight later in the data processing stage.

Hungary asked households to estimate weight directly in kilograms, supported by weighing tables. However, this approach was reported to be challenging for respondents and was cited as a likely reason for the lower survey response rate.

Germany applied a similar strategy for textiles, construction materials and products, and product group “other”. Germany provided reference tables with average weights per item as well as for common containers (e.g. moving boxes, garbage bags, fabric bags) to help respondents estimate weight more easily (Table 3.2).

Table 3.2 Example of a reference table for textiles provided by Germany to the respondents in the survey

Notes	Average weight per piece (kg)	Large moving box (67 L) in kg	Smaller box/ garbage bag (45 L) in kg	Fabric bag (10 L) in kg
Diverse (average from 67 weight samples)	0.3	9.7	6.5	1.3
Various (average of 23 weight samples)	0.5	11.7	7.8	1.6
Various (average of 23 weight samples)	0.3	-	-	-
Shoes various (average of 18 weight samples)	0.6	-	-	-
Diverse (average of 30 weight samples)	0.8	-	-	-
Various (average of 63 weight samples)	0.6	29.4	19.6	-
Music or film CD/DVD	0.1	41.5	27.6	-
Various	0.2	-	-	-

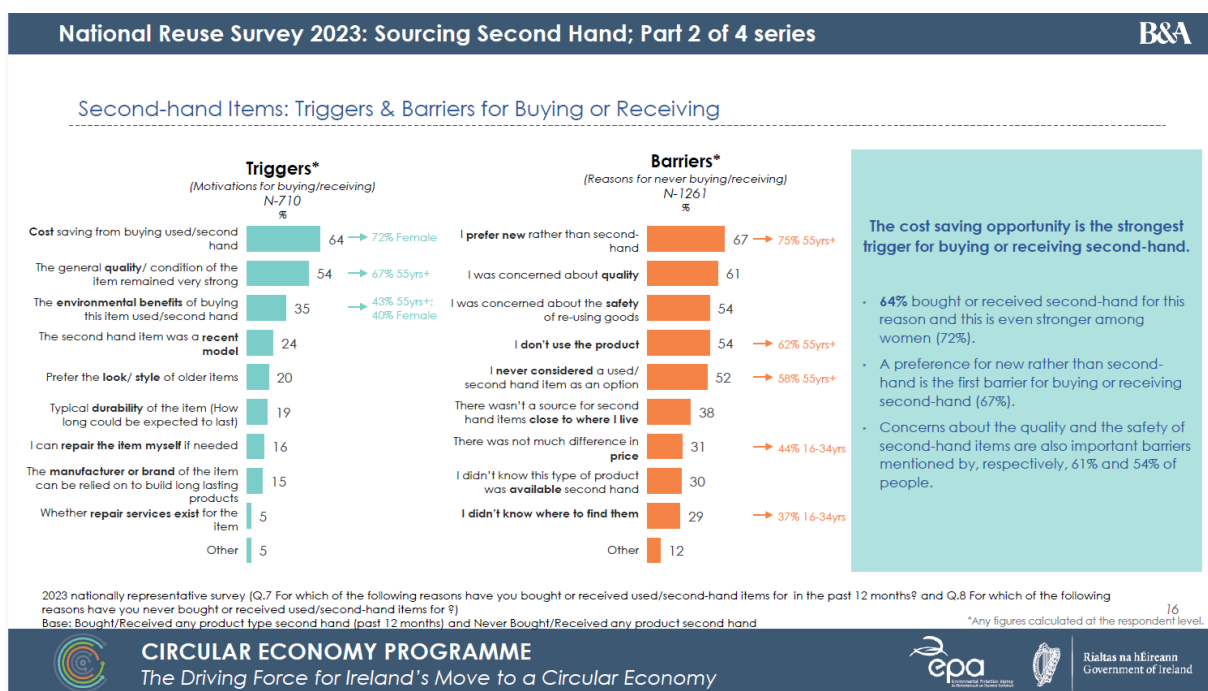
Source: Germany’s national report (Umweltbundesamt, 2024)

Lithuania offered both options: asking for kilograms where possible, or for the number of items if weight could not be provided. Countries that used combined methods (Belgium, Austria, and the Netherlands) instead asked for channels shares or used reported quantities to derive these shares for extrapolation (see Chapter *Combination of methods*). Despite these strategies, defining and applying conversion factors remained a challenge, even for other methods, and is discussed further (see Chapter *Conversion factors*).

3.2.9 Beyond quantities: behaviours and attitudes

Beyond the core questions about quantities and channels, some surveys also included extra questions to gather insights on behaviours and attitudes relevant for policy development (Figure 3.4). Some countries included asking about factors that for example encourage or discourage reuse (e.g. Estonia, Belgium/Flanders, Ireland), the extent to which reuse reduces the need to buy new items (e.g. Estonia, Belgium/Flanders, Netherlands), and questions about repair behaviour and reasons for repairing or not (e.g. Belgium/Flanders⁷, the Netherlands). Such questions provide valuable context to support decision-making and the design of measures that promote reuse.

Figure 3.4 Example of additional survey information from Ireland



Source: EPA (2023b)

3.2.10 Validation

Since this was the first time countries were required to report reuse data, many faced challenges validating their results, especially given the lack of existing data sources. Some countries (e.g. Croatia, Estonia) had no previous reference data to validate their results against. Others (Ireland for most product groups, Germany for textiles) found validation somewhat easier because previous studies or data were available as comparison, allowing them to check if results were roughly reasonable.

For EEE data, Germany compared survey results with EPR scheme data, EU reporting under the WEEE Directive, and independent studies, revealing large discrepancies. For some appliances, extrapolated reuse quantities exceeded 30% of new sales or more than half of WEEE collected, while other sources

⁷ this information was not included in the quality check report but was provided by the country during the report revision process

suggested much lower levels. Germany also collected household spending data on reuse, but official retail statistics for antiques and second-hand goods were much lower than survey results—likely because informal or private transactions are not captured in official sales data. Data reliability was often referred to as generally lower for categories like EEE, furniture, and building materials, partly because surveys had fewer responses for these product groups (e.g. in Germany and Latvia). For the “other” product group, uncertainty was even greater because of the mixed nature of items included.

Some countries that conducted surveys later (the Netherlands, Austria, Ireland) tried to compare their results with countries reporting earlier than them. For example, Ireland referenced Estonia and the Netherlands cited Flanders’ methods and results. However, small differences could also reflect genuine country-specific factors, not just data quality issues. In addition to comparing results across other countries and studies, Ireland also invested in improving internal validation during their own survey processes (Box 3.1).

Box 3.1 Example of validation and data quality control in Ireland’s 2023 reuse survey

The approach combined **careful survey design** with **systematic post-collection checks** to address common challenges such as demographic bias, over- or under-reporting, and inconsistent answers.

Survey design controls:

- **Demographic quotas** ensured the sample was broadly representative of age, gender, region, urban/rural residence, and social grade.
- **Control questions** were included at key points to assess general attitudes before asking for detailed quantity estimates, helping reduce unconscious bias in responses.

Post-collection data checks and cleaning:

- **Review of completion times** to identify suspiciously fast responses that could indicate poor quality.
- **Analysis of response patterns** to detect outliers, with extreme values adjusted to the mean rather than removing them entirely.
- **Consistency checks** to ensure the number of detailed responses matched initial filter questions.
- **Logical checks** across related questions to identify and correct contradictions.

Source: Author’s compilation based on information from Ireland’s quality check report (EEA, 2024b)

To conclude this section, Table 3.3 highlights key challenges with household surveys and potential solutions on how to address them.

Table 3.3 Specific challenges and examples of potential solutions for household/population surveys

Challenge	Potential solution
Recall bias (asking about a full year)	Conduct several surveys during the reference year, or at least carry out the survey promptly after year-end
Low response rates despite large target sample	Careful questionnaire design; clear, simple questions; appropriate delivery modes; pre-test with smaller sample
Coverage bias in online surveys	Combine modes (e.g. online + phone); use panels that include non-internet users
Difficulty estimating weights	Ask about units and convert using conversion factors (ideally country-specific and based on weighed samples), or consider providing clear, user-friendly reference tables.
Respondent burden/drop-out risk	Pre-test questionnaire; balance detail with length
Small sample sizes for subcategories/categories/channels	Aggregate categories in reporting to avoid false precision; consider larger samples or different methods
Lack of validation data	Cross-check with sales/EPR data where available; use control questions in survey

Source: Author’s compilation

3.3 Operator-based data collection

Operator-based data collection can provide more reliable and systematically measured data, and enables the capture of business-related reuse that household surveys typically miss. However, it poses challenges in identifying actors, achieving sufficient response rates, and scaling results to the national level.

Surveys, interviews, or other forms of dialogue with reuse operators were used as frequently as household surveys. This approach was applied by eight countries (Finland, Denmark, Sweden, Luxembourg, Portugal, Spain, Italy, and Czechia) as their sole or main data collection tool. France stands out for relying mainly on operator data collected through EPR schemes. In addition, Lithuania, Belgium, Austria, the Netherlands, and Norway combined operator-based data with household survey results.

The purpose and design of operator surveys varied across countries. In some cases (e.g. Portugal and Denmark), the surveys were primarily qualitative, aiming to better understand the reuse sector and estimate the overall magnitude of reuse. Others (e.g. Finland and Sweden) focused on reaching as many identified reuse actors as possible, but national scaling was considered unfeasible. Lithuania, on the other hand, applied a more structured approach, using random sampling from a defined population of reuse-related enterprises and extrapolating the results to national level (Annex 3 Overview of operators’ surveys and questionnaires for reuse reporting).

3.3.1 Capturing business-related reuse

A key advantage of operator-based data collection over household surveys is its ability to capture reuse flows that households cannot report - such as office furniture, EEE reused by companies, or construction materials and products transferred between actors. Construction products, in particular, were flagged by several countries as difficult to quantify. In some cases, especially when municipalities were involved, it was also unclear whether reuse occurred internally (within the same organisation) or externally. Operator-based data can also provide insights beyond reporting obligations. For example, Sweden collected information on exported second-hand goods. Although excluded from formal reuse reporting under EEA guidelines, such figures can support national policymaking by offering a more complete understanding of market dynamics. However, in some cases, exports were

also included, or there was a risk of them being included in statistics provided to EEA (e.g. Luxembourg; EEE in France).

3.3.2 Operator records as a basis for reuse statistics

Compared to households, where data are typically self-reported and less reliable, reuse operators are generally more likely to systematically track quantities. Many actors such as private companies, online platforms, or charities, record sales or donations as part of their accounting or inventory systems, often alongside monetary values. Nevertheless, most countries still received operator data in units and had to apply conversion factors to report in weight. To improve accuracy, Finland and Sweden asked reuse operators to provide both item counts and corresponding weights. These dual responses were then used to calculate or validate conversion factors, sometimes drawing on data provided by other companies.

Another consideration is whether reported data refer to collected items or to those actually reused. If a country only reports quantities collected for reuse, the figures may differ significantly from actual reuse, since some collected items cannot be reused due to poor quality, lack of demand, or other constraints. Commission Implementing Decision (EU) 2021/19 clearly states that, to ensure accuracy and avoid double counting, only products that are actually reused should be included. This means that items merely offered for reuse, such as goods donated to reuse operators (that is, items collected by operators), or products for which reuse is uncertain, should not be counted. Instead, the focus should be on items that are effectively transferred to end users and are the most likely to be used, for example through sale or donation. To address this, Sweden for instance, requested both types of data (collected and sold to the end user). Where only collected quantities were available, estimates of actual reuse were applied using practices reported by similar operators, improving reliability in the absence of complete records.

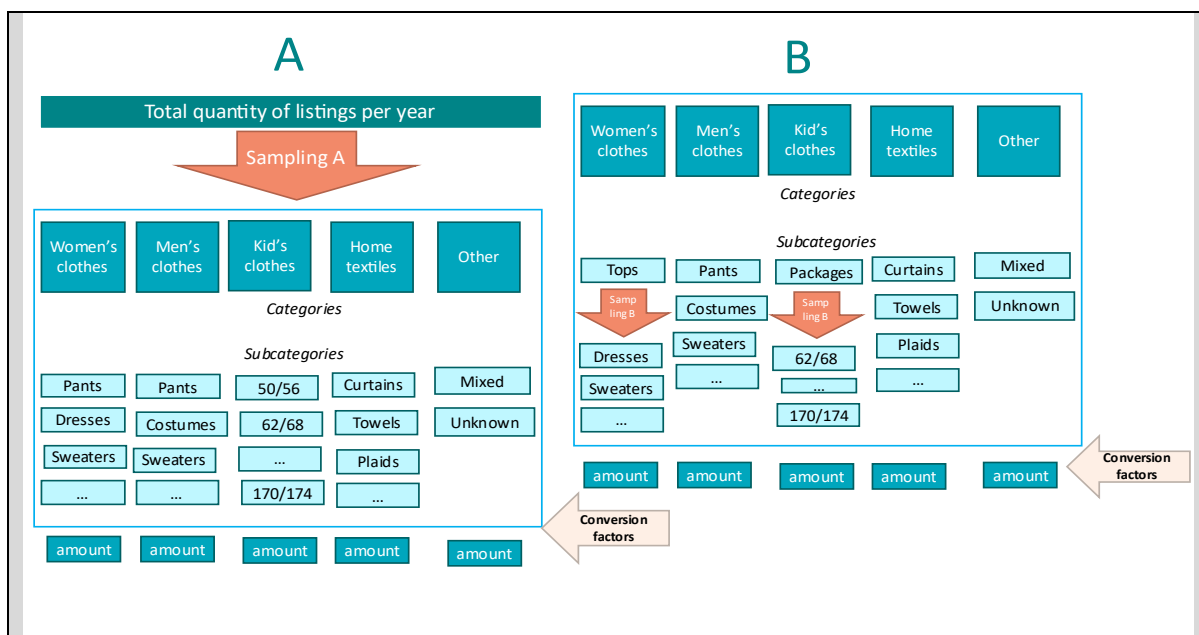
Online platforms can be especially valuable, since they often track detailed product categories and item counts. However, challenges arise when a single advertisement covers multiple items or when platforms only provide aggregated listing data. In such cases, sampling and category-specific conversion factors can be applied (Box 3.2).

Box 3.2 Using online platform data in Sweden

Defining reuse operators. Company registry data based on relevant NACE codes was combined with an expert-compiled list of well-known second-hand actors. Charities and social enterprises were further identified through the *90-account register (90-konto)*, a fundraising account system supervised by Swedish Fundraising Control that certifies responsible use of donations. Despite this systematic approach, many significant operators were registered under less directly reuse-related codes, raising doubts about overall coverage.

Scaling. Scaling was not attempted in Sweden because of the heterogeneity of second-hand actors, particularly those specialising in reuse, and because the existing sector classifications were not considered fully appropriate for defining the total population.

Using online platforms. Surveys of online platforms have been conducted multiple times since 2016 in Sweden, initially focusing on textiles and later expanding to all product categories in 2021 for reuse reporting. The largest online platforms provided data on the number of advertisements, either in aggregated form (e.g. total yearly listings for textiles—see Case A below) or in a more detailed format with listings grouped by subcategories (see Case B). To estimate quantities in kilograms, a sampling approach was used: a selection of current listings was reviewed, and product weights were estimated using category-specific conversion factors.



Source: Author's compilation based on (SMED, 2023)

3.3.3 Reuse versus preparation for reuse

In theory, it should also be somewhat easier to distinguish between reuse and preparation for reuse when using operator-based surveys compared to household surveys. Households typically have little or no understanding of whether the products they reused were previously classified as waste. In contrast, when contacting companies through operator-based surveys, it is sometimes possible to define the scope more clearly. For example, reuse can be excluded when companies collect items from waste management operators or have waste tracking systems in place. Nevertheless, distinguishing between reuse and preparation for reuse remains challenging even for operator-based surveys, as noted in many countries' quality check reports. Some countries ultimately chose to report preparation for reuse instead, either due to these difficulties or the lack of other suitable data sources.

3.3.4 Difficulties in defining reuse operators

Despite their many advantages, operator-based surveys face several challenges, particularly difficulties in defining the total population⁸ of operators and scaling up the results to the national level. Identifying reuse operators was among the most challenging tasks with countries adopting different approaches. Many relied on expert-based lists, online searches, or targeted stakeholder consultations, often focusing only on major second-hand actors. This introduces uncertainties in terms of coverage and representativeness.

A more systematic approach was taken by some countries who used national registers and/or NACE codes. Lithuania, Spain, and Sweden reported using NACE codes to define reuse operators (Annex 4 NACE and national codes used to identify reuse operators in countries4). For example, Spain identified potential operators through NACE 4779 ("Retail sale of second-hand goods in specialised stores"). In Sweden, company registry data based on relevant NACE codes was combined with an expert-compiled list of well-known second-hand actors. The Swedish team then manually reviewed and cross-checked these sources to improve completeness. Nevertheless, many significant operators were registered under other, less directly reuse-related codes, raising doubts about the overall coverage of the dataset. Sweden additionally used a fundraising account system (90-konto), supervised by Swedish Fundraising Control that certifies responsible use of donations, to identify and verify charities engaged in reuse activities.

⁸ In this context, "total population" refers to the complete set of reuse operators in the country.

3.3.5 Problematic scaling

Most countries did not scale up operator data due to uncertainty about the total number of reuse actors, low response rates or other quality issues. Of the ten countries using operator questionnaires with the main purpose of capturing national reuse, only five (Denmark, Spain, Lithuania, Belgium - for construction -, and Italy) carried out national extrapolation. Denmark relied on market share estimates provided by stakeholders or experts, though this introduced high uncertainty. Spain extrapolated data only for textiles, with limited methodological details. By contrast, Lithuania and Italy applied more systematic and transparent approaches, summarised in the boxes below.

Box 3.3 Scaling reuse nationally: Lithuania's systematic approach

In Lithuania, reuse data were collected through a dedicated enterprise-level survey. It was carried out in parallel with the household survey but specifically focused on businesses involved in the sale, rental, repair, or donation of second-hand products (covering all mandatory categories). A sampling frame of approximately 1300 enterprises was created using online keyword searches. From this list, a systematic probability sample of 300 companies was drawn.

Company representatives were interviewed by phone and asked to report quantities reused either in kilograms or in number of items. Reported item counts were then converted into tonnes using established conversion factors.

To scale the results to national level, the survey data were extrapolated using official business statistics. In total, 1018 enterprises were identified in 2021 as belonging to the relevant target group, based on NACE codes 4779, 9511, 9512, 9521, 9522, 9523, 9524, 9529, and 772910.

To calculate national reuse quantities, the following formula was used:

$$A_i = L \times X_i \times Y_i, \text{ where}$$

A_i = estimated total reuse (tonnes)

L = number of relevant enterprises in the country

X_i = proportion of enterprises reporting reuse of a given product type (from the survey)

Y_i = average quantity reused per enterprise (tonnes)

Source: Author's compilation based on Lithuania's quality check report (EEA, 2024b) and (Vilmorus, 2022a)

Box 3.4 Italy from shop sales to reuse data

In Italy, data were collected through the Rete ONU network, the umbrella organisation of second-hand shops representing the largest share of physical reuse shops in Italy. The survey covered 1453 shops, about half of the estimated 2906 nationwide. Shops use management software that records each item sold and turnover in Euros, but not weight. To estimate quantities, conversion factors from life-cycle studies were applied to product categories, updated with recent shop data. From turnover and sales volumes, an average value of EUR 3/kg was derived (\approx EUR 300 000 per shop and 100 tonnes sold annually). To avoid overestimation, this was adjusted to 70 tonnes per shop per year. National reuse quantities were then extrapolated from the sample to all shops, producing category-specific weight estimates for the physical second-hand shops. Other reuse channels and construction products were not included in the reporting.

Source: Author's compilation based on Italy's quality check report (EEA, 2024b) and (EEA, 2024)

Belgium applied a distinct methodology for reporting the reuse of construction materials and products. The method relies on stock assessments of specialised dealers in reclaimed building

materials, which are then converted into annual flows using turnover rates and extrapolated to the total population of identified dealers (Box 3.5).

Box 3.5 From stocks to reuse data – the case of construction materials and products in Belgium

Since accredited reuse shops in Belgium only handle small volumes of building products, a different methodology was applied to report on reuse in the construction sector than other products groups. This approach relied heavily on inputs from the specific project [FCRBE](#) (Facilitating the Circulation of Reclaimed Building Elements in Northwestern Europe).

Identification of reuse operators. The FCRBE project developed the Opalis database, which lists specialised companies active in reclaimed building materials. Belgium used this database as a reference list of reuse operators, identifying 125 companies in total.

Data collection. A sample of 44 dealers in reclaimed building materials was surveyed at a specific point in time. Data were gathered either through site visits or via phone interviews with the dealers. The units used in the questionnaires were not harmonised (m², m³, pieces, tonnes), so conversion factors were applied to express all quantities in a common unit (tonnes). Since the data reflected stocks at a specific moment, annual figures were estimated by applying turnover rates based on expert judgment and material-specific data from the BigRec survey in the UK.

Extrapolation. To estimate total sector performance, results from the sample (44 dealers) were extrapolated to the total population (125 dealers) using an extrapolation coefficient of 2.84, corresponding to the ratio between the total population and the surveyed sample.

Validation. The estimated quantities of reused building materials were compared to overall construction and demolition waste in Belgium/Flanders. The results corresponded to about 1–2 percent of total construction waste generated, which aligns with findings from the FCRBE project that in Northwestern Europe, only about 1% of building elements are reused after their first application.

Sources: Author's compilation based on Belgium's quality check report (EEA, 2024b) and (Bougrain and Doutreleau, 2022)

3.3.6 Low response rate

A recurring challenge across countries was the low response rate from operators. In several cases, this was linked to the lack of data in the required format (e.g. weight or item count). Allowing operators to provide both the number of items or the corresponding weight may help improve responses, since many operators record data in quantities rather than kilograms. Conducting interviews or phone calls, rather than relying solely on email surveys, can also help increase participation.

Online platforms are possibly among the actors tracking second-hand activity most extensively, at least in terms of the number of listings. However, a particular difficulty arises with widely used, large international actors such as Facebook Marketplace, eBay, and Vinted. These platforms are typically managed outside the country of interest and lack national contact points, complicating efforts to collect data in a centralised and consistent manner.

Some countries noted that the absence of a legal reporting obligation is a barrier to data collection, while others considered mandatory reporting as a potential solution to improve response rates. However, experiences from Norway suggest that even with legal obligations in place (to register all reuse products), challenges with data quality can persist, e.g. many operators lacked adequate digital skills and tools for tracking, making it difficult to provide data easily.

3.3.7 Data collection from reuse operators through EPR schemes or other agreements

Some countries collected reuse data from operators in a more systematic way, either enabled by legal obligations within EPR schemes or by other types of agreements. As noted in the previous chapter, Belgium receives data from accredited shops, which are obliged to report to maintain their accreditation and receive subsidies based on quantities collected and sold⁹ (see Chapter *Combination of methods*). Some countries (e.g. Denmark and France) reported using data collected through EPR schemes. In Denmark, this was applied mainly to EEE while France stands out by relying more extensively on EPR-based reporting, not only for EEE but also for textiles and furniture (Box 3.6). This approach enables more systematic and traceable data flows, but the coverage is limited to reuse operators falling within the scope of the relevant EPR schemes.

Box 3.6 France – reuse data from EPR schemes

In France, the official reuse data only include flows covered by legally regulated EPR obligations. Eco-organizations and producers operating under individual systems are legally required to declare their data annually via the dedicated EPR sector reporting system (SYDEREP), managed by ADEME (the French Environment and Energy Management Agency).

The declared data are collected by eco-organizations from their partner reuse operators (private companies as well as actors from the social and solidarity economy). Under these agreements, eco-organizations provide financial support to operators for the actual quantities of products reused. To ensure traceability, reuse operators must follow the eco-organization's protocols, typically monitoring the number of products, which are then converted into tonnage using standardized conversion tables.

Sectoral coverage differs:

- Textiles: household textiles are included, while professional textiles are excluded.
- EEE: both household and professional appliances are covered when managed under eco-organization agreements, though some flows may include exports or reuse without a change of ownership.
- Furniture: only household and professional items handled by operators under contract with eco-organizations are included.
- Construction materials and products, and other products: no data were collected in 2021 as the relevant EPR schemes were not yet operational. These categories are therefore reported as zero.

Reuse activities taking place outside these agreements, such as peer-to-peer sales, online marketplaces, or sales through independent reuse centres and consignment shops, are not included in the French reporting.

The quality of the French reuse data are ensured by the legal reporting obligation and consistency checks within SYDEREP, combined with regular audits of reuse operators by eco-organizations. However, data quality is affected by heterogeneous reporting methods, ranging from used conversion charts to financial proxies or short-term sampling. ADEME is developing a methodological guide to harmonise these practices.

Sources: Author's compilation based on France's quality check report (EEA, 2024b) and (EEA, (2024)

⁹ Some information was not included in the quality check report but was provided by the country during the report revision process.

To conclude this section, Table 3.4 highlights key challenges with operator-based data collection and potential solutions on how to address them.

Table 3.4 Specific challenges and examples of potential solutions for operator-based surveys

Challenge	Potential solution
Identifying reuse operators	Consider combining national business registers with NACE codes, complemented by expert lists, stakeholder consultations and specialised registers (e.g. charity registers). Cross-checking with expert-based lists can further improve completeness.
Low response rates from operators	Consider applying mixed survey methods (phone calls, interviews, follow-ups in addition to emails). To reduce the reporting burden, allow both item counts and weights, and provide clear guidance templates. Introducing mandatory reporting—linked to existing frameworks—or offering incentives could also be explored. Associations can also be used as a data source, providing a more systematic channel for data collection. Where they exist, EPR schemes or other agreements may serve as a complementary data source, enabling more systematic and reliable reporting. However, coverage is limited to operators within the scope of the EPR system.
Definition issues	Consider clarifying definitions already in survey design, excluding items collected via waste streams, and requesting separate reporting on collected versus actually reused items.
Coverage of online platforms	National sampling of listings combined with conversion factors; cooperation with platforms where possible; explore EU-level agreements for centralised data access.
Scaling to national level	Consider developing sampling frames to enable probability sampling. Existing market data or official business statistics may also be used for extrapolation, provided that transparent assumptions are applied.

Source: Author’s compilation

3.4 Combination of methods

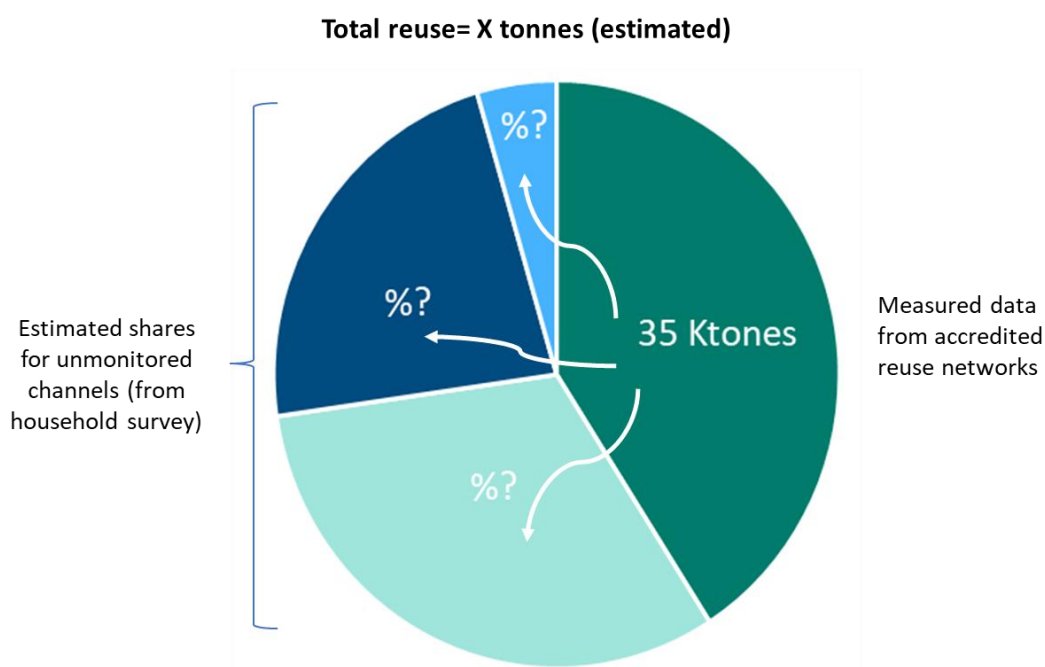
Combining household and operator-based surveys can offer the most complete coverage, as the strengths of one approach can offset the weaknesses of the other. However, the feasibility of this method varies between countries.

Household surveys are often limited by self-estimation bias, and when used alone they do not capture business-to-business reuse. Operator-based surveys, in contrast, can provide more reliable measured data, but they are difficult to extrapolate and do not cover informal consumer-to-consumer reuse. By combining both approaches, countries can address gaps that arise when relying on a single method. In practice, two main strategies were observed: some countries used household survey results to extrapolate measured operator data in channels where reuse was unknown, while others conducted separate surveys of households and businesses to capture different types of reuse flows. These combined approaches help reduce uncertainties linked to self-reported household data and fill gaps where operator data are incomplete.

3.4.1 Reducing household self-reporting bias

Belgium, Austria, the Netherlands and Norway applied an approach developed originally for the Flemish region (Delanoetje, J. and Bachus, K., 2020) where measured data from reuse operators are combined with household surveys. Belgium¹⁰ (i.e. Brussels, Wallonia, and Flanders) benefits from established monitoring systems in reuse shops through which it receives data (Box 3.7). In Austria, reuse shops voluntarily provide data through the national umbrella organisation ReUse Austria (formerly RepaNet), which does annually market surveys. The Netherlands applied a similar strategy, using voluntarily reported sales data from a large online platform and many second-hand stores via the Dutch trade association for reuse shops (BKN), including estimates for non-BKN members. Norway used *finn.no*, the country's largest online reuse platform, as a starting point for its estimates. In these countries, surveys were mainly used to map the distribution of reuse across channels, enabling estimation of quantities in non-monitored or unknown channels by extrapolating from measured data in known channels (Figure 3.5).

Figure 3.5 Example of extrapolating total reuse in Flanders



Source: Based on Delanoetje, J. and Bachus, K., (2020)

¹⁰ For construction materials and products—which are typically collected and sold in only small quantities by accredited reuse shops—Belgium also another method instead of household surveys (see Section Operator-based data collection).

Box 3.7 How come Belgium already has a monitoring system for reuse shops for many years?

Flanders, one of the regions in Belgium, has developed a long-standing system for monitoring reuse shops through formal partnerships between local governments, social enterprises, and the waste agency OVAM. This approach began in the late 1980s with local initiatives to promote reuse and create jobs in the social economy and was formalised in 1994 through a regional agreement covering all municipalities.

The system is built around a network of 27 accredited, non-profit reuse centres, each responsible for a defined area to ensure all 300 municipalities are covered. These centres operate one or more local reuse shops that collect, repair, and sell second-hand goods, while also providing employment opportunities for vulnerable groups.

Key elements that support monitoring include:

- Accreditation requirements obliging centres to report data on quantities collected, repaired, sold, and disposed of (in kg and pieces), as well as employment figures.
- Integration with regional waste policy, including targets for per capita reuse and subsidies linked to reported reuse tonnages.
- Financial measures such as reduced VAT rates for accredited social-economy reuse centres.

These arrangements enable systematic collection of reuse data across the region, supporting policy evaluation and planning. Brussels and Wallonia have developed similar systems. Despite differences in scale and organisation, they share common principles of accreditation, data reporting, and policy integration.

Sources: Author's compilation based on Belgium's quality check report (EEA, 2024b) and Delanoeije, J.& Bachus, K. (2020)

3.4.2 Capturing reuse beyond households

Lithuania applied a different combined approach across four product groups (textiles, EEE, construction materials and products, and furniture). Household surveys captured private reuse interactions, while questionnaires were sent to reuse operators to estimate flows through companies. Companies were asked about sales, repair services, leasing and donations, while households were asked only about their private reuse (received and bought items from family, friends or online platforms).

Other countries used alternative methods to capture business-related reuse. Belgium, for example, relied on a specific method for estimating construction products (see previous chapter). Norway drew on operator-provided data, though these were recognized as likely underreported. Austria excluded construction reuse from household survey extrapolation due to low response numbers and instead used data from BauKarussell, a cooperative initiative specializing in recovering reusable building components during demolition.

To conclude, combining methods allows coverage of both household and business reuse and incorporates measured data rather than relying solely on self-estimations. However, it requires careful design to avoid double counting, for example where online platforms or operator surveys capture several types of flows, such as business-to-business, business-to-consumer, consumer-to-business, and consumer-to-consumer exchanges. The approach is also resource-intensive, as it involves at least two surveys or additional efforts for extrapolation when combining operator data with household survey results.

3.5 Conversion factors

Conversion factors are often needed to translate item counts into weight, but generic or unweighted factors create uncertainty. More accurate results are achieved through country-specific measurements, weighting subcategories by actual reuse flows, and accounting for seasonal, market, and business model differences.

Reuse quantities must be reported in weight (tonnes). However, households and most second-hand operators rarely record or track items by weight. At best, they provide the number of items. Consequently, most countries convert item counts into weight using conversion factors - an essential step, but also one of the main sources of uncertainty in reporting.

3.5.1 Approaches

Countries applied a range of approaches to define conversion factors. Only a few had pre-existing national tables, and even these were sometimes outdated. Many relied on generic values from other contexts or from the literature. Only Czechia explicitly reported using direct measurements to define conversion factors, although this approach was likely also applied in other countries, as suggested by information in national reports (e.g. Germany). Countries using operator-based data collection often obtained conversion factors directly from operators and in some cases from several different operators.

While several quality check reports listed the conversion factors used, methodological details on how they were derived were often limited or missing. As a result, the authors had to rely on descriptions provided in national reports. Some countries did not disclose the factors at all, noting that in some cases too many factors were in use to feasibly include them in the quality check report.

Some early-adopting countries with no prior models developed highly detailed subcategory lists within product subcategories. For example, subdividing textiles into men's shirts, trousers, suits, women's sweaters, jackets, children's clothing and footwear. Average conversion factors for entire product groups were then calculated by averaging across subcategories. This method, however, assumes that all subcategories are equally common in reuse streams, which is rarely the case. For example, women's and children's clothing are reused far more often than men's heavier garments, underwear is rarely reused, and footwear—although heavier—tends to be reused less frequently. A more robust approach is to define subcategory-level factors and weight them according to actual composition data from surveys or operator records, which show what is really sold or donated.

One country even mentioned using OpenAI as a data source for conversion factors. The authors of this report do not recommend such use, as information generated by OpenAI may be unreliable or factually incorrect. If OpenAI is nevertheless used, users should at a minimum request detail about the underlying data sources and carefully verify their existence, reliability, and relevance to the specific context.

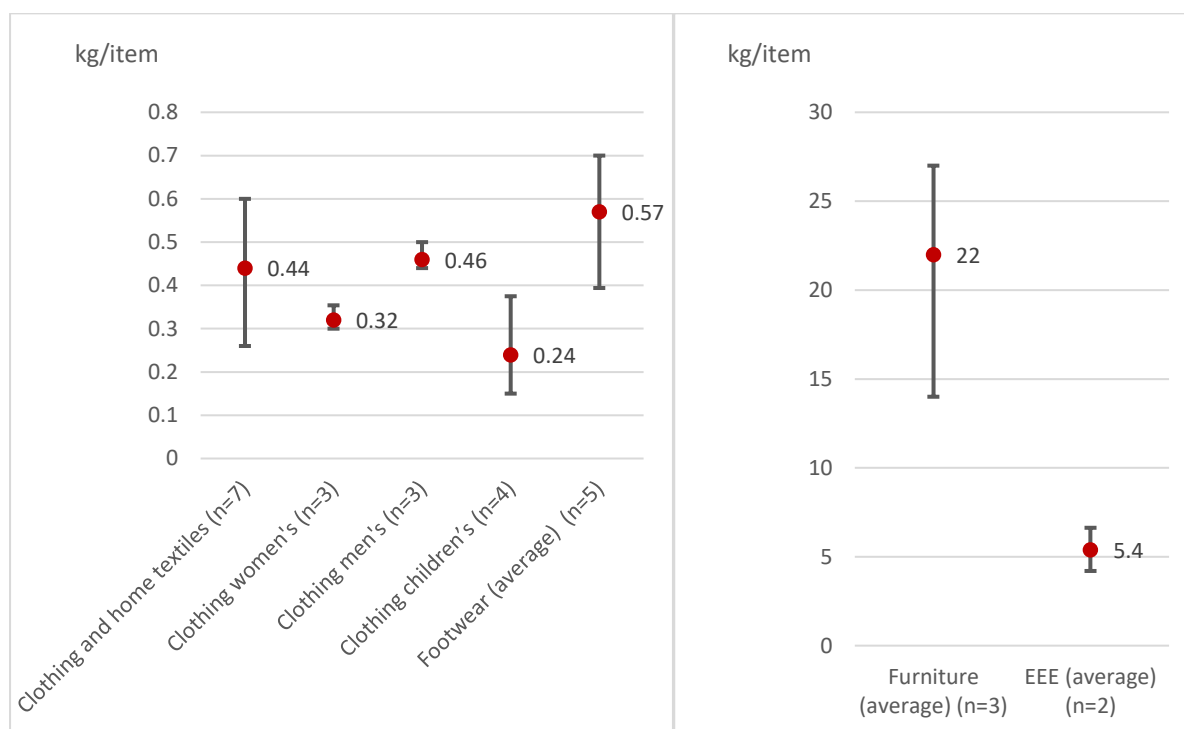
Direct measurement by weighing items provides the most accurate factors, but where and when measurement occurs is crucial. Measuring at the collection point can be misleading, since not all collected items are sold. Measurement at the point of sale better reflects what enters reuse streams, though results still depend on local market preferences. For example, equal amounts of men's, women's, and children's clothing may be collected, but women's and children's clothing are more likely to sell. Belgium conducts weighing trials on a regular basis to update conversion factors for different product groups¹¹.

¹¹ the information was not included in the quality check report but was provided by the country during the Eionet revision process.

Conversion factors are also influenced by several contextual factors. In the case of textiles for example seasonality plays a role because winter clothing is generally heavier than summer clothing. Sales channels matter as well: Swedish second-hand operators observed that some item groups sold online are often lighter than those sold in physical shops, partly because shipping costs discourage heavy items. Similar differences between online and thrift stores have been observed in the Netherlands, partly because some older conversion factors no longer reflect current products, which have become lighter over time, especially for EEE.

Country-specific differences also have an impact, reflecting climate, consumer habits, and business models. For example, charity second-hand shops in Sweden handle a wide range of materials, including textiles (clothing, household textiles, shoes), furniture and furnishing materials, electronics, toys, and household goods among others. The electronics they manage are typically low-value home items, such as lamps or small kitchen appliances. In contrast, private specialized shops focus on higher-value electronics, selling refurbished IT equipment such as mobile phones, laptops, and tablets. Online platforms also cover a broader range of product categories. Therefore, conversion factors for these groups might not be directly comparable.

Figure 3.6 Examples of conversion factors for selected product categories or subcategories



Sources: Author's compilation based on conversion factors provided in quality check reports, national reports, or submitted to the EEA in 2023

To summarize this section, Table 3.5 gives an overview of typical challenges in defining conversion factors for reuse reporting, along with practical—but not perfect—ways on how to address them.

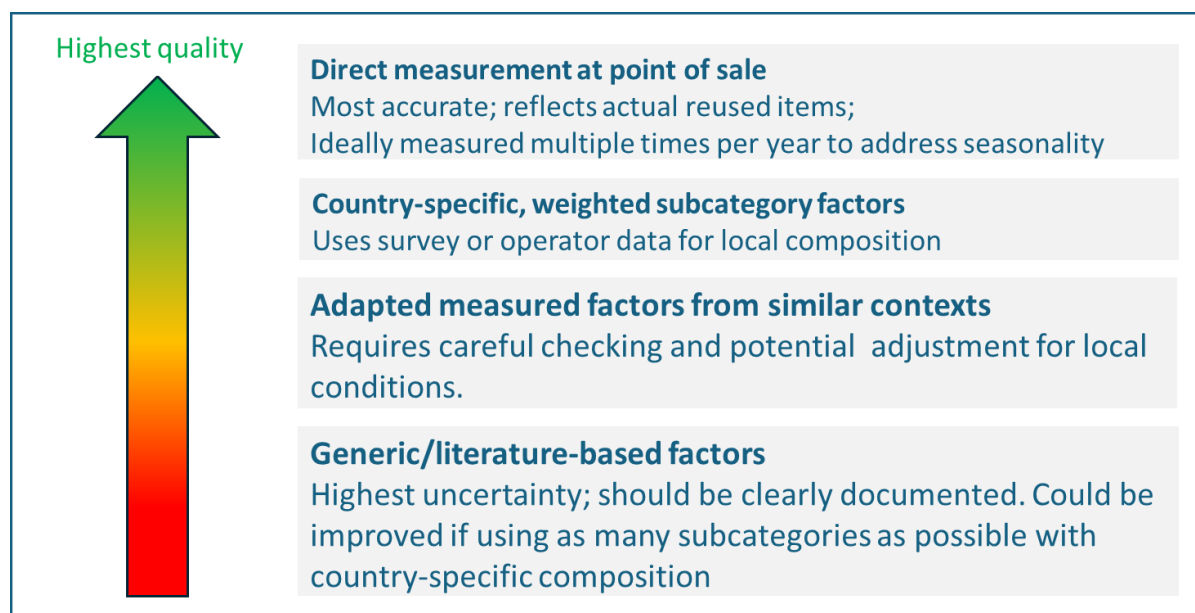
Table 3.5 Typical challenges in defining conversion factors and ways to address them

Challenge	Potential solution
No recorded weight	Develop country-specific, measured factors.
Generic factors may not fit local context	Adapt factors using local data and market research.
Equal weighting of subcategories distorts results	Weight subcategories using actual reuse shares from surveys or operator data.
Measuring at collection versus sales point differs	Prioritize measuring at point of sale to capture what's actually reused.
Seasonal variation (e.g. clothing weights), channel differentiation (e.g. online versus physical)	Consider adjusting factor to reflect seasonal and/or channel differences. Develop national factors reflecting local reuse patterns and preferences.
Business model variations (e.g. accepted items)	Consider tailoring factors to shop types or operator models.

Source: Author’s compilation

Different approaches offer varying levels of accuracy and reliability. Figure 3.7 summarises typical methods, their relative quality, and key considerations for their use.

Figure 3.7 Typical methods and their quality



Source: Author’s compilation

3.6 Other methods or approaches

Alternative approaches may potentially complement standard methods but differ in consistency and comparability.

Three countries used approaches that differed from those described previously, varying in both consistency and comparability.

Greece provided data collected solely from Creative Material Reuse Centres, which are urban facilities dedicated to the sorting, repair, and storage of reusable items such as EEE, toys, furniture, bicycles, books, and textiles. Citizens can bring products they no longer need to these centres for reuse. According to Greece's quality check report, each reusable item was weighed, indicating that direct measurements were the main data collection method. The data were provided by the Regional Waste Management Authority of Western Macedonia (DIADYMA), which operates these centres. According to the national country profile for Greece, the establishment of Creative Material Reuse Centres is part of the national target to create such facilities in all municipalities with more than 20 000 inhabitants by 2024 and to promote inter-municipal cooperation for smaller municipalities, as defined in Law 4819/2021, Article 18 (ETC CE, 2024). No data were reported for construction products.

Slovenia's quality check report mentioned that data were primarily collected from publicly available websites. Data sources included the Statistical Office of the Republic of Slovenia, NGO websites (such as *Ecologists Without Borders* and *Less is More*, the Chamber of Commerce of Slovenia and operators such as ZEOS (for WEEE), and Humana (for textiles). The report also highlighted that it is not mandatory for producers or retailers to report quantities of used products placed on the market.

Romania stated in its quality check report that it used measuring devices and/or calculations of product inputs and outputs in reuse operations. However, the information provided was limited and therefore classified as "other methods" in this report. Additionally, Romania noted that no conversion factors were used. The sources of information included the Ministry of Economy, Entrepreneurship and Tourism, the Ministry of Environment, Water and Forests, the National Agency for Environmental Protection, non-governmental organisations, online platforms, and social assistance departments within certain municipalities. No data were reported for furniture, construction materials and products, or other categories.

3.7 Conclusions and reflections

This overview is based on examples from 25 countries that submitted quantitative data for the 2023 reporting cycle (reference year 2021). Most countries applied method (c) as defined in the Implementing Decision, which involves surveys or other types of contact with reuse operators and/or household surveys. These fall into three main approaches: household surveys, operator-based data collection, and a combination of both. A few countries applied alternative approaches; however, the data provided were too limited for a more detailed assessment or conclusions. A comparison of the main methods, including their key advantages and limitations, is presented in the table below.

Table 3.6 Methods compared

Method	Pros	Cons
Household survey	<ul style="list-style-type: none"> - May capture informal sector and multiple channels at once (private interactions, shops, online, gifts/donations) - Clear population frame - > easier scaling - May provide detailed subcategories and more detailed channels - Can include policy-relevant questions on attitudes and barriers - May provide additional policy-relevant insights (e.g. behaviour patterns on rebound, motivation and barriers for reuse) 	<ul style="list-style-type: none"> - Subject to recall bias and self-estimation errors; respondents may find it difficult to estimate weights or even item counts - If design too complex -> higher drop-out risk. - Coverage bias (e.g. online surveys may exclude non-users) - Weak for rare product groups reused less frequently (e.g. construction materials and products) - Do not cover industry/business flows - Conversion factors required -> may introduce significant uncertainty - Distinction between reuse and preparation for reuse is generally not possible
Operator-based survey/ interview	<ul style="list-style-type: none"> - More often based on systematic records (e.g. inventories, accounting data), providing more reliable and verifiable data than household self-estimation - May capture business-related flows households missing (e.g. office furniture, construction materials and products, professional equipment) - May offer a stronger basis for conversion factors - May provide additional policy-relevant insights (e.g. exports, market dynamics, barriers for operators) - Potentially more systematic data collection via associations, EPR schemes or other agreements 	<ul style="list-style-type: none"> - Does not cover informal flows (private to private) unless via platforms - Population frame often uncertain; hard to identify all operators - Response rates may be low or uneven - Coverage gaps remain, especially for large online platforms managed outside the country - Scaling at national level may be uncertain due to heterogeneity of actors - Many report in units rather than weight → conversion needed, may introduce uncertainty - Distinguishing reuse vs. preparation for reuse may be easier than with household surveys, but is still challenging
Combined approach	<ul style="list-style-type: none"> - Most complete coverage (can include both private informal reuse and business-related flows) - Household self-estimation uncertainties can be reduced when combined with measured operators' data 	<ul style="list-style-type: none"> - Requires careful management of overlaps to avoid double counting - Some forms of combination may not be feasible if measured data are missing or not provided by operator - Higher cost/complexity

Source: Author's compilation

Overall, both household and operator-based surveys play an important role. When used together and supported by transparent reporting on scope, scaling, and conversion factors, they can provide a more complete picture of reuse. However, comparability between countries remains limited, particularly during this first reporting cycle, because countries interpret the definition of reuse and the preparation of reuse differently.

Some countries included reuse without a change of ownership (e.g., within-household use, repair, or leasing), while others excluded it or did not specify in the reporting. Similarly, some included business-related flows, informal reuse, exports, or preparation for reuse, while others did not or left it unclear. Where national scaling was not feasible, reported figures should be interpreted as minimum estimates. These inconsistencies partly reflect the late adoption of the reporting guidelines, which were finalized after many countries had already launched or completed their surveys. Earlier and clearer guidance is therefore essential to improve consistency resulting in greater harmonization in future reporting rounds.

Conversion factors remain a major source of uncertainty across all methods. Generic or unweighted factors risk introducing biases, while measured, country-specific factors that reflect actual product composition, seasonality, and sales channels provide more reliable results. Uncertainties could be reduced by prioritizing direct measurements at the point of sale and by developing country-specific weighted subcategories rather than relying on generic or literature-based averages. Greater transparency and exchange of experiences are also recommended: countries should always specify in their quality check reports which factors were used, how they were derived, and whether they were measured directly. As the list of conversion factors can be extensive, it would also be valuable to improve the reporting format to allow countries to upload conversion factors (as well as national reports) in a more practical and user-friendly way than is currently possible.

Finally, this report draws on experience from the first year of reporting. Its main aim was to identify practical examples that may support other countries, rather than to provide a full evaluation of all methods. The solutions presented are based on existing practices, meaning that some challenges remain unresolved. To date, no country has applied other methods listed in the Implementing Decision (e.g. household diaries or mass balance methods), indicating potential for exploring alternative approaches in future reporting cycles.

4 Mapping and assessing reuse policies

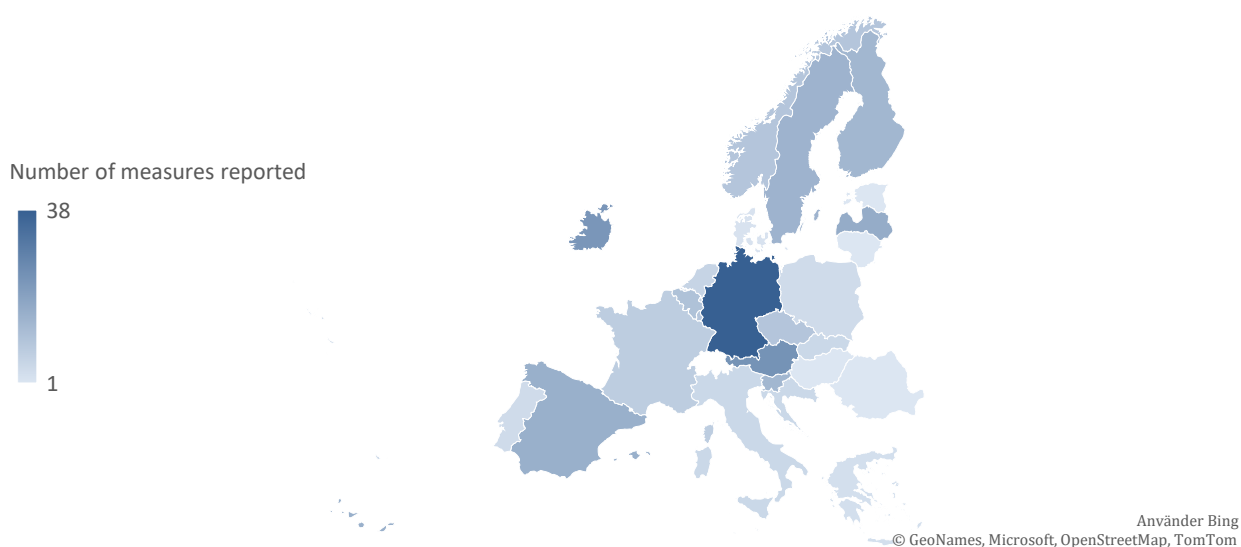
Promoting reuse is a cornerstone of the EU’s circular economy ambitions, yet understanding the real impact of policy measures remains challenging. This chapter provides an overview of the reuse-related measures reported by 25 MS and Norway for the reference year 2021, mapping them by product group and categorizing them according to policy instrument types. It then examines the extent to which these measures were supported by quantitative targets, indicators, and monitoring frameworks, highlighting gaps that hinder robust effectiveness assessments. By combining insights from reported measures with an analysis of target–indicator linkages, this chapter aims to identify patterns in current practices and propose improvements for evaluating whether reuse policies contribute meaningfully to waste prevention and circular economy goals.

4.1 Classification of policy measures and types of policy instrument

25 MS and Norway reported a total of 252 relevant policy measures promoting reuse for the 2021 reference year, with significant variation in the number of measures per country. Measures were classified into four categories, with logistic measures being the most common (20%) followed by economic/fiscal (16%) and educational (14%). However, 38% of measures lacked categorization, indicating gaps in reporting clarity. Beyond these categories, the analysis also mapped measures to policy instrument types, distinguishing between hard instruments (regulatory, market-based, EPR) and soft instruments (voluntary agreements, informative actions, research and innovation). Overall, soft instruments dominate, with informative measures accounting for 26% of all measures, while regulatory tools remain limited. This suggests that most countries currently rely on awareness-raising and voluntary approaches rather than binding regulations to promote reuse.

A total of 272 policy measures were reported by 25 MS and Norway for the reference year 2021. However, 20 of these were not relevant for the topic of reuse, as they concerned single use plastics, packaging, plastic bags or car parts. Excluding these measures, the total number of reported relevant reuse policy measures was 252. The number of measures reported differ significantly across the reporting countries, ranging from a single measure to more than 20 (Figure 4.1).

Figure 4.1 Number of measures reported per country



Sources: Author’s compilation based on the reported measures (EEA, 2024b)

The reporting parties must classify the reuse measures into four categories when reporting to the EEA: logistic measures, economic and fiscal measures, educational measures, and other measures (see Chapter 2.1). Among the relevant 252 measures, logistic measures were the most frequently reported (20%). These measures primarily aim to support the collection of products for reuse. For instance, the Netherlands promotes circular craft centres to extend the lifespan of consumer goods, while Germany has implemented resource-saving bulky waste collection in Hamburg (Box 4.1). The high share of logistics-related measures suggests that countries were prioritizing the establishment of foundational conditions for reuse, including identifying and addressing key barriers.

Box 4.1 Example of a logistic measure

Resource-Efficient Bulky Waste Collection in Hamburg (Germany)

Hamburg's municipal cleaning service offers an innovative bulky-waste collection system that combines a press truck with a dedicated furniture vehicle. This approach ensures the careful handling and transport of reusable items, preserving their value. Collected items are then made available for purchase in the services' own second-hand stores, promoting sustainability and extending product lifecycles.

Source: Germany's national report (Umweltbundesamt, 2024)

Economic and fiscal measures were the second most reported category (16%), including initiatives such as public procurement (Denmark) and tax exemptions for charity shops (Malta - see Box 4.2). Educational measures accounted for 14%, and other measures for 12% (see Figure 4.2). Educational measures include conferences (e.g. Slovakia, Italy), informational campaigns (e.g. #MehrwegFürRostock in Germany – see Box 4.3), and educational initiatives in schools (Sweden). Measures classified as 'other' mainly focus on creating networks and platforms or developing standards that support reuse.

Box 4.2 Example of an economic and fiscal measure

Tax Exemptions for Charity Shops (Malta)

Voluntary organisations, including charity shops, benefit from tax exemptions provided their turnover in the preceding year does not exceed €50,000. Additionally, these organisations operate under a special fiscal regime in which donated items are considered as converted into donations. Consequently, VAT is generally not applicable in most cases.

Source: Long term Waste Plan (Ministry for the Environment, Climate change and Planning, 2021)

Box 4.3 Example of an educational measure

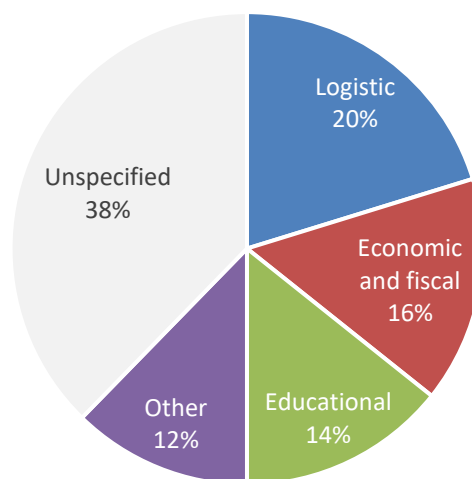
#MehrwegFürRostock (Germany)

As part of the *Plastic-Free City Initiative*, the City of Rostock, together with the Rostock Chamber of Industry and Commerce, the Chamber of Crafts for East Mecklenburg–Western Pomerania, and the Consumer Association of Mecklenburg–Western Pomerania, launched the #MehrwegFürRostock ("More Reuse for Rostock") campaign. A key feature of the campaign is an online reuse map, which highlights the city's reusable "to-go" options, making it easier for residents and visitors to choose sustainable alternatives.

Source: Germany's national report (Umweltbundesamt, 2024)

Notably, 38% of the measures lacked categorisation information and were therefore classified as ‘unspecified’ by the authors. Examples include incentive fees for the reuse of demolition materials (Croatia) and reuse activities such as establishing and supporting reuse, repair and reuse networks (Luxembourg). It remains unclear whether countries were uncertain about which category to assign or no suitable category existed. An alternative explanation could be that the reported measures fall into more than one category. Most countries either categorised their measures or left them uncategorised, indicating a limited understanding of reporting requirements in this area. As 2021 was the first reporting period, this may reflect a learning curve. It would therefore be interesting to examine whether reporting quality has improved in subsequent years.

Figure 4.2 Content of the measures as reported by the countries, per category

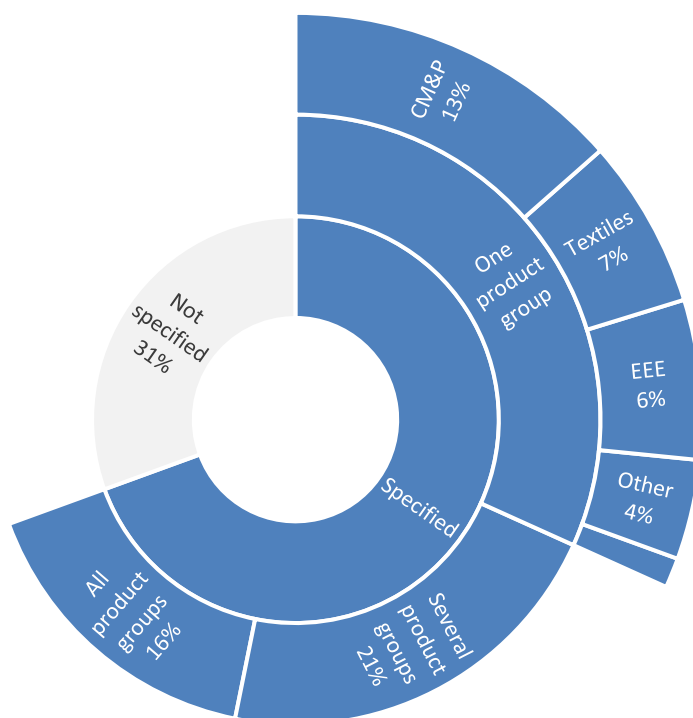


Sources: Author’s compilation based on the reported measures (EEA, 2024b)

As additional categorisation, each reporting country should indicate which product group(s) each measure targets. For 31% of the measures, target groups were not specified due to the design of the initial reporting template. This was improved for reporting on the 2022 reference year, so it was expected that the number of unspecified product groups will significantly decrease in the future. Among the measures that did specify target groups, most targeted a single product group (32%), followed by measures targeting several groups (21%), or all product groups (16%). Figure 4.3 shows a breakdown of the reported measures and the product group(s) addressed.

A common type of reported measure covering several product groups was the establishment of second-hand stores or similar outlets, which included all product groups except construction materials and products. An analysis of the targeted product groups shows that measures more frequently target the product groups textiles, EEE, and furniture together, while construction materials and products were less commonly addressed in combination with other product groups. Only 54% of measures targeting construction materials and products also address additional product groups, compared to 77% for textiles, 80% for EEE, and 90% for furniture. Notably, only 4 out of 54 measures targeting “several” product groups include construction materials and products. This difference may reflect how these products circulate in reuse systems. Textiles, EEE, and furniture often appear together in second-hand stores or flea markets, whereas construction materials and products are typically sold through specialized reuse stores. Moreover, construction materials and products are more often reused by companies rather than private households, unlike the other product groups. This likely explains why measures frequently combine textiles, EEE, and furniture, but rarely include construction materials and products.

Figure 4.3 Targeted product group(s) of the reported measures



Note: construction materials and products are abbreviated as CM&P in the figure

Source: Author's compilation based on the reported categorisation by Eionet countries (EEA, 2024b)

Measures addressing all product groups were generally broader and less specific, focusing on initiatives such as:

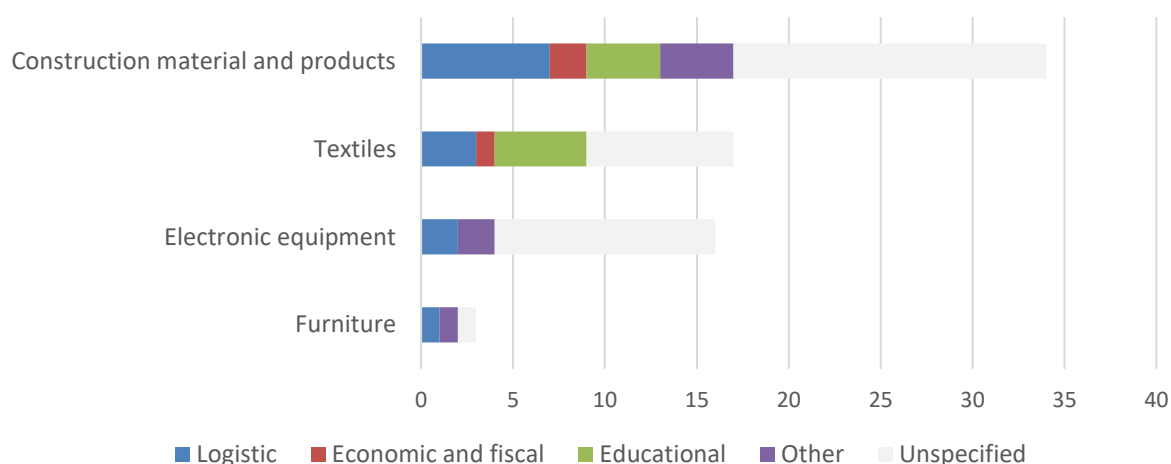
- awareness-raising and educational campaigns on reuse (e.g., in schools);
- support for developing and improving collection logistics and reuse systems;
- establishment of reuse centres;
- setting standards and integrating reuse into public procurement;
- creating networks to facilitate collaboration and knowledge exchange.

From a total of 41 measures targeting all product categories, one country (Ireland) accounts for 12 of these.

When a measure targeted only one product group, construction materials and products were the most common (13%), followed by textiles (7%), EEE (6%), furniture (1%), and other groups (4%) such as books, bicycles, and toys (Figure 4.3).

An analysis of measures targeting a single product group shows that for construction materials and products, logistics-related measures were the most common, while for textiles, educational measures dominate. For EEE and furniture, countries report an equal split between logistics-related and other types of measures (see Figure 4.4).

Figure 4.4 Content of the measures per product group as reported by the countries



Source: Author’s compilation based on the reported measures (EEA, 2024b)

In addition to the categorisation provided by the reporting country, the authors of this report have further classified the measures by type of policy instrument. This allows an analysis of whether countries tend to rely on soft instruments—such as informational or voluntary measures—or on hard instruments, including regulatory or market-based tools. Figure 4.5 gives an overview of the different types of policy instruments as well as the underlying categories.

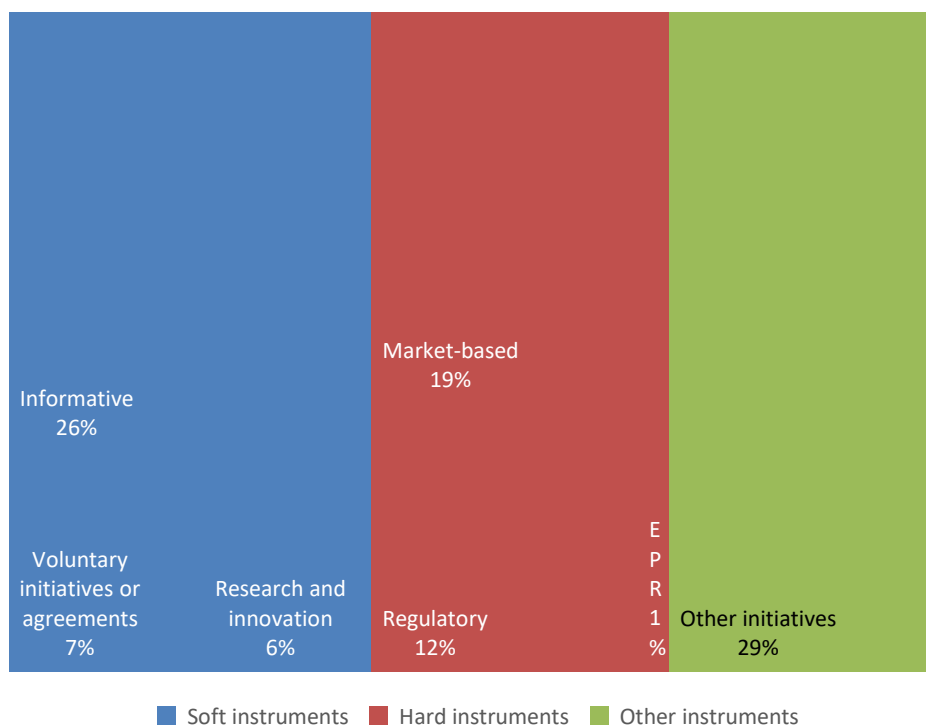
Figure 4.5 Policy instrument types

Hard policy instruments		Soft policy instruments	
Regulatory	Bans, restrictions or other mandatory requirements and obligations	Voluntary initiatives or agreements	Not legally binding measures taken by governmental and non-governmental stakeholders through negotiations
Market-based	Economic measures such as tax regulation, subsidies or fees	Informative	Communication campaigns, educational and training activities and awareness-raising materials
EPR	Extended producer responsibility schemes	Research and innovation	Funding of research projects
'Other' policy instruments			
Other initiatives	Other measures that do not fit into the above definitions		

Source: Author’s compilation based on the EEA report Tracking waste prevention progress (EEA, 2023).

Figure 4.6 presents the classification of reported measures by policy instrument type. Although the overall distribution shows no major difference, the analysis indicates that slightly more measures can be classified as soft policy instruments (39%) than as hard policy instruments (32%). Among the specific types, the most used were ‘informative’ (26%), ‘market-based’ (19%) and ‘regulatory’ (12%).

Figure 4.6 Reported measures according to policy instrument type



Sources: Author’s compilation based on the reported measures (EEA, 2024b)

Informative policy instruments include measures such as awareness-raising campaigns (e.g. Malta; see Box 4.4) and the development of repair registers that help consumers easily locate repair services for their appliances (Netherlands). Measures categorized as market-based include tax incentives (e.g. reduced tax on certain repairs in Sweden) and VAT margin schemes, which ensure that taxes are not paid more than once on the same aggregate value (Italy). Measures using regulatory policy instruments include frameworks such as national waste and resource management plans (Luxembourg) and legislative decrees on reuse and preparation for reuse (e.g. Decree 152/06 in Italy).

In 2021, Ireland launched the DECC Circular Economy and Innovation Grant Scheme (CEIGS), which serves as an example of research and innovation as a policy instrument type (see Box 4.5). Under voluntary initiatives and agreements, Latvia’s Memorandum of Cooperation is noteworthy, as it was signed by multiple sector parties, including the Ministry of Environmental Protection and Regional Development, the Red Cross of Latvia and Latvian Waste Management Association.

Box 4.4 Examples of informative and research and innovation policy instruments

Awareness-raising campaigns for reuse of construction materials and products (Malta)

Malta's long-term waste management plan includes a dedicated measure to increase public awareness of reuse practices in construction. The objective is to enhance knowledge among citizens and professionals by collaborating with key stakeholders and industry bodies, promoting sustainable building practices and reducing waste.

Research and innovation – CEIGS (Ireland)

In 2021, Ireland launched the Circular Economy and Innovation Grant Scheme (CEIGS), a government initiative led by the Department of Climate, Energy and the Environment (DCEE). The scheme supports projects that advance the circular economy by providing targeted funding to enterprises and initiatives. CEIGS not only fosters innovation but also delivers high-visibility examples of best practice, accelerating Ireland's transition toward a more sustainable economy.

Sources: Long term Waste Plan (Ministry for the Environment, Climate change and Planning, 2021) and Circular Economy Innovation Grant Scheme (CEIGS) (Department of Climate, Energy and the Environment, 2021)

It should be noted that 29% of the reported measures were classified under 'other' policy instruments, as the information provided by the countries was too limited to accurately determine the category, or because the measure did not fit within any of the other policy instrument types. Examples of these measures are presented in Box 4.5

Box 4.5 Examples of other policy instruments

Bulky waste flea market in Allensbach (Germany)

Twice a year, the Allensbach municipal recycling yard hosts a "Bulky Waste Flea Market." During this event, consumers can drop off and pick up well-preserved, functional items free of charge, promoting reuse and waste reduction.

The flea market at the Regensburg's recycling centre (Germany)

At the City of Regensburg's recycling centre, reusable items can be handed in. These items are then transferred to a dedicated market hall, where they are made available for purchase, encouraging circular economy practices.

District of Segeberg's second hand good collection (Germany)

The Segeberg recycling centre provides a collection point for second-hand goods. Valuable items are accepted and sold at a flea market supporting social causes. Other items are set aside for a regional social department store, where employees select goods for redistribution to those in need.

MEN 7 – Brussels high-quality collection system (Belgium)

Under the Brussels Resource and Waste Management Plan (Strategic Objective 2), the region aims to ensure citizens have access to an extensive network of collection services, including mobile solutions. This is particularly important as 40% of households do not own a vehicle, making accessibility a key priority.

Sources: Germany's national report (Umweltbundesamt, 2024) and Brussels Resource and Waste Management Plan (Le Gouvernement de la Région de and Bruxelles Capitale, 2018)

When examining the product groups addressed, there was no single policy measure applied across all groups. Instead, countries adopt different approaches depending on the specific product group:

regulatory instruments: rare overall; applied only to electric and electronic equipment and construction materials and products;

market-based instruments: most frequently used for construction materials and products; not applied to EEE or furniture;

voluntary agreements: common in construction materials and products; also target furniture and textiles;

informative instruments: mainly focus on textiles, construction materials and products, and EEE; not used for furniture;

research and innovation instruments: do not target furniture or EEE.

Combining the reported category and product group by country, with the mapping according to policy instrument type, the following conclusions can be drawn:

For textiles, education and information play a major role in policy measures, indicating an emphasis on “soft” approaches that influence behaviour through knowledge rather than strict regulations or economic instruments. Despite the existence of EPR schemes (e.g. in France), regulations and EPR measures targeting textiles were not reported. An explanation could be that the reporting dates from 2021, and that EPR will become mandatory from 2028. Logistic measures include infrastructure for textile collection and venues for clothes swapping. While some research and innovation initiatives exist, the overall policy landscape relies more on voluntary and informational strategies than on mandatory, enforcement-based tools (Box 4.6).

Box 4.6 Examples of measures targeting textiles

Logistic measures - Promotion of Circular Craft Centres (CAS) (Netherlands)

‘CAS facilities operate as hubs working in close collaboration with recycling centres, providing dedicated spaces for repair activities and for the exchange of items, including textiles.

The Netherlands plans to establish a nationwide network of CAS by 2030. Within a CAS, cooperation with educational institutions is strengthened, and significant emphasis is placed on fostering an inclusive society.

Educational measures – Relove Fashion (Ireland)

‘Relove Fashion’ is a region-wide competition that encourages students to apply their creative design skills to produce a sustainable and wearable outfit using materials sourced from second-hand clothing or from reused items available at home.

Sources: Circular Craft Centers (Redactie AMS institute, 2024) and Relove fashion (Rediscovery Centre, 2025)

For electric and electronic equipment, most measures fall under the “unspecified” category, making it difficult to draw firm conclusions. However, two logistic measures focus solely on this product type:

- Austria mentions the “Expansion of the reuse collection of waste EEE in municipalities” (Box 4.7).
- Italy reports a measure to encourage the creation of repair and reuse centres for EEE, which also serves as an example of a regulatory instrument.

Beyond these, informative measures appear, again pointing to a reliance on “soft” approaches rather than strict regulations. There were no measures reported that could be classified as market-based, EPR, or research and innovation.

Box 4.7 The collection of EEE in Austria

Throughout Austria a range of ongoing initiatives is being implemented to expand the collection systems for EEE. Facilities for the drop-off of reusable items are available at waste collection centres and resource parks. Additionally, the collection takes place through the *ReUse Box* and the *ReUse Bag* (a box or a bag that can be used by households to collect and transport reusable items to ReUse Shops), or directly through ReUse shops.

Source: Entwicklung des Abfallvermeidungsprogrammes 2023 (Stoifl et al., 2023)

For furniture, the number of measures was small, indicating limited policy focus on this product group. Of the three reported measures, two were categorized as “other” and “unclear,” while the third was a logistic measure reported by Sweden. This measure involves a single municipality collecting furniture from a specific brand, which then takes the items back to its stores. As a result, it was difficult to draw broad conclusions for this product group.

The product group construction materials and products has the largest number of policy measures and instruments that target it exclusively. However, half of these measures were categorized as “unspecified,” which limits the conclusions that can be drawn. Among the categorized measures are:

- Logistic measures which were the most common, followed by educational and “other.” Policy instruments, of which “other” instruments were the most common, followed by informative and market-based instruments. Voluntary agreements, research and innovation, and regulatory instruments also exist but in smaller numbers (Box 4.8).

Box 4.8 Examples for policy instruments targeting construction materials and products

Informative policy instrument – Guidelines for reusable products and materials (Norway)

Norway has introduced guidelines aimed at strengthening expertise on materials and products suitable for reuse within the construction sector. These guidelines help clients request a reuse mapping by clarifying what they should ask for and what they can reasonably expect from such an assessment. In addition, they include recommendations for actions that go beyond the mapping process, encouraging a more comprehensive approach to reuse.

Regulatory instrument – Regulation on waste management (Slovakia)

Slovakia’s Waste Prevention Programme introduced regulations promoting selective demolition, with a focus on managing construction materials and products intended for reuse. Selective demolition involves the on-site separation and sorting of construction and demolition waste, ensuring that reusable materials are preserved and properly handled.

Sources: Norway’s and Slovakia’s quality check report (EEA, 2024b)

4.2 Evaluation of effectiveness of reuse policies

Assessing the effectiveness of reuse policies remains a significant challenge across MS due to limited data availability, inconsistent indicators, and a lack of harmonized monitoring frameworks. While the Waste Framework Directive requires countries to monitor and assess reuse measures, few have established robust systems to do so.

Only a minority of MS have set quantitative reuse targets, and even fewer have linked these targets to measurable indicators. Many indicators proposed are not aligned with specific targets, and data sources often lack the reliability or consistency needed for meaningful evaluation.

The absence of harmonized EU-level indicators and the novelty of reuse data collection contribute to these difficulties. Additionally, the complexity of reuse flows—spanning households, businesses, and informal channels—makes it hard to isolate the impact of individual measures.

In 2022, a study commissioned by the European Commission Directorate-General for Environment, explored the feasibility of further EU measures on waste prevention (Karigl et al., 2022). The study referred to the effectiveness of existing policy measures, and concluded that:

- Evidence on the effectiveness of waste prevention measures was very limited, mainly due to poor data availability at the EU level.
- Monitoring was not commonly applied, resulting in a lack of evaluations and data, which hinders identifying best practices and improving performance.
- Effectiveness assessments of national programmes were rare, making it difficult to understand enablers, barriers, and lessons learned—this poses a challenge for evidence-based policy making.

It is strongly recommended that Waste Prevention Plans (WPPs) include quantitative targets, as vague goals risk shifting focus to managing existing waste instead of preventing it. (Johansson and Corvellec, 2018) found that most waste prevention policies combined soft, hard, and informative measures, each with varying effectiveness and public acceptance. Their analysis also concluded that 51% of MS' WPPs did not align with the EU's definition of waste prevention.

Later, in 2022, a scoping study to assess the feasibility of further EU measures on waste prevention (Karigl et al., 2022) identified quantitative waste prevention targets in 15 of the 27 MS. The study analysed the effectiveness of 38 quantitative targets that had been identified in the then available waste prevention country fact sheets.

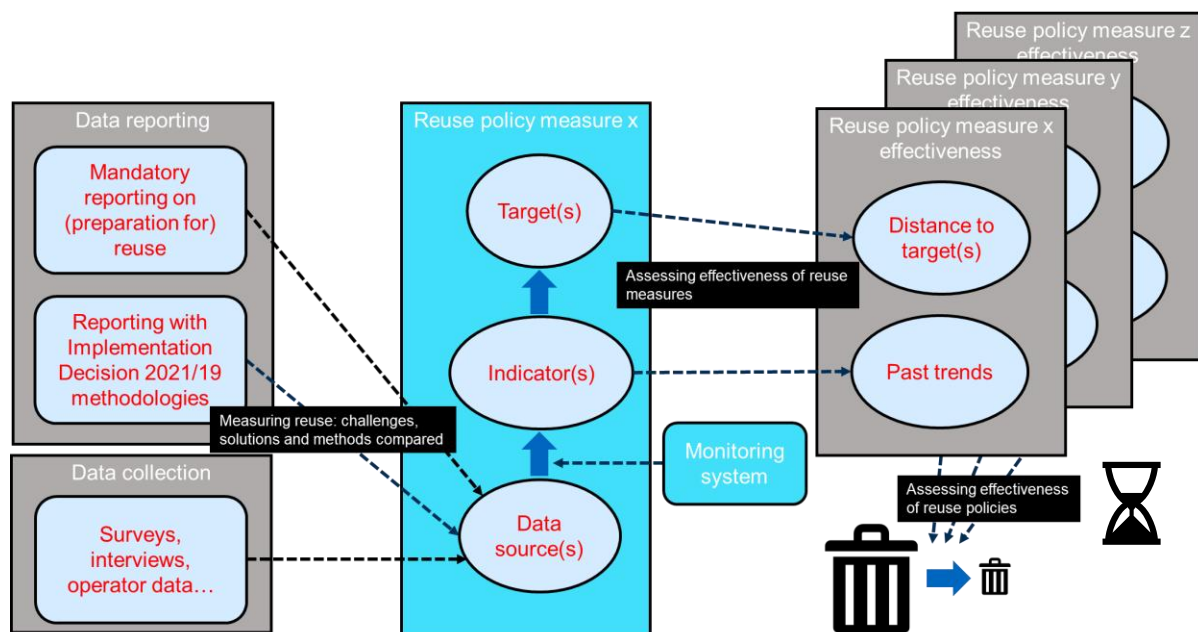
The EEA and Eionet '*Guidance for evaluating waste prevention programmes*', recommends reuse targets to be aligned with the principles of the waste hierarchy. Targets should additionally be based on data related to waste generation or economic and consumption patterns that are readily accessible from national statistical offices or relevant environmental authorities (EEA, 2021). The guidance stresses that it is essential that targets are linked to clearly defined indicators which are selected and tailored to enable appropriate monitoring of progress towards achieving the target.

In order for a country to assess the effectiveness of its reuse policy measures, a combination of elements needs to be in place (EEA, 2021). The effect that is intended or expected from a measure should be both measurable and measured. Therefore, the elements for enabling either monitoring or evaluating progress towards a specific target are (EEA, 2021):

- Quantitative targets: These include not only strictly numeric goals but can also refer more to quantitative 'increases' or 'reductions' in general as compared to a reference value.

- Indicators: Each of the targets must be linked to clearly defined indicators which have been chosen and customized to enable appropriate monitoring. Indicators must be fit-for-purpose, practical, and trustworthy for monitoring progress towards targets, by ensuring they satisfy the RACER criteria.
- Data and information sources: The indicator values should be obtained from reliable and available data sources that represent measurements over specific time periods. Data sources must be reliable, with data collected through robust, high-quality systems for data collection. To ensure data comparability, e.g. between MS or between product groups, data collection methodologies and detailed reporting guidance should have been made available. Data collection methodologies can include e.g. (household) surveys and questionnaires, interviews, observations and measurements. Mandatory reporting can also generate datasets that researchers or policymakers can later use and analyse.
- Monitoring systems: Monitoring systems that rely on clearly specified data and relevant information sources must be in place. This includes source that are managed and published by the statistical office of the European Union (Eurostat) or by national statistical offices. These bodies provide robust and reliable data for policymaking, program evaluation, and public accountability, ensuring that statistics are produced and shared in a manner that is objective, relevant, transparent, and respects user and respondent confidentiality.

Figure 4.7 Framework conditions for determining the effectiveness of reuse policy measures



Source: Author’s compilation based on European Environment Agency (2021)

Directive 2008/98/EC lays down an obligation for MS to encourage reuse measures as part of their waste prevention programmes, and to ‘*monitor and assess the implementation of their measures on reuse by measuring reuse*’. So far, however, few data sources on reuse are available, apart from those generated through reporting obligations on (preparation for) reuse (upper left block in Figure 4.7). As acknowledged in recital 5 of the Commission Implementing Decision (EU) 2021/19, this poor data availability makes measurement of reuse a novel exercise with a risk of considerable administrative burdens associated with the necessary collection of new data. The scope of reuse policies and measures can be broad and targets a series of generic product categories. Due to this the Implementing Decision 2021/19 has introduced a common methodology for measuring, as well as a format for reporting, aiming to make reuse data collection proportional, appropriate, and cost efficient (European Commission, Directorate-General for Environment, 2020).

Most, if not all of the reuse policy measures, aim to increase the reuse of goods regardless of whether the reuse occurs after a good has been discarded, and is thus in line with the definition of waste provided by the Waste Framework Directive 2008/98/EC .given waste status, or whether it concerns products that are reused without being discarded first. Reuse targets and indicators therefore rarely explicitly distinguish the waste or product status of the goods that are being reused.

For some categories of goods or products that are offered for reuse, an in-depth analysis to identify the preceding administrative status of the good is required. An example is given for construction materials and products:

- Any construction material or product that is generated at a construction or demolition site and that can be reused elsewhere by third parties without any further processing would not receive a waste status. In this case, direct reuse is possible.
- If the same construction discards require one or more processing steps to enable their reuse—such as cleaning, sorting, relabelling, repackaging, or other preparation-for-reuse activities—they cannot be reused immediately. They must first meet specific End-of-Waste criteria before reuse is allowed. Until those criteria are met, reusable construction materials and products are legally waste, even if they have high reuse potential. Only once processed and certified (e.g. reusable bricks meeting standards), they become a secondary raw material and are not waste anymore. In order to boost preparation for re-use, as well as recycling, a scoping study on possible further EU-wide end-of-waste and by-product criteria has been performed (Orveillon et al., 2022).
- It was observed that MS targets or indicators that refer to the reuse of construction materials and products rarely specify or exclude reusable materials resulting from preparation for reuse operations, nor —the other way around— reusable materials that were generated at construction sites without requiring any processing before their reuse.

Especially reuse policy measures that refer to multiple products and/or waste categories are difficult to classify as either targeting direct reuse or reuse after preparation for reuse. Particularly for measures that aim to increase the per capita reuse of goods, the prior status of the reused good does not seem to be of relevance, and no measures specified separate objectives for reusable goods coming from preparation-for-reuse activities or from direct reuse.

The total stock of goods available for reuse will be composed of (i) the goods that are offered for direct reuse, without a discarding step, on the one hand, and (ii) the discarded goods (=waste) that were prepared for reuse, on the other hand. Since all increases in the total stock of goods for reuse come at the expense of the amount of waste generated, any measure that enlarges the stock of reusable goods, regardless of their source, should be considered an effective prevention action.

For the present report, we conducted an analysis that aimed to gather evidence on the availability of suitable target-indicator-monitoring system combinations to enable assessing the effectiveness of reuse policy measures in MS. This evaluation identified reuse measures, targets, indicators, and data sources for monitoring in the 2025 country factsheets on waste prevention in the 27 MS, as well as in the reported measures by the 25 MS and Norway for reference year 2021.

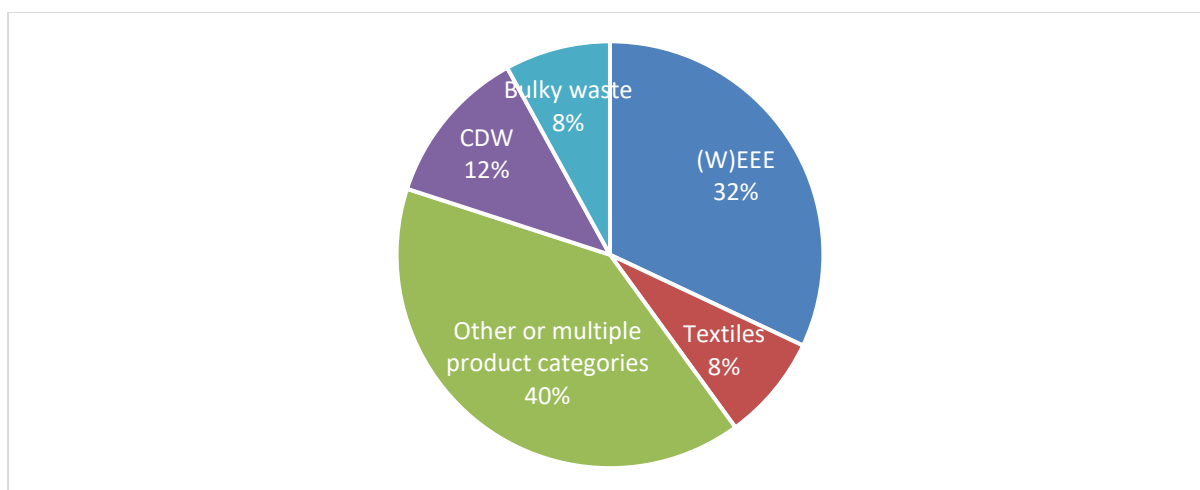
The analysis considered the identification per MS of quantitative reuse targets, of (corresponding) reuse indicators, and of data availability for enabling monitoring. This made it possible to assess the availability of target-indicator-monitoring frameworks in MS, as a basis for measuring the effectiveness of reuse measures in the EU.

4.2.1 Identification of quantitative reuse targets

For the product categories textiles, EEE, furniture, and construction materials and products, a total of 25 quantitative reuse targets were identified in the 2025 waste prevention country factsheets, distributed across 13 MS. 14 countries did not present any quantitative reuse targets in their factsheets.

The identified quantitative targets either refer to the (preparation for) reuse of one of the four specific product categories, the corresponding waste categories, or to reuse-related initiatives that may concern different types of products or waste. For classifying the countries' quantitative targets, it was assumed that the waste category that best corresponds to furniture was 'bulky waste', although bulky waste may also include white goods and mattresses (EC, 2023). Of the quantitative targets 40% relate to multiple product initiatives, 32% refer to (W)EEE, 12% to construction materials and products, 8% relate to textiles, and a similar percentage to furniture and bulky waste (see Figure 4.8). Multiple product initiatives include generic reuse targets in kilo per capita and numeric targets for new reuse centres or reuse-related activities. In one case, a target is set on public procurement of reusable goods.

Figure 4.8 Shares of product or waste categories with quantitative reuse targets



Source: Author's compilation based on the EEA Country profiles on waste prevention (EEA, 2025)

Belgium accounts for 11 quantitative reuse targets, representing 44% of the total number of targets, distributed over its three regions, Brussels, Flanders and Wallonia. Ten MS mention a single quantitative target in their factsheet.

Most of the 25 identified quantitative reuse targets are non-binding, with only two exceptions:

- In France, [Decree No. 2021-254 of March 9th, 2021](#), provides a list and minimum shares of products or product categories that must come from reuse or preparation for reuse or have recycled content¹², in supply contracts issues by the State, local authorities and their associations. When the product category allows, priority is given to reuse. Most product categories are subject to a requirement that of 20% of supplies come from reuse, including clothing, computer equipment, mobile and landline telephones, photocopiers and cartridges,

¹² The combination of different waste treatment options in a single target is not uncommon, e.g., the Waste Framework Directive (2008/98/EC, amended in 2018) that sets targets for 'the preparing for re-use and the recycling of municipal waste', and requires 'the preparing for re-use, recycling and other material recovery' of non-hazardous construction and demolition waste to be that at least 70% (by weight) by 2025.

furniture, and household appliances. In addition, street furniture is included, for which this obligation amounts to 5%.

- In 2015, Spain transposed the EU Directive 2012/19 on Waste EEE (WEEE) into national law. With the national decree, Spain introduced the first national legally binding measures for the preparation of reuse targets for e-waste, separate from recycling. The reuse target for 2018 is 3% for large appliances and 4% for IT equipment.

From the 252 reuse-related policy measures that were reported by the 25 MS and Norway for the reference year 2021, additional quantitative targets were identified for France and Finland:

- In France, each time new specifications for Producer Responsibility organizations (PRO) are adopted, waste prevention objectives are assigned to the EPR-sectors. Reuse targets are set when the nature of the products makes reuse feasible. Most targets are applied from 2022 onward. However, for furniture, earlier targets were introduced: starting in 2021, 1.5% of discarded household furniture must be made available to social and solidarity economy actors, and 5% of discarded furniture from other sources. The requirement states that items made available to social and solidarity economy actors¹³ must meet quality standards enabling a reuse rate of 60%. This does not mean that 60% of all discarded furniture must be reused; rather, it means that of the items delivered to these actors, at least 60% should be in a condition that allows them to be reused. The furniture EPR Ecomaison's goal is to reuse 120 000 tonnes of furniture by 2030 (Ecomaison, 2025).
- The Green Deal on Sustainable Demolition (2020-2025) in Finland is a voluntary agreement between the Ministry of the Environment and the Finnish Property Owners Association (Rakli). Its main goal is to enhance the reuse and recycling of materials generated from repair and demolition projects by improving the market conditions for these materials. A key target is that by 2025, a demolition audit will have been conducted prior to applying for a demolition permit in 75% of repair projects. Additionally, the agreement seeks to strengthen the knowledge base on demolition materials and their potential uses, while also developing tools and systems for data exchange to support increased reuse and recycling.

In the future, when either more quantitative reuse targets are put in place by individual MS, or product-specific data from more and/or other reuse channels—or from additional product categories—become available in a MS, the differentiation in national target ambition levels and data availability might pose challenges for aggregating or comparing progress at the EU level, and thus complicate future alignment.

4.2.2 Identification of reuse indicators

The EEA and Eionet guidance document for waste prevention programmes (EEA, 2021), states that indicators must be fit for purpose, i.e. that they are easy to observe, monitor and communicate, and that they clearly demonstrate progress towards a defined target or targets.

In 2023, under the title 'Tracking waste prevention progress — A narrative-based waste prevention monitoring framework at the EU level', the EEA proposed a waste prevention monitoring framework (EEA, 2023). The framework consists of three indicator clusters: the context in which prevention

¹³ Social and solidarity economy (SSE) actors are defined under the French Law n°2014-856 of 31st July 2014 on the social and solidarity economy (Journal Officiel, 2014). SSE refers to organizations and enterprises that operate under a specific economic model defined by law and guided by principles of social utility, solidarity, and democratic governance, rather than being driven solely by profit. The law recognizes five main categories: Associations (non-profits employing staff); Cooperatives (including worker and consumer co-ops); Mutual societies; Foundations; Social enterprises (including those with ESUS accreditation: Entreprise Solidaire d'Utilité Sociale).

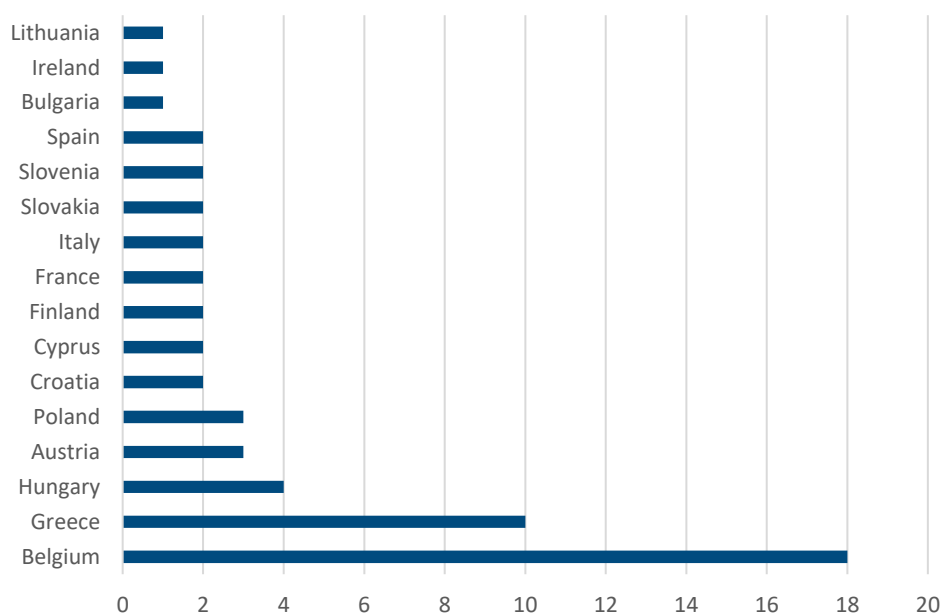
measures are implemented, policy enablers focusing on waste prevention measures and waste prevention outcomes. The EEA and Eionet guidance document mention different prevention indicator types:

- output-based indicators (e.g. waste generation);
- decoupling indicators (e.g. waste generation per unit GDP);
- response indicators (e.g. number of waste prevention events implemented).

Each indicator can be evaluated in terms of its appropriateness for monitoring the corresponding target (i.e. its effectiveness).

In total, 16 countries proposed 56 quantitative reuse indicators for the product categories of textiles, EEE, furniture, or construction materials and products. No indicators and no targets were proposed by Denmark, Germany, Latvia, Luxembourg, Malta, Netherlands, Portugal, and Romania. Austria, Cyprus, Finland, Greece, Italy, and Slovenia presented no quantitative targets but proposed reuse indicators. Three MS proposed a single reuse indicator, and for eight countries, two quantitative indicators were identified. Belgium and Greece represent half of the total number of reuse indicators (see Figure 4.9).

Figure 4.9 Number of quantitative reuse indicators per country



Source: Author’s compilation based on the EEA Country profiles on waste prevention (EEA, 2025)

Only for 11 of the 25 quantitative reuse targets, a corresponding indicator was identified. Additionally, for two reuse targets a corresponding indicator was presented that did not exclusively account for reuse, but more generically referred to an aggregated figure for reuse and recycling. In one case, the indicator delivered an absolute quantity, whereas the target was expressed as a ratio. Approximately 44% of the proposed targets lacked a corresponding indicator, while 43 indicators (75%) did not align with any quantitative target. Such indicators that do not link with a target are however also valuable, since they can support the monitoring of trends and evolutions as a preparatory stage to the setting of ambitious but realistic quantitative targets.

4.2.3 Indicator data availability to enable monitoring

The Implementing Act foreseen in Article 9(7) of the WFD to establish harmonized indicators for measuring overall progress of the implementation of waste prevention measures has not yet been adopted. Recent reviews and briefings on the WFD, including the 2023 revision process, continue to highlight the absence of harmonized EU-level waste prevention indicators to facilitate a more comprehensive and consistent approach for performing assessments on the implementation and the effectiveness of individual measures at national level.

Table 4.1 lists the current and planned reuse and preparation for reuse data reporting obligations. Whereas current mandatory reuse reporting refers only to categories of products that have not acquired a waste status, all preparation-for-reuse reporting obligations are rooted in EU legislative bodies related to the management of particular waste streams, e.g. packaging waste, municipal waste, WEEE, CDW, ELV, and textile waste. These obligations ideally result in data being reported in an EU-wide harmonized format, following clear guidance and consented calculation methods. If their robustness can be verified by independent third parties, the reported data constitute a reliable source of information and statistics to support monitoring changes evolutions in the effectiveness of waste prevention policies. The revised Waste Framework Directive 2008/98/EC introduces new reporting obligations, particularly on textiles under article 22c(20), amending the Commission Implementing Decisions (EU) 2019/1004 and (EU) 2021/19 to include the information provided by producer responsibility organisations (PRO) to National Competent Authorities. Thereto, DG Environment will contribute to setting specifications concerning the structure and format of data reporting, ensuring uniformity, consistency and ease of data consolidation for PROs.

It is noted that Directive 2008/98/EC lays down an obligation for MS to integrate reuse measures into their waste prevention programmes and to monitor and assess the implementation of these measures according to a common methodology. This calculation methodology is the subject of Implementing Decision 2021/19. The Implementing Decision itself does not consider any reporting obligation on one or more determinate product categories; it rather:

- establishes a common methodology for measuring reuse across MS;
- defines a standardized format for reporting reuse data to the European Commission;
- ensures accurate and consistent data collection by avoiding double counting and excluding items merely offered for reuse.

Through this the Implementing Decision supports the monitoring and assessment of national measures promoting reuse as part of waste prevention programs, balances accuracy with practicality, and considers the administrative burden and novelty of reuse data collection. The reporting format in Annex B of the Decision refers to some of the broad product groups that are often considered for reuse, such as furniture, textiles, and EEE, but also includes a category '*Other products for which measures were adopted*'.

It can be observed that all current reporting obligations are linked to discarded products and municipal waste. The corresponding reported data therefore always refer to waste that could not be prevented or avoided but that has instead been prepared for reuse.

Table 4.1 Reuse and preparation for reuse data reporting obligations for specific waste and product categories

Waste/Product Category	(Preparation for) Reuse Reporting	Legal Reference	Reported data
Municipal Waste (MSW)	Explicitly Reported	Directive 2008/98/EC, Implementing Decisions 2019/1004 & 2019/1885	Mass of municipal waste prepared for reuse (not recycled), including items like furniture, textiles, books, electronics, etc. that are checked, cleaned, or repaired to be reused without further processing.
Construction and Demolition Waste (CDW)	Explicitly Reported	Directive 2008/98/EC, Target: 70% by 2025	Quantities of CDW prepared for reuse per material types, e.g., concrete, bricks, tiles, ceramics, wood, glass, plastic, or metals. MS are encouraged to report on pre-demolition audits to identify reusable materials and on selective demolition to facilitate reuse and high-quality recycling.
Packaging Waste (PW)	Partially Reported	Directive 94/62/EC on Packaging and Packaging Waste	MS are not required to report separately on the preparation for reuse of packaging waste. Reuse is only addressed indirectly.
Waste Electrical and Electronic Equipment (WEEE)	Explicitly Reported	Directive 2012/19/EU on WEEE, Implementing Decision (EU) 2019/2193	Quantities prepared for reuse, defined as operations where WEEE is checked, cleaned, or repaired so it can be reused without further processing, must be reported separately from recycling and recovery. Includes weight of WEEE prepared for reuse, type of equipment, location of treatment (domestic, other MS, or third country).
End-of-Life Vehicles (ELVs)	Explicitly Reported	Directive 2000/53/EC on ELVs	Total number and weight of ELVs treated per treatment operation, including reuse of parts removed from ELVs and that are cleaned, tested, and sold for reuse (e.g. engines, gearboxes, electronics). Must be reported separately from recycling and recovery.
Textiles (TEX)	Proposed for future reporting	Directive (EU) 2025/1892 amending Directive 2008/98/EC on waste	By 17 April 2028, each MS must introduce EPR for textiles. Producers of textiles, footwear, and related products must register and report annually on products placed on the EU market, regardless of whether they are established in a MS or sell directly to end users. Key reporting obligations include registration in each MS where products are first made available, annual reporting on product quantities by weight, and providing data on collection, reuse, recycling, and disposal to authorities. The legal text explicitly differentiates ‘waste textile’ and ‘used textiles assessed as fit for reuse’. The latter should be understood as <i>‘textiles that have been assessed as fit for re-use after collection, sorting, preparing for re-use or after the direct professional assessment at the collection point. Used textiles assessed as fit for re-use should not be considered to be waste textile’</i> .
Packaging Waste (PW)	Proposed for future reporting	Regulation (EU) 2025/40 on packaging and packaging waste	Quantity in tonnes of total reusable packaging (sales, grouped and transport) made available on the territory of the MS for the first time, and % of total packaging. Quantities of reusable beverage containers placed on the market, including the number of rotations (i.e. how often containers are reused) and the filling volume utilization. The latter refers to the percentage of the container’s volume that is actually used during each refill cycle. It helps assess efficiency and environmental performance of reuse systems.
End-of-Life Vehicles (ELVs)	Proposed for future reporting	Proposed Regulation 2023/0284(COD)	MS will report on parts reused, remanufactured, or refurbished, as well as on incentives for garages and repair shops to support reuse.

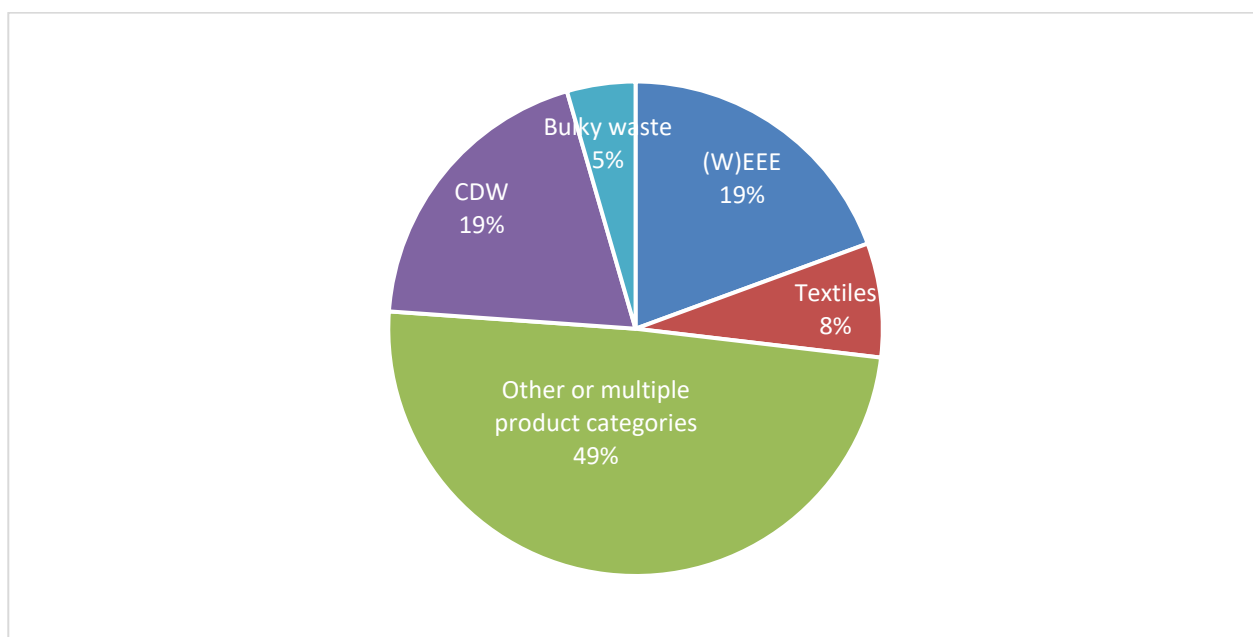
Source: Author’s compilation based on reporting obligations (EC, 2025b)

In the 2025 country factsheets on waste prevention in the 27 MS, a total of 56 quantitative indicators on reuse were identified. These are related to the four product and waste categories analysed in the present report. For 11 quantitative waste prevention targets where no specific indicator was mentioned in the country factsheet, a suitable indicator could be easily derived.

Of the resulting 67 indicators, almost half referred to other or multiple product categories (see Figure 4.10). Examples of such indicators include:

- the weight of reused goods per inhabitant;
- the ratio of public contracts taking into account reused products;
- the number of certified re-use centres and the population served;
- the number of separate municipal waste collection facilities (PSZOK) with repair and reuse points.

Figure 4.10 Shares of product or waste categories with quantitative reuse indicators



Source: Author's compilation from EEA Country profiles on waste prevention (EEA, 2025)

The proposed indicators rely on different data sources. About one quarter of the 67 identified quantitative reuse indicators can be monitored by using either mandatorily reported data (see Table 4.1) that are accessible through Eurostat, or the data that countries submit to the EEA in accordance with the Implementing Decision (EU) 2021/19. For 64% of the indicators, however, alternative data sources are required, such as targeted surveys, questionnaires, or indirect data sources.

The following quantitative reuse indicators (a-d) proposed by countries¹⁴ do not rely on harmonized and/or officially reported data but instead require dedicated sources of information.

a) For indicators on EEE:

- implementation rate of actions by the 'Recupel¹⁵' reuse plan and the agreement between 'Recupel' and resources;
- number of devices repaired and the number of devices rented out, expressed as a percentage of the total devices purchased over a period of time;
- number of incentives, mainly tax incentives, for the repair and reuse of EEE;
- weight or number of EEE components that are being reused in the professional field;
- share of reused large appliances and IT equipment;
- current lifespan of EEE.

For several of these indicators, the exact scope and definition of what is being measured are unclear. In some cases, potential sources may also not comply with the RACER-criteria.

b) For indicators on textiles

Dedicated sources of data and information are required to measure progress with respect to the following textile-related reuse indicators:

- number of containers/points for collection of textile waste for reuse;
- establishment of new textile collection centres; quantities of clothing undergoing a preparation for reuse, to be reused/year;
- establishment of new clothing repair centres and new creative material reuse centres; quantities of clothing repaired/year;
- number of containers per thousand residents for separate collection of waste textiles.

If the (permitting or registration of the) installation of containers for separate collection of waste textiles is managed by a single or centralized organization or body, the number of installed containers can be easily monitored. The number of new textile collection or repair centres can be obtained e.g. from surveys among local authorities or operators of reuse centres.

c) For indicators on construction materials and products;

- number of construction sites practicing selective demolition and the reuse of building materials on Brussels construction sites;
- reuse ratios as weight % of stony and non-stony materials from construction works, and ratio of reuse in a high-quality manner;
- number of good practice guides distributed or downloaded for the reuse and recycling of building materials;
- the number of actions carried out on the reuse of construction waste taking into account existing results and recommendations in other regions;
- quantities of construction and demolition waste that were collected and reused;
- number of education curricula that have incorporated the principles of prevention and reuse of ECDW (excavation, construction and demolition waste);
- number of implemented information activities to support building material reuse centres;

¹⁴ Note that in this section, the original wording has been copied from the 2025 Waste Prevention Country Factsheets, without editing.

¹⁵ Recupel is the Belgian non-profit PRO in the EPR scheme for EEE in Belgium that collects and recycles used lamps and electrical appliances. (<https://www.recupel.be/en/about-recupel/what-does-recupel-do>)

- percentage of social economy enterprises active in the field of construction waste reuse.

Several of the proposed reuse indicators on construction materials and products include elements that refer to quality, or that can be interpreted in different ways:

- What is '*reuse in a high-quality manner*'?
- Does '*collected and reused*' provide two different numbers, and if so, are these numbers interrelated?

It is not always clear who will be responsible for generating and reporting the data, e.g. with respect to making available good practice guides or the incorporation of reuse principles in education curricula. Most of the construction reuse indicators only allow indirect monitoring of the reuse measures' effects. This is particularly the case with informative measures that are approached in a quantitative manner.

d) For other or multiple product categories

More than half of the identified quantitative reuse indicators relate to multiple product categories. Of these indicators many relate to the number of reuse centres, sometimes making distinctions between new and operating centres, whether the centres are duly certified, or whether they concern repair, reuse, or preparation for reuse. The number of new reuse centres can be determined e.g. from surveys among local authorities or operators of reuse centres. Additional data quantify visitors, the population served, the number of related jobs, and other parameters. Indicators include:

- number of creative material reuse centres created; quantities of furniture reused/year;
- number of new centres/ reuse areas;
- number of certified reuse centres (number), population served (number of people);
- number of visits made to reuse centres;
- number of separate municipal waste collection facilities (PSZOK) with repair and reuse points;
- number of operative reuse centres and number of associated new jobs;
- number of reuse centres established and operating;
- design/ implementation of the action for organising centres for preparing for reuse at municipal level; number of new preparations for reuse centres.

Other indicators measure the reuse rates or quantities of collected and/or reused products:

- mass of accepted products for reuse and repair at separate municipal waste collection facilities (PSZOK);
- weight per year and per inhabitant of reusable goods sold in reuse centres and the reuse percentage (the ratio between sold and collected);
- the reuse rate of goods collected by social economy enterprises, by product category and by resource;
- implementation of the reuse of ; number of books reused/year;
- percentage of additional quantities of waste reused through new waste recycling channels, by type of waste stream and by type of social economy enterprise.

For enabling the monitoring of all the above indicators, the corresponding data should be registered and reported by individual (preparation for) reuse or repair centres to the corresponding authorities, and made publicly available after aggregation.

A few indicators refer to public procurement of reusable goods:

- The proportion of goods acquired annually by State services as well as by local authorities and their associations that come from reuse, per listed product category.
- The ratio of public contracts taking into account reused products.

Finally, a diverse group of indicators for multiple product categories is proposed for regularly tracking performance measures to assess progress towards reuse objectives:

- total weight of reused goods per inhabitant;
- % of households in Brussels that are aware of the issues related to consumption and are taking actions (e.g. second-hand shopping, do it yourself, etc.);
- annual update of the indicators of the reuse sector's dashboard of activities;
- percentage of waste streams for which a quantitative reuse target has been set in regulatory terms;
- number of municipalities whose municipal councils voted for a minimum patent tax rate for services related to the re-use of products and hence to the implementation of waste prevention policies;
- number of activities by local government units to encourage and facilitate reuse;
- repair of WEEE, clothing, furniture, and toys (percentage);
- design/ implementation of electronic platform for reuse; installation of an electronic platform; number of platform users/year.

Also in this last group, it is often unclear whether reliable data sources are readily available. At the same time, not all measured parameters are well-defined, e.g. *'being aware of the issues related to consumption'*, is only indirectly connected to quantities of waste prevented.

4.2.4 Suitability of target-indicator-monitoring frameworks in MS to assess the effectiveness of reuse measures

In the previous sections it was examined whether it would be possible to assess to what extent the proposed reuse measures contribute to preventing waste, i.e. how effective policy measures on reuse are in the EU. Such analysis is necessary, as evidence on the effectiveness of waste prevention measures remains very limited, largely due to poor data availability at the EU level. In general, since data reporting on reuse and preparing for reuse is still in an early stage, fluctuations in data may reflect methodological adjustments rather than real changes in reuse behaviour. MS and stakeholders should therefore be aware of this ongoing methodological learning process when interpreting year-to-year results.

Especially the lack of data indicators that satisfy the RACER criteria has complicated the identification of suitable indicators for either monitoring trends or evaluating progress towards quantitative reuse targets. In return, the lack of monitoring hinders the identification and sharing of best practices as well as the implementation of more performant policy measures.

Figure 4.7 shows the elements needed to build a target-indicator-monitoring framework, allowing to assess whether single reuse measures generate the expected and intended effects, or whether a set of measures effectively contributes to the prevention of waste. To date, country level effectiveness assessments of national waste prevention programmes are still very rare, making it difficult to understand enablers, barriers, and generate lessons learned.

Data source challenges

Two main data source challenges have been identified (a-b).

- a) Using mandatorily reported data, with an example of construction materials and products

In general, mandatorily collected and reported data are relevant, accepted, credible, easy, and robust (RACER). Thus it could be assumed that the effectiveness of policy measures can easily be assessed for those countries that combine meaningful quantitative reuse targets with corresponding indicators, that are fed from data either collected through established methodologies, as set out in the Implementing Decision 2021/19, or that have been reported under the mandatory reporting obligations that refer to (preparation for) reuse (see Table 5.4.).

However, as outlined in section 2, with respect to the use of data reported under the Implementing Decision 2021/19, limitations with respect to the data collection method (see Table 3.6) should be considered, as well as the limited comparability between countries due to differences in scope and coverage.

Unfortunately, several limitations also exist for data that are collected and reported mandatorily to the European Commission. This can be illustrated with an example on the preparation for reuse of construction materials and products:

- As indicated in Table 4.1 the Waste Framework Directive 2008/98/EC sets a target of a minimum of 70% recycling and material recovery of non-hazardous construction and demolition waste by 2020. Many MS that did not meet the 2020 target are still working toward compliance as the target is still in force. The target applies to the combined total of the preparing for reuse, recycling, and other forms of material recovery, such as backfilling operations. By 31 December 2024, the Commission had to consider the setting of preparing for reuse and recycling targets for construction and demolition waste. Until now, no new preparation for reuse targets have been set.

Moschen-Schimek et al (2023) performed a detailed analysis of national quality check reports on CDW reporting and concluded that misinterpretation often arose from the incorrect allocation of waste and treatment codes. Additionally, inconsistencies in how backfilling activities are defined across regions had a clear impact on reported recovery rates. Furthermore, changes in data reporting methodologies also influenced the reported recovery figures. A large study from the Nordic Council of Ministers (Svedmyr et al., 2024) confirmed that data gathering and reporting on the reuse and recycling of construction materials and products is difficult. As to improve CDW management and data collection and reporting, an updated EU CDW Management Protocol and guidance was released (EC: DG Grow, 2024). Key features of this protocol include mandatory audits to identify hazardous substances and assess reuse/recycling potential, and stronger requirements for documentation, certification, and monitoring. The widespread application of this guidance might, in the future, generate more robust, accurate, and reliable data, facilitating the assessment of the performance of measures that target the re-use of construction materials and products.

- b) Using operator-based data, with an example from Belgium

About half of the identified quantitative reuse indicators relate to multiple product categories and many of these relate to reuse centres. For enabling the performance assessment of the corresponding measures, data are required from the parties that operate the facilities:

- The Brussels Region's objective is to reach 5 kg/inhabitant/year of preparation for reuse. Until today, Brussels monitors reuse by collecting data on preparation for reuse from the accredited

reuse shops, as part of the reuse accreditation delivered by the Brussels Capital Region. These data provide an estimation of reuse for specific product groups. Currently, this monitoring is based on those quantities only, and no extrapolations on reuse through other channels are made. Total reuse in Brussels in 2021 was estimated at 3.13 kg/inhabitant.

The use of operator-based data collection methods still faces considerable challenges, especially in identifying actors, ensuring sufficient response rates, and scaling results nationally, as explained in detail in 3.3.

Challenges with respect to quantitative targets and indicators

Quantitative targets can only be set in a meaningful manner after trends have been explored and their drivers identified. Before setting targets it is therefore useful to define indicators for which more than two datapoints are available, since from less than two datapoints trends can't be observed. Next, the understanding of the drivers of the observed trends will enable the identification of measures that can be associated with one or more of drivers.

From the list of 67 quantitative reuse indicators that have been proposed by countries in the 2025 country factsheets, it is not known how many of them have at least three datapoints.

- Lithuania has proposed the textile reuse indicator '*number of containers per thousand residents for separate collection of waste textiles*'. Quantitative targets were also set: 1 container for 2000 residents when population density >1500 unit/square km, and 1 container for 1000 residents when population density <1500 unit/square km. In this case, drivers for increasing the number of containers might rather be related to local budget availability and connect only indirectly with quantities of prevented waste. On the one hand, the indicator could be improved by adding a reference to container capacity, or refer to the collected quantities per container per year. On the other hand, since the indicator explicitly refers to waste textiles, there is no relation to reuse. Fortunately, Directive (EU) 2025/1892 establishes and further clarifies the distinction between 'used textiles', 'waste textiles', and 'used textiles assessed as fit for reuse'. On this basis, the Lithuanian indicator could be further improved.

Challenges for measuring performance and effectiveness of reuse measures

The framework for measuring the performance or effectiveness of reuse prevention measures, as shown in Figure 4.7, enables the quantification and monitoring of the results of a single reuse measure. In practice, several measures are introduced at the same time, using a range of diverse indicators, which complicates the evaluation of their joint effectiveness, i.e. the calculation of the prevented waste quantity.

- Greece introduced two different indicators on textiles: '*establishment of new textile collection centres; quantities of clothing undergoing a preparation for reuse, in order to be reused /year*' and '*establishment of new repair clothing centres and new creative material reuse centres; quantities of clothing repaired/year*'. The indicators will reveal quantities of collected textiles, clothing prepared for reuse, and repaired clothing. Determining avoided textile waste based on these figures, remains challenging, since research on the replacement rate¹⁶ is still incipient. In Flanders, Belgium, only 15% of second-hand textiles replaced new ones (and the corresponding waste at end-of-life), based on a study from the Flemish Circular Economy Policy Research Centre (Delanoëije, J. and Bachus, K., 2020).

However, since reuse or preparing for reuse monitoring systems in many countries have only been introduced very recently, any current or future fluctuations in data need to be interpreted with caution, as they may simply be due to reporting methodologies rather than to the measures themselves, especially

¹⁶ The "used textile replacement rate" is a measure of how effectively the purchase of secondhand clothing replaces the purchase of new clothing. There is no single, harmonized EU-wide replacement rate for used textiles.

considering that EU reporting under the Implementing Decision 2021/19 takes place only every three years.

Finally, the issue of temporality is particularly difficult to cover: how long should one wait to see whether a measure is effective? For some measures, such as informational awareness raising campaigns, it may take years before results become visible.

In conclusion, while the ambition to assess the effectiveness of reuse measures across EU MS is clear, the practical implementation of robust target-indicator-monitoring frameworks remains fraught with challenges. These include data limitations, inconsistencies in reporting methodologies, and the complexity of attributing outcomes to specific measures.

5 References

- Boldoczki, S., et al., 2020, 'The environmental impacts of preparation for reuse: A case study of WEEE reuse in Germany', *Journal of Cleaner Production* 252, p. 119736 (DOI: 10.1016/j.jclepro.2019.119736).
- Bougrain, F. and Doutreleau, M., 2022, *STATISTICAL ANALYSIS OF THE BUILDING ELEMENTS RECLAMATION TRADE IN THE BENELUX, FRANCE, THE UK AND IRELAND*, No Interreg NWE 739: Facilitating the Circulation of Reclaimed Building Elements (FCRBE) (<https://vb.nweurope.eu/media/16598/statistical-analysis-v15.pdf>) accessed 1 September 2025.
- Delanoeije, J. and Bachus, K., 2020, *Reuse. The understudied circular economy strategy* (<https://circulareconomy.europa.eu/platform/sites/default/files/2024-09/13-reuse-the-understudied-circular-economy-strategy-nl.pdf>) accessed 3 July 2025.
- Department of Climate, Energy and the Environment, 2021, Circular Economy Innovation Grant Scheme (CEIGS), (<https://www.gov.ie/en/department-of-climate-energy-and-the-environment/services/circular-economy-innovation-grant-scheme-ceigs/>) accessed 25 November 2025.
- EC, 2020, 'COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A new Circular Economy Action Plan For a cleaner and more competitive Europe' (<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN>) accessed 26 November 2025.
- EC, 2023, Guidance for the compilation and reporting of data on municipal waste according to Commission Implementing Decisions 2019/1004/EC and 2019/1885/EC, and the Joint Questionnaire of Eurostat and OECD, (https://ec.europa.eu/eurostat/cache/metadata/Annexes/env_wasmun_esms_an_Guidance-_document_MW.pdf) accessed 5 December 2025.
- EC, 2025a, 'Commission launches consultation for upcoming Circular Economy Act', European Commission (https://environment.ec.europa.eu/news/commission-launches-consultation-upcoming-circular-economy-act-2025-08-01_en) accessed 20 October 2025.
- EC, 2025b, 'EUR-Lex' (<https://eur-lex.europa.eu/homepage.html>) accessed 5 December 2025.
- EC, 2025c, 'Statistics Explained' ([https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:European_Economic_Area_\(EEA\)](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:European_Economic_Area_(EEA))) accessed 18 December 2025.
- EC: DG Grow, 2024, EU construction & demolition waste management protocol including guidelines for pre-demolition and pre-renovation audits of construction works – Updated edition 2024, (<https://data.europa.eu/doi/10.2873/77980>), Publications Office of the European Union.
- Ecomaison, 2025, 'Discover Ecomaison' (<https://ecomaison.com/en/decouvrir-ecomaison/nos-filieres/>) accessed 12 May 2024 AD.
- EEA, 2021, *Guidance for evaluating waste prevention programmes*, File (<https://www.eea.europa.eu/themes/waste/waste-prevention/guidance-for-evaluating-waste-prevention-programmes>) accessed 18 September 2025.
- EEA, 2023, *Tracking waste prevention progress*, No EEA Report 02/2023, European Environment Agency (EAA) (<https://sdi.eea.europa.eu/catalogue/srv/api/records/50b2430b-8218-471c-86ea-65236a870a28/attachments/Reuse%20metadata%20annex%20Version%201.pdf>) accessed 26 September 2025.
- EEA, 2024a, 'Circular economy', European Environment Agency (<https://www.eea.europa.eu/en/topics/in-depth/circular-economy>) accessed 18 June 2025.
- EEA, 2024b, Reuse flows according to the implementing decision (EU) 2021/19, 2024, ver. 1.2, (<https://sdi.eea.europa.eu/data/d3f8d201-854e-4863-bac8-f6ad0f4769ed>).
- EEA, 2024c, *Reuse flows according to the implementing decision (EU) 2021/19. Information on the database structure and use Database version 1* (<https://www.eea.europa.eu/en/datahub/datahubitem-view/0686c969-093c-450a-ac59-847a53d83ee6>) accessed 15 September 2025.

EEA, 2024d, *The feasibility of additional measures to strengthen reuse and waste prevention — Analysis and reflections by the EEA. Supporting the European Commission’s report to the European Parliament and Council on the review clause contained in Article 9(9) of the Waste Framework Directive.*

EEA, 2025, Country profiles on waste prevention - 2025, (<https://www.eea.europa.eu/en/topics/in-depth/waste-and-recycling/country-profiles-on-waste-prevention-2025>) accessed 2 December 2025.

EP, 2025, ‘Fast fashion: EU laws for sustainable textile consumption’ (<https://www.europarl.europa.eu/topics/en/article/20201208STO93327/fast-fashion-eu-laws-for-sustainable-textile-consumption>) accessed 24 November 2025.

EPA, 2023a, *National reuse survey part 1* (<https://www.epa.ie/publications/circular-economy/resources/EPA-Reuse-National-Survey-2023-Making-available-for-reuse.pdf>) accessed 5 July 2025.

EPA, 2023b, *National reuse survey part 2* (<https://www.epa.ie/publications/circular-economy/resources/EPA-Reuse-National-Survey-2023-Sourcing-second-hand.pdf>) accessed 5 July 2025.

EPA, 2024, Circular Economy National Reuse Survey 2023 Data, (<https://www.epa.ie/publications/circular-economy/resources/epa-circular-economy-national-reuse-survey-2023-data.php>) accessed 5 July 2025.

ETC CE, 2024, *Circular economy country profile 2024 – Greece* (https://epanet.eea.europa.eu/Eionet/etcs/etc-ce/greece_2024-ce-country-profile_final.pdf?utm_source=chatgpt.com) accessed 29 October 2025.

European Commission, Directorate-General for Environment, 2020, Commission Implementing Decision (EU) 2021/19 of 18 December 2020.

European Parliament, Council of the European Union, 2024, Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.

Fjellander, L. and Miliute-Plepiene, J., 2025, *Vad krävs för att skala upp återanvändning till norm?* (<https://www.diva-portal.org/smash/get/diva2:2008972/FULLTEXT04.pdf>) accessed 31 October 2025.

GATEWAY & PARTNERS, 2021a, *Pētījums par atkārtotu materiālu izmantošanu” Iepirkuma identifikācijas nr.: VARAM 2021/18* (https://ppdb.mk.gov.lv/wp-content/uploads/2023/01/varampet_p_atkartotu_mat_izm_2021_gatewaypartners.pdf) accessed 30 June 2025.

GATEWAY & PARTNERS, 2021b, .pielikums_iedzivotaju-aptaujas-aprekini. Attachment 1_population survey calculations.

Gibson, C., et al., 2022, *Qualifying and quantifying the reuse sector in Ireland: 2018-RE-MS-17*, Environmental Protection Agency, Johnstown Castle, Co. Wexford, Ireland.

Johansson, N. and Corvellec, H., 2018, ‘Waste policies gone soft: An analysis of European and Swedish waste prevention plans’, *Waste Management* 77, pp. 322-332 (DOI: 10.1016/j.wasman.2018.04.015).

Journal Officiel, 2014, LOI n° 2014-856 du 31 juillet 2014 relative à l’économie sociale et solidaire (2014-856).

Karigl, B., et al., 2022, ‘Scoping study to assess the feasibility of further EU measures on waste prevention’, European Union (<https://op.europa.eu/en/publication-detail/-/publication/0778b2a8-b61d-11ec-b6f4-01aa75ed71a1/language-en>) accessed 26 September 2025.

Keskkonnaagentuur, 2022, *Kodumajapidamiste kordus-ja taaskasutuse mahud Eestis* (<https://keskkonnaportaal.ee/sites/default/files/2022-06/20220314%20-%20KAUR%20-%20Korduskasutuse%20aruanne.pdf>) accessed 1 July 2025.

Le Gouvernement de la Région de Bruxelles Capitale, 2018, PLAN DE GESTION DES RESSOURCES ET DES DÉCHETS, (<https://environnement.brussels/media/442/download?inline>) accessed 25 November 2025, La Région de Bruxelles Capitale.

Miliute-Plepiene, J. and Sundqvist, J.-O., 2024, ‘Assessing the Potential Climate Impacts and Benefits of Waste Prevention and Management: A Case Study of Sweden’, *Sustainability* 16(9), p. 3799 (DOI: 10.3390/su16093799).

Ministry for the Environment, Climate change and Planning, 2021, Long Term Waste Plan 2021-2030, (<https://era.org.mt/wp-content/uploads/2022/02/Long-Term-Waste-Management-Plan-v1.4.3-Spreads-Digital-Version.pdf>) accessed 25 November 2025.

Moschen-Schimek, J., et al., 2023, 'Critical review of the recovery rates of construction and demolition waste in the European Union – An analysis of influencing factors in selected EU countries', *Waste Management* 167, pp. 150-164 (DOI: <https://doi.org/10.1016/j.wasman.2023.05.020>).

Orveillon, G., et al., 2022, *Scoping possible further EU-wide end-of-waste and by-product criteria*, No EUR 31007 EN, Publications Office of the European Union, Luxembourg (<https://publications.jrc.ec.europa.eu/repository/handle/JRC128647>).

Pini, M., et al., 2019, 'Preparation for reuse activity of waste electrical and electronic equipment: Environmental performance, cost externality and job creation', *Journal of Cleaner Production* 222, pp. 77-89 (DOI: [10.1016/j.jclepro.2019.03.004](https://doi.org/10.1016/j.jclepro.2019.03.004)).

Redactie AMS institute, 2024, 'Circular Craft Centers' (<https://openresearch.amsterdam/en/page/110093/circular-craft-centers>) accessed 4 November 2025.

Rediscovery Centre, 2025, 'Relove Fashion' (<https://www.relovethefashion.ie/>) accessed 25 November 2025.

Rijkswaterstaat, 2024, *Hergebruik door consumenten in Nederland Gegevens 2021 en 2022 (Reuse by consumers in the Netherlands Data 2021 and 2022)*. (<https://www.afvalcirculair.nl/publish/library/316/hergebruik-door-consumenten-in-nederland-gegevens-2021-en-2022.pdf>).

SMED, 2021, *Methods and data sources for new reporting of reuse*, No Internal unpublished report for the Swedish EPA.

SMED, 2023, *REPORTING ON QUANTITATIVE DATA ON REUSE IN SWEDEN*, No Internal unpublished report for the Swedish EPA.

Stoifl, B., et al., 2023, *Entwicklungsbericht des Abfallvermeidungsprogrammes 2023*, No REP-0835, Umweltbundesamt, Wien (<https://www.umweltbundesamt.at/fileadmin/site/publikationen/rep0835.pdf>) accessed 25 November 2025.

Svedmyr, K., et al., 2024, *Reuse, recycling and recovery of construction and demolition waste in the Nordic countries: an inventory of facilities and techniques in the Nordics including an outlook on other European countries.*, Nordic Council of Ministers.

Swedish Trade Association, 2025, *Pre loved-indikatorn årsrapport 2024* (<https://www.svenskhandel.se/api/documents/pressmeddelanden/%C3%85rsummering%20Pre%20Loved-indikatorn%202024.pdf>) accessed 4 July 2025.

Umweltbundesamt, 2024, *Erarbeitung einer Messmethodik zum Umfang der Wiederverwendung von Produkten in Deutschland*, No Texte 02/2024, Umweltbundesamt (https://www.umweltbundesamt.de/sites/default/files/medien/11850/publikationen/02_2024_texte_berichterstattung_wiederverwendung.pdf) accessed 1 July 2024.

Vilmorus, 2022a, *Produktų pakartotinas naudojimas - 2021. Lietuvos įmonių apklausa*, Vilnius, Lithuania (https://aaa.lrv.lt/uploads/aaa/documents/files/Papildomas%20C4%AEmon%C4%97s%20Produkt%C5%B3%20pakartotinas%20naudojimas%20-%202021_%202022-12%20ataskaita.ppt) accessed 1 July 2025.

Vilmorus, 2022b, *Produktų pakartotinas naudojimas – 2021. Reprezentatyvi Lietuvos gyventojų apklausa*.

6 List of abbreviations

Abbreviation	Name	Reference
CATI	Computer Assisted Telephone Interview	https://www.idsurvey.com/en/cati-methodology/
CDW	Construction and Demolition Waste	https://environment.ec.europa.eu/topics/waste-and-recycling/construction-and-demolition-waste_en
EC	European Commission	https://commission.europa.eu/index_en
EEA	European Environment Agency	www.eea.europa.eu
EEE	Electrical and Electronics Equipment	https://environment.ec.europa.eu/topics/waste-and-recycling/waste-electrical-and-electronic-equipment-weee_en
EIONET	European Environment Information and Observation Network	https://www.eionet.europa.eu/
ELVs	End-of-Life Vehicles	https://environment.ec.europa.eu/topics/waste-and-recycling/end-life-vehicles_en
EPR	Extended producer responsibility schemes	https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive_en
EU	European Union	https://commission.europa.eu/index_en
MS	Member States	
MSW	Municipal Waste	https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Municipal_waste
NACE	Nomenclature statistique des activités économiques dans la Communauté européenne	https://ec.europa.eu/eurostat/web/nace
PW	Packaging Waste	https://environment.ec.europa.eu/topics/waste-and-recycling/packaging-waste/packaging-packaging-waste-regulation_en
RACER	Relevant, Accepted, Credible, Easy, Robust	https://www.era-learn.eu/support-for-partnerships/governance-administration-legal-base/monitoring-and-evaluation-of-european-r-and-i-partnerships_the-ripe-toolkit/monitoring-and-evaluation-basics/collecting-data-and-information/defining-indicators
TEX	Textiles	
WEEE	Waste from Electrical and Electronic Equipment	https://environment.ec.europa.eu/topics/waste-and-recycling/waste-electrical-and-electronic-equipment-weee_en
WFD	Waste Framework Directive	https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive_en
WPP	Waste Prevention Plans	https://environment.ec.europa.eu/topics/waste-and-recycling/implementation-waste-framework-directive_en

Annex 1 Data sources and methodology

The methodology used for this work is described below, divided into three parts: pre-work, methodology behind chapter 3 and chapter 4, respectively.

Pre-work

To address countries' needs, the ETC, together with the EEA, conducted a survey at the beginning of 2025 to identify Eionet member countries' priorities for this work. The survey included questions on what type of support the countries need, what types of methods the countries used for the reporting of quantitative reuse data for the reference year 2021 and what their challenges were regarding data collection. The countries' answers to the survey expressed a strong interest in guidance on quantitative reporting methods, including the sharing of country examples, and on effective policy measures supporting reuse. Different methodological approaches and data sources were applied in Chapter 3 and Chapter 4 of the report.

Methodology for Chapter 3 on data collection

The methodology for Chapter 3, is based on a systematic mapping and analysis of the data collection methods used by countries for the reference year 2021, following the framework outlined in Figure A.1. First, countries were grouped according to their main data collection approach to identify common and method specific challenges. Second, quality check reports and national reports were reviewed again, together with relevant literature, to clarify these challenges, explore how countries addressed them, and identify recurring patterns. Third, challenges were matched with potential solutions, supported by concrete examples from reporting countries which were included in the study.

Data sources included review of countries' quality check reports (QRs) submitted to the EEA, quantitative data, national reports¹⁷ provided directly by countries, and additional related literature research. National reports were particularly important for identifying practical examples. Many of these were available only in national languages (see Table A.1.) Google Translate and ChatGPT were used for translation where needed, complemented by the ETC team's own language skills (covering Lithuanian, Swedish, Danish, and English).

The aim was to highlight practical examples that may support and be replicated by other countries. Mentioning an example does not imply that it is unique to the country cited — only that no similar documentation was identified elsewhere. Reliance on computer-assisted translation also introduces some minor uncertainties, as automated tools can misinterpret technical terms or contextual nuances.

¹⁷ As background for their reporting, many countries have conducted specific studies, typically to support quantitative reporting, and in some cases both quantitative and qualitative reporting. In this paper, these studies are referred to as *national reports*.

Figure A. 1 Analytical framework for mapping data collection methods

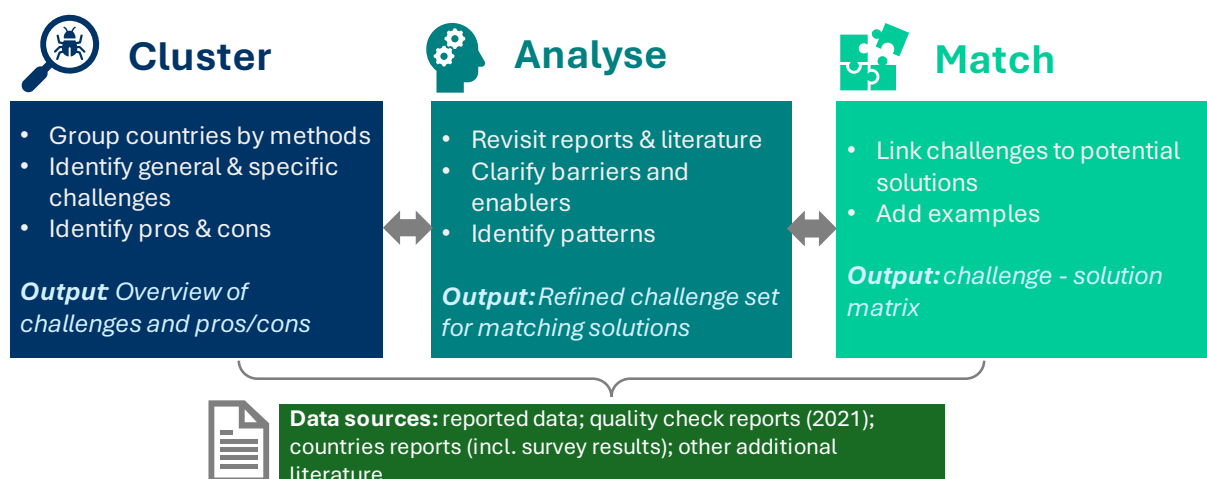


Table A. 1 National reports used as an additional data source to quality check reports and literature

Country	Report Title and Reference
The Netherlands	Hergebruik door consumenten in Nederland Gegevens 2021 en 2022 (Reuse by consumers in the Netherlands Data 2021 and 2022) (Rijkswaterstaat, 2024)
Germany	https://www.umweltbundesamt.de/sites/default/files/medien/11850/publikationen/02_2024_texte_berichterstattung_wiederverwendung.pdf (Development of a measurement methodology for the extent of product reuse in Germany); (Umweltbundesamt, 2024)
Ireland	Qualifying and quantifying the reuse sector in Ireland : 2018-RE-MS-17 (Gibson et al., 2022) National reuse survey 2023 part 1 (EPA, 2023a) National reuse survey 2023 part 2 Circular Economy National Reuse Survey 2023 Data (EPA, 2024)
Latvia	Pētījums par atkārtotu materiālu izmantošanu (GATEWAY & PARTNERS, 2021a) 1.pielikums_iedzīvotāju-aptaujas-apreķini (Attachment 1_population survey calculations) (GATEWAY & PARTNERS, 2021b)
Lithuania	Produktų pakartotinas naudojimas - 2021. Lietuvos įmonių apklausa (Product reuse - 2021. Survey of Lithuanian companies) (Vilmorus, 2022a) Produktų pakartotinas naudojimas – 2021. Reprezentatyvi Lietuvos gyventojų apklausa (Vilmorus, 2022b)
Estonia	Kodumajapidamiste kordus-ja taaskasutuse mahud Eestis . 2022 (Keskkonnaagentuur, 2022)

Sweden	Methods and data sources for new reporting of reuse (SMED, 2021) Reporting on quantitative data on reuse in Sweden (B) (SMED, 2023)
Belgium	STATISTICAL ANALYSIS OF THE BUILDING ELEMENTS RECLAMATION TRADE IN THE BENELUX, FRANCE, THE UK AND IRELAND (Bougrain and Doutreleau, 2022) Reuse. The understudied circular economy strategy (Delanoeije, J. and Bachus, K., 2020)

Methodology for Chapter 4 on reuse measures

The main methodology for developing the overview on policy measures and instruments in Chapter 4 was a systematic mapping of qualitative policy measures reported by the 25 MS and Norway for the reference year 2021. This mapping was performed in Excel, where all policy measures reported by countries were included. Firstly, all entries were reviewed by the authors and measures including more than one measure was divided so that each row contained one measure. Secondly, the targeted product categories for each measure were mapped, and noted in the Excel file, by reading all descriptions of the reported measures (see Chapter *Qualitative data*). If a measure targeted two or more product categories, it was also noted that “several” or “all” product categories was targeted. Additionally, the authors classified which type of policy instrument a measure was (see Chapter *Classification of policy measures*). Finally, the numbers from the mapping were compiled in tables and graphs.

Analysing the effectiveness of reuse policy measures occurred in two steps. As a first step, quantitative targets for reuse were identified in the latest available country waste prevention fact sheets, most of which were updated and published in February 2025. Mandatory EU-wide targets were not considered at this stage. In a second step, an attempt was made to identify a fitting indicator or indicator set that was proposed by the corresponding national authorities for each of the quantitative reuse targets. At the same time, it was observed that the country fact sheets contained many reuse indicators that were not necessarily associated with a quantitative target. In a third step, the appropriateness of the proposed indicators for monitoring progress towards the corresponding targets was analysed, and where feasible suggestions for improvements were made.

Annex 2 Overview of household and population survey designs by country

Country	Reference year	Timing	Sample size	Survey mode	Target population (age)	Sampling design	Units requested	Coverage	Product subcategories in survey	Channels in survey
Croatia	2022	One survey; Oct 2023	1,000	Online	All households (no age restriction specified)	Random, stratified by region and settlement size; two-stage PPS	Unclear; most likely pieces	Buying & receiving (based on the reported channels).	71 subcategories inferred from the QR 61 subcategories reported	Unclear; 4 channels reported
Latvia	2021	One survey; mid-2021	1,005	Online	Aged 15-74	Random sampling planned; online survey	Pieces	Buying & receiving; no "other" category	44 subcategories in survey; 10 reported	5 in survey, 4 reported
Germany	2021	One survey; June-July 2022	1,534	Online & phone	18+	Random, representative access panel, mixed mode (online/phone)	Pieces (EEE & furniture); kg (textiles & construction)	Buying & receiving	8 subcategories in survey aggregated to 1 per category in reporting except furniture (2: large/small)	4 in survey, 4 reported
Estonia	01.11.2020 - 01.11.2021	One survey	1,000	Survey design suggests web-based	Not specified	Simple random sampling	Pieces	Excludes non-monetary gifts/donations.	24 in survey; 16 in reported	6 in survey (incl. other); 4 reported
Hungary	2022?	One survey, Q1 2023	3,954 (23% response rate = 921)	Not specified	Households (age not specified)	Stratified random sampling by settlement type and household composition	kg	Buying & selling; donation.	Unclear	Unclear, but none reported
Ireland	2022	One survey, Mar/Apr 2023	1,264	Web-based	Adults 16+	Quota sampling (stratified by age, gender, region, urban/rural, social grade)	Pieces	Receiving & buying. All categories: "other" included bikes, used tyres, paint.	9 subcategories (2 for textiles; 2 for EEE, 2 for furniture & 3 for others). None reported.	6 channels including "other". None reported

Lithuanian	2021	One survey; Nov 2022	1,002	Mixed – face-to-face & phone i	18+	Stratified random sampling by age, gender, residence	Kg & pieces (if kg not be provided)	Receiving & buying (only from individuals); no “other” group	25 subcategories (5 textiles; 6 EEE; 4 furniture; 10 for construction). None reported.	2 channels (online platforms (only between individuals); (2) Family/friends). None reported
Belgium	2021	Two surveys (Wallonia (Mar 2022); Flanders (June 2022); Brussels used average of both	2,000 each	Web-based	18+	Quota sampling (online panel, age/gender/education)	Total number of items and % shares per channel	buying & receiving construction products excluded (other method used).	No subcategories used	7 channels in survey; 4 reported
Austria	2021	One survey; in 2022	2,052	Web-based	16-75	Quota sampling (online panel, age, gender, education, region)	Total number of items and % shares per channel	Buying & receiving; building materials sample too small (n=152) to extrapolate. Austria’s reporting also adjusted the estimate for furniture specifically using a dedicated study.	No subcategories used	8 channels in survey, but none reported
Netherlands	2021	One survey; in April/May 2023; but refers to 2022	2,782	Web-based	All ages (parent proxy <12)	Quota sampling (online panel, age, gender and probably other demographics)	Number of reuse items obtained/purchased/exchanged per channel.	Receiving, exchanging, purchasing second-hand goods for same function; excludes within-household transfer.	No subcategories used	9 channels in survey; 4 reported

		<i>behavior</i>								
Norway	<i>n/a</i>	<i>One survey; recall period = previous 6 months</i>	1,252	Phone		<i>Online panel; stratified weighting (sex, age and geographical region)</i>	<i>Number of reuse items?</i>	<i>Buying & receiving (business is not covered in the survey (but covered by other sources in general))</i>	<i>Not specified in QR (reported: 31)</i>	<i>Not specified in QR (Reported: 4)</i>
Malta	2021	<i>One survey; Nov–Dec 2021; recall for whole year</i>	447	CATI ¹⁸	<i>Residents aged 16+</i>	<i>n/a</i>	<i>Number of items</i>	Second-hand shops, online markets, person-to-person exchanges and flea markets. Construction products within construction industry are not captured	<i>Not specified in QR; but based on quantity of collection factors provided – 2 for textiles, 3 for EEE, 3 for furniture, 4 for construction products (Reported: 0)</i>	<i>Not specified in QR (Reported: 0)</i>
Poland¹⁹	2021	<i>one survey in 2021</i>	1,004	CATI	18+	Random sample, representative in terms of demographic variables such as gender, age, place of residence (size of town and province);	Items (EEE and furniture)	<i>Replacement, repair, hand over for further use, online platform, private gift, donation.</i>	<i>Textiles and construction were included in the survey but excluded from reporting due to data limitations; seven subcategories were reported for EEE and seven for furniture</i>	<i>Not specified in QR (Reported: 0)</i>

Sources: Author’s compilation based on the information from quality check reports (EEA, 2024b) and available national reports

¹⁸ - Computer Assisted Telephone Interview method

¹⁹ Some information was not included in the quality check report but was provided by the country during the report revision process.

Annex 3 Overview of operators' surveys and questionnaires for reuse reporting

Country	Sample size	Response rate	Survey mode	Target operators	Identification of operators – how?	Sampling design	Extrapolation & scaling	Units	Coverage	Product subcategories in survey	Channels in survey
Finland	257 operators contacted; 47 responded (19 flea markets, 16 reuse centres, 3 online stores, 3 auctions, 4 charities, 10 second hand stores, 3 others)	18%	Internet questionnaire	Flea markets, reuse centres, online stores, auctions, charities, second hand stores, construction material reuse actors	Identified through expert networks and supplementary research	No formal sampling; survey sent to all identified operators	Data in pieces converted to tonnes. No scaling.	tonnes & pieces (converted to tonnes)	Mandatory categories (textiles, furniture, EEE, construction). Peer-to-peer trading not covered.	Not specified in QR; no subcategories reported	Flea markets, reuse centres, online stores, auctions, charities, secondhand shops, others. No channels reported
Denmark	6 companies + EPR WEEE scheme + Danish	Not specified	Mixed: questionnaires & interviews	Major stakeholders: shops, online platforms, charities, flea markets,	Dialogue with EPA + additional search	No statistical sampling; purposive	Extrapolated/scaled from partial market shares; gaps filled via	tonnes & pieces (converted to tonnes)	Repair, upcycling, and rental excluded. Estimate for	Not specified in QR; no subcategories reported	No channels reported

	Waste Data System		views with reuse operators + direct measurement (from waste registers)	auction houses, reuse markets			literature/expert estimates		the private donation.		
--	-------------------	--	--	-------------------------------	--	--	-----------------------------	--	-----------------------	--	--

Sweden	111 second-hand operators in combination with data from AvfallWeb ²⁰	Not specified, but low	Direct contact via email/intervies	Charity organisations, municipalities, online platforms, specialised second-hand actors	Business registries based on NACE); previous SMED study; list of active second-hand actors via 90-konto	Purposive sample focusing on four largest reuse channels	No national scaling (totals represent only respondents);	tonnes & pieces (converted to tonnes) conversion factors applied also to distinguish reuse from collection	Exports excluded, peer-to-peer trading not covered.	Participants were asked to provide as many subcategories as possible. However, even when they did so, some had to be aggregated either due to heterogeneity between actors or for confidentiality reasons. Non reported	Four reuse channels with largest expected flows: charities, municipalities, online platforms, specialised second-hand
Luxembourg	63 operators identified (30% charity, 27% commercial, 43% resource)	Not specified	Postal questionnaire (10 questions) +	Formal sector operators: social enterprises, charities, resource centres, private	Defined via database of reuse operators using Luxinnovation study, survey, business register,	No statistical sampling; all identified operators included	Flows mapped to avoid double counting; triangulation used. Scaling not specified in QR.	Not specified; most likely pieces, as conversion factors were provided	Covers textiles, furniture, EEE, construction (however, data showed nearly zero). Formal	Not specified in QR; no subcategories reported	Charities, SEs, private second-hand retailers, resource centres. No channels reported

²⁰ a database run by the Swedish Waste Management Association (Avfall Sverige)

	centres); 39 excluded from initial database		stakeholder interviews	second-hand retailers	stakeholder interviews, internet research.				operators only. Informal channels (peer-to-peer, fairs, family donations, platforms like Facebook/Ebay) not covered. Exports included		
Portugal	16 operators contacted; 5 responded with usable data	Low	Questionnaire (with follow-up meetings, phone/email contacts)	Stores and social institutions donating/selling used products; stores selling both new and used; online C2C platforms	List from national study on reuse; operators selected for largest market share and national coverage	No statistical sampling; purposive (focus on largest and most representative operators)	No scaling. Data in pieces converted to tonnes.	tonnes & pieces (converted to tonnes)	Four mandatory categories + books. Informal and many smaller operators not covered. Exports excluded.	<i>Not specified in QR; no subcategories reported</i>	Physical stores (IKEA etc.), social enterprises (Humana, Santa Casa da Misericórdia), online platforms (OLX, CustoJusto, Trade Stories)
Spain	235 operators identified;	Very low (~21)	Email ques	<i>NACE 4779 shops, third-sector orgs,</i>	Business database (NACE 4779),	No formal sampling;	No scaling except textiles →	<i>Tonnes & pieces</i>	<i>4 mandatory categories + 7 additional:</i>	<i>30 subcategories for</i>	Shops, online platforms, charities,

	196 emails; 50 responses; 13 with usable data (incl. associations/franchises covering >100 shops)	% over all or 50 responses; 13 data providers)	tionnaire	<i>municipal reuse initiatives, online platforms</i>	web search, via federations of municipalities, municipal entities etc.	conservative inclusion	extrapolated (95% CI)	(converted to tonnes)	<i>non-electric bicycles, books, decorative items, musical instruments, non-electronic toys, sports equipment, tools/DIY, gardening items. None of additional reported separately. Excludes preparation-for-reuse. Third-sector entities often cannot separate origin (all non-recycling/upcycling counted as reuse)</i>	<i>mandatory categories reported in total.</i>	municipalities. In reporting used online; physical shops and other.
Lithuania	N=300 enterprises (from 1300 list)	Not specified	Telephone survey	Enterprises executing reuse activity (trade, repairing, renting textiles, EEE, furniture, building materials), NACE	Internet keyword search; business register list of ~1300 enterprises	Systematic random sampling	Scaled using average reuse per company and extrapolated to remaining enterprises. NACE classification used to define companies	Tonnes & pieces (converted to tonnes)	Selling, renting, repairing, and donating second-hand products.	5 subcategories for textiles; 6 for EEE; 4 for furniture; 10 for construction; no subcategories reported.	No channels reported.

Czechia	Not specified	Not specified; very low response	Email (?) questionnaire/survey	Reuse centres & points, municipalities with reuse projects, social enterprises, charities, private textile collectors	Via Czech Federation of Furniture Banks & Reuse Centres, Ministry of Environment lists, municipal projects etc.	No formal sampling; purposive (identified actors approached)	Survey data converted to tonnes and extrapolated nationally; textiles adjusted (10% of collected textiles assumed reused domestically).	Tonnes & pieces (converted to tonnes)	All mandatory categories, except construction (from waste registers). Online platforms, flea markets, second-hand excluded (no response)	Not specified in QR; no subcategories reported	Reuse centres & points, municipalities, charities, social enterprises, textile collectors. No channels reported
Italy	1,453 shops included of approx. ~3,000 shops nationally	Not specified	Estimates based on tracking system & surveys via second-hand shop network (Rete ONU)	Physical second-hand shops (members of ReteONU)	Shops identified through ReteONU network.	level	Extrapolated from sample shops: turnover → weight (€/kg) and average tonnage per shop (70 t/year); scaling to national level	Turnover (€) converted to tonnes using €/kg ratios and standard weights	Clothing, furniture, EEE, household items, books, multimedia, objects, tools; construction excluded.		Physical second-hand shops (no online or informal channels)
Belgium (construction)	44 dealers surveyed (out of estimated 125)	n/a	Site visits and phone interviews (FCRB)	Specialised dealers in reclaimed building materials	Opalis database of reclaimed material dealers (delivery of FCRBE project)	Sample of 44 dealers extrapolated to total population of 125 dealers	Extrapolation coefficient (2.84) applied; stock data converted into annual flows using turnover rates (expert	Stock in mixed units (m ² , m ³ , pieces), converted to tonnes	Reuse of building materials and products in defined total population of reclaimed	12 subcategories for construction reported	No channels reported, but construction corresponds the data from identified dealers of reclaimed

			<i>E proje ct)</i>				<i>judgement + UK BigREc survey)</i>		<i>materials dealers</i>		<i>building materials</i>
--	--	--	----------------------------	--	--	--	--	--	------------------------------	--	-------------------------------

Annex 4 NACE and national codes used to identify reuse operators in countries

Country	NACE and/or national code(s)
Spain	4779 Retail sale of second-hand goods in specialised stores.
Lithuania	<p>4779 – <i>Retail sale of second-hand goods in stores</i></p> <p>9511 – <i>Repair of computers and peripheral equipment</i></p> <p>9521 – <i>Repair of consumer electronics</i></p> <p>9522 – <i>Repair of household appliances and home and garden equipment</i></p> <p>9524 – <i>Repair of furniture and home furnishings</i></p> <p>772910 – <i>Rental and leasing of recreational and sports goods</i> (Note: this is likely a national extension of NACE Rev. 2 code 7729, which covers <i>Rental of other personal and household goods</i>)</p>
Sweden	<p>47791 Retail sale of antiques and second-hand books in stores</p> <p>47792 Retail sale of other second-hand goods in stores</p> <p>47793 Activities of auctioning houses</p> <p>47917 Internet retail auctions</p> <p>73120 Media representation</p> <p>95110 Repair of computers and peripheral equipment</p> <p>95120 Repair of communication equipment</p> <p>95210 Repair of consumer electronics</p> <p>95220 Repair of household appliances and home and garden equipment</p> <p>95230 Repair of footwear and leather goods</p> <p>95240 Repair of furniture and home furnishings</p> <p>95290 Repair of other personal and household goods</p>

European Topic Centre on
Circular economy and resource use
<https://www.eionet.europa.eu/etcs/etc-ce>

The European Topic Centre on Circular economy and
resource use (ETC CE) is a consortium of European
institutes under contract of the European
Environment Agency.

