SUBTRACT
Interreg Europe

European Union
European Regional
Development Fund

Making reuse centres sustainable and successful enterprises

Guidelines

Summary

1. Objectives

Based on the good practices and criticalities that emerged during phase one of the Interreg Europe SUBTRACT, this guide aims to outline what activities and steps can be taken to make reuse centres sustainable and efficient. Among the different possible measures and tools that regional and local authorities can adopt to promote waste prevention through the reuse of goods and the preparation for waste reuse, great attention is paid by the EU legislator to the establishment and support of reuse centres, in the belief that they can extend the life cycle of a wide range of durable goods, contributing to a more mature application of the European waste hierarchy.

Reusing goods that people want to get rid of, after specific operations typically carried out in a reuse centre, means contributing to the realization of the circular economy. SUBTRACT has provided the opportunity to learn about and discuss solutions that can be adopted to assist local and regional authorities in giving a second life to reusable goods, and that thus contribute both to the realization of the European Green Deal and to the strengthening of the social economy. These guidelines aim at outlining the characteristics of these centres, trying to describe both from a structural and managerial point of view what are the best approaches to develop the full potential of reuse centres be it on a social and environmental level be it on a solid economic basis.

1.1 The SUBTRACT project

Reuse centres are usually run by SMEs, often social enterprises, that receive, prepare for reuse, and distribute goods, extending their life cycle with important social and environmental impacts, promoting a vision of circular economy. They are a powerful vehicle to promote qualitative growth, help develop human capital, and strengthen social cohesion. SUBTRACT focuses on the post-start-up and scale-up phases to make reuse centres effective and durable, i.e., to have a steady flow of goods in and out, well prepared for reuse, professional management, an adequate financial strategy, and an attractive image for users. At the regulatory level, the various legislative frameworks of the European project partner countries are often not adequate to encourage the commercial activity of reuse centres. In order to overcome the many criticalities, it seems therefore appropriate to work actively for the development of the "commercial with social purposes" branch on several fronts: at the regulatory level, with interventions that balance support policies with tools to control transparency and the social/employment impact generated.

The definition of a reuse centre is not uniform. There are different experiences ranging from the simple warehouse of used objects made available to new users (users or customers), to the centre that intercepts the flow of goods coming from separate waste collection (authorised to manage non-hazardous waste), from private donations or municipal collection centres. There are also exceptional realities such as the Vicenza reuse centre INSIEME in Italy, unique in its mixed model, which is able to collect reusable goods from municipal collection centres and at the same time receive a flow of donations from private individuals, or ReTuna in Sweden, which has been set up as a shopping centre for second-hand goods. The design and implementation of a reuse centre therefore involves technical, regulatory and management aspects, as well as, in a model that aspires to economic sustainability, commercial aspects that are no less complex and important.

2. Reuse Centre

When it comes to reuse centres, many people still associate 'second-hand' goods with objects in poor condition, sold in dusty and messy shops. In recent years, the reuse sector has become increasingly popular, the economic crisis and the challenge of sustainability are pushing more and more citizens every day to make conscious purchases in which the second life of things plays a fundamental role. The second-hand phenomenon is therefore becoming more popular, also in the light of the proliferation of numerous exchanges and/or sale apps, swap parties, vintage markets, virtual flea markets etc. In some European countries, these activities have been consolidated for years and taken the form of real shops, also organised by category often specialised in certain products like bicycles or IT equipment. There are also re-use organisations that organise events outside the reuse centre (creative reuse of clothes, sustainability education events for children and adults, workshops, conferences) and invest substantially in strategic and effective communication. Communication is central for reuse centres both in terms of raising awareness on sustainability issues and, strictly speaking, informing communities about their existence.

2.1 Communicating the reuse centre

The territorial label "Reuse centre". Among too many persons the image of second-hand goods and flea markets is vaguely negative. The image is often that of forlorn places with big differences in the quality of the goods on offer. If you don't go hunting for a "treasure" as a leisure-time passion, these places serve more than anything else to the less well-off. To combat this negative perception of reuse centres what is needed are bright, clean places with attractive goods that look new. But it also requires good communication and strong branding in two steps:

- The basis is an agreement between regional/territorial reuse centres on the quality of the services and products on offer in order to create then a common logo for all reuse centres in the region that makes them visible as a group of centres/shops adhering to a certain standard.
- Common visibility allows joint promotion and communication campaigns, reducing the financial commitment of individual centres and optimising visibility.

An example of excellence in this field is "de kringwinkel", the union of reuse centres in Flanders.

Digital communications. The range of digital activities that can be used to promote and organise reuse centres is very wide and increasingly crucial both for the handling of the goods as well as communication and information activities. They range from the use of social networks for promoting reuse centres and their services accessible to the public, presenting available objects, communicating events/initiatives, to more advanced tools such as digital platforms that allow a virtual visit of reuse centres (also by networking several centres). The platforms can also provide the possibility to purchase goods and inform about donation options for reusable goods. There are also websites that digitally map the networks of reuse actors in the territories, and other digital tools and instruments useful for involvement and awareness raising, such as video-guides for repairing objects, calculators to estimate CO2 emissions

avoided by reuse, gamification activities to educate on the importance of waste prevention (including online educational platform developed by the SUBTRACT project partner Kierratyskeskus), etc.

The online guide "reparaturfuehrer.at/steiermark", presented by SUBTRACT's Austrian partner, Regional Government of Styria (Directorate 14, Department Waste and Resource Management), was created to make it easier for the public to find qualified repair shops in their area; all shops are integrated into Google Maps and can be searched via this map. A similar guide (the so-called Styrian Reuse Map), providing an up-to-date overview of regional re-use shops and their product segments and services, has been recently developed to increase the visibility of the reuse sector in the region of Styria. Less is more is a platform presented by the Slovenian partner which, besides including online maps with a search engine for handicraft shops, it also includes an online calendar of events. Pangea, presented by the Catalan partner, is a non-profit association that provides web services and promotes the USOdy.com platform in Catalonia and in the EU for the reuse and recycling of EEE.

Informal communication. Also, outside digital tools there are many opportunities to communicate and inform about reuse activities. An interesting approach by the cooperative INSIEME is their cooperation with an eco-influencer. The INSIEME cooperative which runs several reuse centres in Northern Italy, regularly organises events, conferences, seminars, concerts, repair cafés and educational activities. In Belgium, the "empty cellar" flea markets, in which reuse centres can participate, are very famous. In Styria, there is also a broad range of non-commercial initiatives enabling the exchange of second-hand goods. These models focus on environmental protection and resource conservation rather than on profit. A well-known example spread out throughout the region are the so-called "Kost-nix Laden" (give-away shops). These, together with swap parties, exchange markets and other similar activities, convey very effectively the theme of reuse and are also important opportunities to communicate, raise awareness and inform citizens.

Institutional communication. The public body, the municipality, or the Region, which directly or indirectly, through collaborations with private subjects or other public managers, are in charge of reuse centres can opportunely communicate to citizens the activity of the latter also integrating this information in letters or other formal communications dedicated to services referable to reuse, such as the letters sent to communicate the urban waste management fees. In general, it is advisable to integrate the communications dedicated to reuse centres in the more general management of public services related to waste management or others deemed appropriate.

3. Location, display, and purchase

The reuse centre has to be equipped with a suitable structure to store and preserve from deterioration the materials and objects delivered by the users. Above all, they must be pleasing places, where objects are displayed in an attractive way, enhancing their aesthetic qualities and use value. Reuse centres need to detach themselves as much as possible from the image of "waste" and therefore also from recycling activities.

In real life the majority of reuse centres are located close to a separate waste collection centre, in order to make it easier to bring in the goods, both in terms of donation - the user brings the goods to be recycled and to be reused in a single operation, and in terms of collection - the staff of the reuse centre decides which goods destined for separate collection are given a second life. In any case, the reception area for users and the sorting area of the delivered goods should be well separated from the environment for the display and sale of used goods in order to increase the perception that the recovered objects are not waste but attractive goods. Reuse operator such as ReTuna in Eskiltuna, present themselves to the public as a small shopping centre with boutiques selling each specific goods - clothes, furniture, household appliances, etc. The “backstage” of collecting goods, sorting, and preparing for sale is not visible to the customer who enters a beautiful shopping environment. An alternative practised in Flanders separates the places of sale completely from the point of collection and preparation of goods, by locating them in shopping areas. The reuse centres are then divided into acceptance points combined with recycling centres and actual shops in the city centre or in a commercially favourable environment.

In Styria “reuse” has been strongly anchored in the concept of “resource park”. The concept developed in 2015 presently aims at a further development of approximately 400 smaller waste collection centres into larger, modern, and sustainable resource parks.

When expanding to locations closer to customers, the premises tend to get more expensive and lack the warehouse spaces necessary for sorting of goods. Reuse centres which operate at malls or city centres usually have a separate sorting centre. This requires a fair amount of logistical planning and management. The examples from Finland and Flanders show a sustainable way to grow the reuse operation by starting from larger reuse centres at the outskirts of the city and then expanding to sorting centres and smaller shops closer to customers.

A further area to be analysed and designed is the preparation for reuse both in terms of restoration and repair. Waste that can be reused with some repair - bicycles are a typical example - should be identified at an early stage and in the best possible condition. Obviously, restoration and repair require space both for related activities and for storing items ready for sale.

3.1 Display

For the display of goods in reuse shops the same logic applies as with any other sales outlet: the presentation of the objects must be pleasing to the eye; the orientation must be simple so that the customer finds what she or he is looking for in a short time. In addition to a spatial division into product categories, the location increases its attractiveness if it is able to change display according to season and

fashion. This is especially true for clothing and/or strictly seasonal items such as skis, surfboards, parasols etc.
It would be desirable to adopt flexibility in the collection of materials, always keeping an eye on what is proving to be more saleable at a given time and period of the year. Items that have not been sold after a certain period of display should be taken back, sent to another shop, donated, or disposed of. For example, the reuse shop in the resource park of the district of Leibnitz/Styria donates redundant toys and craft materials to the public kindergartens in the region.
In some reuse centres, there is a model where the price of the items gradually decreases until it is free after a period of time: full price for the first fifteen days of display, half price for the following two weeks, free for the remaining two weeks, then separate garbage recycling (5-10%). This type of model was adopted by the Metropolitan Area of Helsinki to be then replaced by the introduction of bar codes which allow for an operationally more efficient system.

3.2 Equipment

The Reuse Centre should be equipped with:

a. hardware and software necessary for a computerized warehouse management with the possibility of connection to the network of other reuse centres in the territory.

b. equipment for weighing the goods

c. technical equipment for displaying the goods (shelving to arrange the goods delivered, separated by type)

d. equipment suitable for handling and storing the delivered goods (grid boxes, trolleys, transpallets, forklifts, etc.) where necessary according to the volumes handled.

3.3 How to buy

The purchasing method should be simple and fast. Many reuse centres use somewhat complex systems that require forms to be filled in for each transaction and for each purchase made or good donated. Thanks to digital technologies, it would be desirable to adopt a method where once the customer is registered, he/she no longer has to fill in forms. In addition, the use of software makes it possible to make procedures uniform (perhaps even between several reuse centres in the same territory) through talking labels and the use of bar codes that also facilitate reporting and monitoring. Ideally, the customers should find the same service when buying in a reuse shop as when buying new goods. It is widely seen as the best solution if the shopping experience differs as little as possible from buying new and is designed to be as convenient as possible for the customer.

4. Managing a reuse centre

The management of a reuse centre requires a close cooperation with the waste management sector of the region. While the latter can be a public or private entity, depending on the local context, typically the reuse chain is managed by private entities and in particular social cooperatives and other types of social businesses, e.g. social enterprises. The social economy is well suited for the re-use sector because reuse activities are very labour-intensive. The social economy generates the additional benefit of creating jobs with reuse and positively stimulating the regional economy.

4.1 Selecting goods

For an ideal management of flows, it is necessary to carry out a preliminary analysis of the goods that can be collected. An analysis of incoming flows, in terms of both quantity and quality allows the centre's operations to be designed correctly. This assessment is very important for the management of warehouse space. A flexible set-up would be preferable, as the incoming flows are subject to change depending on seasonality and other factors that are not always predictable. It is also essential to monitor the incoming flows, preferably on a digital platform, recording the type of goods, their state of preservation, weight, size, type of material and other useful characteristics. It is important that the information as to the customer demand reaches the selection of goods. As often the personnel selecting the goods does not represent all the possible customer groups, it is necessary to ensure that the goods selection is based on the customer demands.

In addition, the selection of goods also depends on the possibilities available on site. In some reuse centres, only goods that are suitable for immediate sale are collected. Other reuse centres operate downstream workshops in which preparation for reuse is possible. Preparation for reuse may include sorting, cleaning, but also repair, safety checks and end-of-waste declaration, depending on the item treated. Workshops are quite common in the bicycle-, WEEE- and IT- sector, sometimes also for furniture.

4.2 The origin of goods, two approaches

The two possible models of acquisition of goods for reuse centres are:

- diversion from the urban waste streams arriving at the recycling centres
- donations

Diversion. Taking goods from the waste stream before they end up in separate collection or are disposed of in landfills. This form of collection allows access to large quantities of goods, although often of low quality. Existing regulations (see appendix) are in many European countries an obstacle to this process as it is the intention of the end user to discard a durable good that determines whether or not it becomes waste. Once the good acquires waste status, its handling for reuse in many cases becomes more difficult if not impossible depending on national legislation. It is therefore a matter of collecting the good at a time when it is still in the hands of the owner and in good condition and not when he or she deposits it in some container,

where it has changed character and become waste with all the associated regulatory constraints.

The European waste frame directive distinguishes between reuse and preparation for reuse. If a product or components can be directly reused again for the same purpose for which they were conceived, it is not waste. If preparation for reuse is intended, the organization in most European countries needs a waste treatment permission. Preparation for reuse can be complex for certain items, for example electrical devices, as the end-of-waste declaration requires a safety check by an authorized mechatronics technician.

The model developed by INSIEME cooperative of Vicenza together with RReuse, succeeded to insert itself into a regulatory gap at provincial administration level and is based on three phases: collection, preparation for reuse and sale. In the experience of the cooperative, the interception of waste streams was a success factor thanks to the access to large quantities of goods, mainly from collection centres, civil and industrial clearances.

Donation provides for the procurement of goods through donations from citizens. This model allows access to a higher quality than collection from the municipal waste stream and, if desired, also simpler at the legislative level as waste regulations do not intervene in this area. Quantities tend to be lower with donations. In Italy, the INSIEME cooperative recovers most of the goods from diversion, while the reuse centre in the Helsinki metropolitan area obtains only 10,000 items come from diversion and the rest of the 5 million goods, they handle each year from donations.

The ReTuna centre in Sweden only sells products that are donated by the citizens of Eskiltuna and are recycled, repaired, and improved. The section for receiving donated goods is located just outside the recycling station, so one can say at ReTuna reuse collection is in practical terms part of the recycling centre. The donations are then distributed to 14 areas that correspond to the same number of shops in the shopping centre. This part of accepting donations and distributing them in the "boxes" is managed by the municipality with ten employees working there. The owners of the shops in the shopping centre, which are run by private individuals, collect the items, clean them, repair them, and set the price of the goods. What is not collected by them goes to a general area, "up for grabs" for all shopkeepers and from there eventually to the separate collection area (5-10%). A good practice concerning donations presented by the Austrian partner is the reuse box, a stable cardboard box (size: 51*28*41 cm) for the pre-collection of small reusable goods mainly designed for households. The filled box can be delivered to reuse shops affiliated to the local Caritas. There are many and varied experiences and ways of collecting goods for effective reuse. Remaining in the field of collecting donations from citizens, an interesting example is also the experience of the Province of Barcelona, which in the framework of the project "Mas que Nou" (better than new) has thought of reusing old newspaper kiosks, many of which are now closed, as places to collect small goods brought by citizens living in the area.

A further field of activity could be the collection of goods to be reused or prepared for reuse from public or private companies.

4.3 Digital platforms for management

Digital platforms perform a number of roles that are crucial for the good functioning of reuse centres. Some of the possible functions are:

- Registering incoming and outgoing goods
- Management of Customer data, Customer Relation Management (CRM)
- Communicating events, offers and other news to the general public
- Transport planning
- Repairing
- Staff management (hours worked, payroll data)

Many centres start by obtaining a simple cash register and staff management software. Obtaining a software that is easy to grow into a full Enterprise Resource Management (ERM) System makes growth easier. Software installation is simple, initial costs are low, but management, back-up, updates are time consuming and expensive. The most advanced realities use a single platform at regional or territorial level with a single server and centralised data.

The reuse centre of Metropolitan Area of Helsinki is one of the most advanced in the use of digital tools, using barcodes that accompany objects from the moment they are accepted until they are sold.

The use of digital tools requires structures for daily utilization of data in personnel management and development activities and an adequate training of employees to ensure full use of the potential of this tool. In parallel with the construction of the platform, it is therefore necessary to organise training courses for those who have to manage the software, which needs to be periodically updated, and a user-friendly manual should be drawn up for these users. In social organisations the increasing digitalisation of their business can lead to new qualification opportunities to expand and train digital skills.

4.4 Monitoring and reporting

Monitoring the reuse activities is vital to assess, manage, recalibrate, and communicate the environmental and social impact that re-use centres deliver to the public in the field of resource protection, waste prevention, energy saving and creation of employment.

The monitoring ranges from the more usual economic evaluation of costs and revenues to the equally necessary indicators to be monitored such as those concerning the type and quantity of objects passing through the centre, the length of stay and the actual fate of the goods. Other indirect indicators, but particularly important for the valorisation of the activities, are those related to CO2 emissions avoided, tonnes of objects removed from management as waste, the number of jobs created, and the number of socially precarious people helped with the service. Monitoring enables a comparative analysis of the economic, social, and environmental performances, allowing, as mentioned above, to calibrate efforts to correct and improve, or simply to report in an integrated way on all these aspects.

Monitoring also provides the basis for an annual report that informs all stakeholders (centre managers, public authorities, waste companies, the general public) about the results obtained, the development of the reuse sector, its role in the territorial circular economy and a vision for the future. At the same time, the various centres can also assess, from an economic sustainability perspective, their own performance in terms of goods collected and sold, the ratio of hours worked, also in comparison with other centres in the territory.

4.5 Training and coordination of reuse centre managers

For a good functioning of the reuse centres and for the professional growth of those who work there, often after a sometimes-long period of unemployment and with low qualifications, the training of the operators and the coordination of the activities are central. The main tasks requiring various levels of expertise, which also vary from centre to centre, are: transport, collection and sorting, sanitisation, storage (flow management), repair and safety checks and sales. In addition, as mentioned above, digital skills are needed for the collection and management of data and management tools. The basis for professionalising the management of reuse centres is digitalisation and monitoring, which provides managers with indicators on the progress of their activities. In the medium term it is not enough to guarantee a good quality of goods and services, although this is indispensable, the persons responsible for the management must also have an overview of the processes and boundary conditions in order to act in a comprehensive organisational system.
The three pillars of reuse centres are:

- prevention of waste and protecting of resources by giving a second life to reusable goods
- creating jobs for unemployed people with low qualifications
- offering good quality goods at a low price, but sufficient to contribute to the economic sustainability of the centre.

Professional management must develop all three pillars - the environmental, social and economic function - in a balanced way. As the organisations running the reuse centres typically have either environmental or social aims, the economic dimension of reuse centres as small and medium-sized enterprises easily receives too little attention. The SUBTRACT project deliberately focuses on this aspect in the conviction that ambitious economic management is the prerequisite to develop the environmental and social potentials of reuse centres.

5. Rendering reuse centres economically sustainable

5.1 Reuse that generates value

Reuse can become an interesting driver for the creation of economic value in a circular logic. One of the main obstacles to the economic potential of reuse centres in some European countries is the fact that goods are distributed for free or with symbolic donations. These practices often do not allow the centres to remain open full-time as they are dependent on public funding or by private enterprises, that bear almost the entire costs. Also, the free goods easily end up at the flea market for sale and not in direct use of the receiver. The reuse market can generate value by channelling the flows destined for reuse into supply chains capable of generating a larger market.

Economic viability Reuse Centres are small and medium-sized enterprises who typically do not have profit as a priority, but sound economic management is a prerequisite for fulfilling the environmental and social functions. Reuse centres that depend substantially on public contributions and voluntary work for their ordinary functioning are not sustainable, and risk to remain in small niches with neither a real environmental nor a social function. It therefore seems appropriate to work actively on a viable economic basis.

The policy of offers and prices The objective of the reuse centre must be to offer a wide range of products to attract a wide range of customers: from the less well-off, to those who are environmentally sensitive or people looking for bargains or special objects.

In addition to the quality of the product and the attractiveness of the place, the price plays a fundamental role. For basic products, the price should be between 10% and 30% of the original price, although this depends very much on the type of product being sold. The aim should be to have a high turnover, items that remain on the shelf for a long time only create costs.

Some initiatives have activated supply chains directly linked to wholesale, bypassing the resale to citizens and addressing directly specialised companies that are interested in certain categories and types of goods, for example for textiles. This approach changes some of the social aspects that characterise reuse centres, while guaranteeing a more robust economic stability.

Further sources of income can be generated by clearing and transporting bulky goods (adding the possibility of hiring vehicles), or by using specific collection services. The use of online tools can help these activities and thus also their economic return.

The aim in the medium term should be to cover about half of the centre's costs through sales and related activities such as clearing activities. But where does the other half come from? Ideally not from subsidies but from services rendered!

Social employment. By creating socially useful jobs, reuse centres avoid costs for the public. The same goes for educational, cultural, and training activities.

RReuse has calculated that in Europe on average each person who is not dependent on various public subsidies for his or her livelihood avoids costs of about € 12,000/year. This saving should reach the reuse centres not as a subsidy but as payment for services rendered. In Flanders for example, where the reuse sector is very well developed, social services rendered are responsible for about half of the income of the reuse centres.

Reuse and avoided recycling and landfill costs. Reused goods that enter the circular economy, avoiding the costs of separate collection and/or landfill space contribute to an environmental service that should be monetarily rewarded. Possible funds can be public revenues related to waste management such as eco-taxes or environmental compensation in the form of payments by solid waste management companies. In some realities, revenues from avoided recycling and landfill costs as well as from the collection of goods from private households through clearing, reach 15% of the overall budget.

Other sources of financing. Another source of financing can be the offer of additional repair services for the goods sold in the re-use shop. If reuse-bicycles are sold, the shop can offer a general repair service for bicycles. Finally, there may be specific incentives, this time on the demand side, that the public administration can put in place to favour reuse centres. These range from incentives in terms of tax relief on the fees for the sale of used goods, to direct incentives for reuse and repair. For example, several Austrian federal states (Styria, Upper Austria, Lower Austria and Salzburg) and the city of Graz have implemented a "repair bonus" that reimburses citizens up to 50% of the total cost of a repair, with a maximum of 100 euros per year.

6. Reuse center in a social and educational context

6.1 Social functions

In many cases the reuse sector has an important social inclusion function because it represents an employment opportunity for those who have difficulties to enter the labour market after a long-term sick-leave, maternity or any other challenge which kicked them out of the first labour market. The reuse sector offers opportunities for income and personal growth to migrants, marginalised groups, unemployed, young and elderly people with low income, disabled people, ex-offenders, former drug addicts and other people at risk of economic and social marginalisation. This effect can be further amplified where reuse centres are not only places to store and sell goods but also to repair them. In many cases there is a close correlation between reuse initiatives and social policies.

An interesting example is "La Fundació Amiga" in Catalonia where a group of institutions cooperate in order to create jobs for people at risk of social exclusion through reuse preparation, specifically by bringing furniture and textiles back to life. Another example is the social cooperative INSIEME, which has developed a WEEE recycling workshop where workers are trained in the selection of electrical/electronic products and their dismantling. Another example is pro mente Styria – a mental health care service company offering a wide variety of vocational rehabilitation and reintegration as well as work training. dismantling.

6.2 Reuse, a privileged field for social and educational reintegration

The experience of many cooperatives in Europe that are dedicated to activities linked to reuse and recycling shows us how the employment of disadvantaged people can take place precisely through the virtuous interweaving of respect for the environment and institutions that deal with social unease. The various types of tasks linked to reuse allow people to try their hand at very different operations in which the rediscovery of manual skills becomes an integral part of reintegration as citizens into civil society.

While reuse is defined as any operation through which products or components that are not waste are reused for the same purpose for which they were conceived, preparation for reuse includes control, cleaning and repair operations through which products or components of products that have become waste are prepared so that they can be reused without further pre-processing.

Examples of preparation for reuse include the repair of bicycles, furniture, electrical and electronic equipment, which owners have discarded. However, this kind of professionalism requires economic investments, organisational skills, specific competences, as in the case of the electronic equipment tester and repairer, the carpenter able to realise creative furniture recovery projects. For the activities of preparation for reuse, especially in view of the activities of reuse centres, a close relationship with training activities is therefore necessary, in order to qualify the personnel dedicated to this type of activity.

Another area of particular interest in the field of training is collaboration with educational institutions, i.e., including in the activities of the reuse centres workshops for training students from vocational or art schools in repair and creative recycling. Vocational schools can become an integral part of this process by setting up co-working spaces hosting repair workers from the woodworking sector to the electrical sector and tailoring. Vocational schools can also train learners in sales, both face-to-face and online, and customer service in general. This shared space can also be used to create an intergenerational exchange in which manual skills that are disappearing among young people can be passed on.

Obviously, the educational and training field can also extend to the general sense of the repair and maintenance economy with all the values and concepts that this brings with it.

7. Governance

Governance in the context of reuse centres means the conscious collaboration according to clear and shared principles and models among actors along the reuse chain: regional and local governments, waste management authorities, NGOs, social enterprises, users. Reuse centres bring together cross-sectoral services, functions and priorities that integrate social, environmental, economic and educational aspects. Their introduction and development described in these guidelines take place as a process of transition that requires coordination be it across various types of actor groups be it across several integrated sectors.

The second goal which has been broadly discussed above is optimization: once the new structures have been put in place, they need to be tuned to function at their best. Be it in system change be it in system optimization the actors must share a common understanding of what they are about to do because the process represents dealing with path-dependent, interwoven and institutionalized socio-technical regimes that can be hard to change.

In our context when we talk about path dependency, we mean a deeply rooted model of consumerism as a form to demonstrate social status and achieve personal satisfaction and a linear economy where consumer goods need to become as quickly as possible obsolete, be it functionally or esthetically to finish as waste and make room for new merchandise.

In the seventies and eighties of the last century separate waste collection was a big step forward that required system change and optimization and still does. Reuse is a further step forward in the ecological transition which in this phase is favoured by the emergence of the circular economy model, but still has to deal with strong opposed logics and institutional set-ups. Governance is the conscious attempt to coordinate horizontally and vertically the various actors for the necessary transition.

In governance we can distinguish between three types, traditional bureaucracy, new public management, and networked governance. When we talk about bureaucracy there is usually a negative undertone. It is easily forgotten what an immense progress bureaucratic rule has brought about in modern times. Bureaucracies, as Max Weber has pointed out, have been a great step forward in the management of human affairs. Rule by administration according to rational, codified, transparent procedures by professional functionaries with well-defined competences can reduce and ideally eliminate arbitrariness and guarantees an efficient, stable and just management of the common good. The high degree of division of labor in bureaucracies ideally contributes to the effectiveness of bureaucratic action. However, it becomes an obstacle when dealing with complex and comprehensive fields of action, and the circular economy and hence reuse are among those.

Here complex hierarchical rule-based systems and top-down decision-making processes can slow down or outright stifle developments. The response at the end of the last century was “new public management” characterized by an emphasis on output controls, the decentralization of management authority, the introduction of market and quasi-market mechanisms. We still live with this type of governance and the results are mixed. The assumption of the superiority of the private sector and private sector management techniques to those of the public sector and public

administration has often led to a false dominance of performance and efficiency to the disadvantage of the common good and welfare of the people.

Taking a network approach to public governance implies an increased reliance on (typically more informal) networks as a way to mobilise and engage citizens and organisations in the development, implementation, and monitoring of public policy. Obviously, this form of governance is driven by and partly based on information and communication technologies. In terms of the relationship between the actors, governance networks can be described as pluricentric systems. Governance networks involve a large number of interdependent actors who interact with each other in order to produce an outcome.

Among the three types of governance, traditional bureaucracy, new public management, and networked governance the last one lends itself most for reuse centres and the circular economy in general. But networked governance until now is largely a declared goal while the institutional reality continues to be dominated by traditional bureaucracy with some new public management.

The models of possible forms of horizontal and vertical governance depend on the specific place-based conditions and any attempt to propose a general model is bound to fail. However, it does make sense to keep some general principles in mind.

The first would be that governance does not develop spontaneously. Or better, spontaneous forms tend to become dysfunctional under stress and threaten to quickly revert to traditional top-down institutional forms. These are particularly detrimental when different departments and offices are involved.

Therefore, a conscious handling of questions of governance is important and at least one of the actors involved, be it (ideally) the regional government or the city government, the waste company, or the management of the reuse centre –needs to develop a governance model that works along the lines of what is possible in the concrete circumstances. There is no general model that fits all. How to insert reuse policy into regional and local government policies can take many forms, depending on the size of the region or city, national framework conditions, the political and civic culture among others. But once, reuse policies are firmly rooted in the institutional reality – and this is the beauty of bureaucracy in spite of its bad reputation – they need not rely on the good will of single persons for efficiency and continuity. They become part of a new normality.

8. Conclusions

Each SUBTRACT partner characterised their participation in the project by describing with their Regional Background Analysis the state of the art of reuse policies and practices active in its region. This allowed a clear visualisation of the different levels and approaches to reuse in the different European regions involved. The reuse centres presented by the Swedish and Finnish partners, for example, both have impressive size and numbers, with turnovers of several million euros and a substantial number of people employed. Although the two approaches are quite distinct, it can be observed that the Swedish case, has a focus on economic and commercial sustainability, while the Finnish case prioritises the social dimension. Other partners have shown a distinct development of reuse activities in specific sectors, e.g., textiles and clothing for the Spanish partner in Catalonia, or for certain products such as the Styrian wine bottle recovery and reuse system in Austria.
Less developed but growing are the public reuse centres in Slovenia and Italy, which also show a considerable interest in reuse activities by private individuals. Each partner has a rather well-defined idea of the environmental, social, and economic importance and value of reuse and of the prominent role that the public sector should have in promoting it. However, the comparison between the different experiences showed just as clearly that each one starts from a very different history and therefore a very different level of experience and current development. For all there is an interest in working towards higher levels. What appears to be a particularly useful general consideration is that steps cannot be skipped and that it makes no sense to immediately pursue models that are too distant and too difficult to transfer from one territory to another. The activity of analysis and evaluation of one's own context and starting level is particularly useful because it helps to evaluate which are the primary steps to put into place in order to exploit the full potentials of reuse.
Whether small or big, the steps to be taken must be done in a conscious and shared way, avoiding strides that are too long and keeping clearly the direction in which to direct one's work. Regulatory contexts (see appendix) are an important feature and constraint for assessing the feasibility of the progress to be made, and the creation of partnerships and collaboration pacts with the private sector consistently helps speed up the work to be done.
A further context to be carefully assessed is the political and cultural environment in which to develop reuse activities, in order to identify the most promising strategies to be developed for the different groups of stakeholders.
The priority activities that emerged from the SUBTRACT project to make reuse centres environmentally, socially and economically viable enterprises can be summarised in the following points.

- Define and monitor appropriate indicators concerning the impact of reuse on labour and public expenditure, economic, environmental, and social valorisation of reuse activities
- Building and coordinating a **network of reuse centres** allows for considerable organisational and communication advantages. Joining forces for **marketing and communication with a single brand** allows to group means and forces
- It is necessary or at least appropriate to evaluate the involvement and **synergy between the public and private sectors** (such as social cooperatives) **through appropriate agreements and collaboration pacts**

with subjects that already carry out or could carry out service activities connected or inherent to reuse centres.

- Reuse centres should aim at economic independence. In this process, an **adequate training of their staff and a further professionalisation** of their management practices are essential requirements.
- Establishment of an **operationally and commercially capable supply chain** to put back into circulation the reusable goods delivered to collection points and bulky waste home collections.
- Use digital tools: Matching supply and demand of reusable goods is difficult and should be optimised with digital tools. The use of digital technologies is a key factor for optimising reusable goods' flows as well as for customer relations, awareness raising and information for the general public.
- Re-use needs to be rendered more attractive to users. The visibility of the whole sector has to be increased through professional marketing using a variety of approaches.
- Cooperation with the municipal waste management: Increasing the availability of reusable goods is crucial. The selection of reusable goods from municipal waste streams before they become waste and the preparation for reuse, require close cooperation with the public and private waste management institutions.

Appendix

EU Legislative Framework

Article 4 of the Waste Framework Directive (WFD, 2018) established the waste hierarchy as the overarching principle of waste policies in the EU and EU Member States. According to this, waste prevention has the highest priority, followed by preparing for reuse, recycling and other recovery, and finally disposal as the least desirable option. Waste prevention is the most efficient way to improve resource efficiency and to reduce the environmental impact of waste. The WFD prescribes measures for preventing and reducing the generation of waste, in order to break the link between economic growth and the environmental impacts associated with the generation of waste, and to make the transition towards a circular economy. Member states shall take measures to “encourage the re-use of products and the setting up of systems promoting repair and re-use activities, including in particular for electrical and electronic equipment, textiles and furniture, as well as packaging and construction materials and products.” (Art. 9 (1) (d) WFD, 2018)

Waste Framework Directive – Official website of the European Commission

The Directive also provides definitions for reuse and preparation for reuse. The distinction between these two concepts is important because preparing for reuse lies mainly in the realm of waste management (facilities, infrastructures, and collection procedures), whereas reuse as such is part of waste prevention. (Johnson, McMahon, & Fitzpatrick, 2018)

- 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.
- 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.

The Waste Framework Directive required Member States to establish waste prevention programmes by 12 December 2013. The Directive provides flexibility regarding the nature of the programmes, but it does require that objectives and qualitative or quantitative benchmarks are set. (Wilts, Bahn-Walkowiak, & Hoogeveen, 2017)

The Waste Electrical and Electronic Equipment (WEEE) Directive (2012/19/EE) oblige Member States to prioritise reuse at the earliest stages of waste electrical and electronical equipment take-back, separate these products for reuse and enable access by refurbishment centres. Revised collection reporting will enable preparation for reuse to count towards collection targets within both the business-to-business (B2B) and business-to-consumer (B2C) markets, possibly enabling refurbishes to contribute to WEEE targets. (EU, 2012)

In 2015, a new framework for waste policy and resource efficiency was introduced in the Circular Economy Action Plan. This action plan, which aims to transform Europe into a more competitive, sustainable, resource-efficient economy, addresses a range of economic sectors, including waste. For what concern the waste sector, in the Action Plan there is concrete programme, “with measures covering the whole cycle: from production and consumption to waste management and the market for secondary raw materials.” The proposed actions are intended to “contribute to “closing the loop” of product lifecycles through greater recycling and reuse and bring benefits for both the environment and the economy.” (EC, 2015).

In July 2018, the Waste Framework Directive was updated, including many progressive policies to foster the development of reuse social enterprises. Another important issue reformed that have directly and indirectly repercussions on the world of reuse is that of the Extended Producer Responsibility (EPR). Systems based on EPR, as activities in the public interest, have to ensure compliance with the principles and minimum requirements of the new directive, in particular those aimed at: transparency in management, effectiveness in achieving environmental objectives in compliance with the waste hierarchy and internal and external control (by an independent body). (EU, 2018)

On 11 March 2020, the European Commission adopted a new Circular Economy Action plan. It is one of the main blocks of the European Green Deal, Europe’s new agenda for sustainable growth. The new Circular Economy Action Plan requires Member States to take measures to encourage the reuse of products and the setting up of systems that promote repair and reuse activities, in particular for electrical and electronic equipment, textiles and furniture, as well as packaging and construction materials and products.

The following are some of the elements in the plan that are intended to contribute to these objectives:

1. Boosting reuse and preparation for reuse through quantitative targets alongside future “waste reduction targets for specific streams and other measures on waste prevention”
2. Making products more reusable and easily repairable through a “legislative proposal for a sustainable product policy initiative”
3. Tackling overconsumption, fast fashion and supporting an ethical value chain when developing an “EU Strategy for Textiles”
4. Improving product design and collection models focussed on reuse for WEEE within a “Circular Electronics Initiative”
5. Encouraging reuse activities in other key product value chains such as batteries, packaging, food and construction materials

6. Recognising social economy actors when “making circularity work for people, regions and cities.” (RREUSE, 2020)

The plan also emphasises the key role of consumers in waste prevention and management and the need to facilitate citizens' involvement in separate waste collection. Moreover, it reiterates the importance for Member States and regional and local authorities to raise awareness of sustainable consumption, including consumption patterns based on reuse, renting or sharing, waste prevention and efficient waste sorting and disposal.

Implementation

To ensure effective implementation, the waste reduction objectives in the new proposal must be accompanied by concrete measures to address obstacles on the ground and the different situations across Member States. In their statement responding to the introduction of the Circular Economy Package, the RREUSE network’s response highlights some of these potential obstacles and potential implementation issues.

RREUSE argues that separate quantitative targets for preparation for reuse are needed (as distinct from the recycling targets) to ensure access to reusable products and to help drive investment and support for these key activities in the circular economy. According to the WFD, the Commission must assess the feasibility of setting separate targets for reuse and preparation for reuse by the end of 2024. (RREUSE, 2020) Among the countries participating in the project SUBTRACT, only Spain and Sweden have already done so. (Report, 2017)

RREUSE also proposes several measures to help scale up the reuse activities of key products. For some of these products, some project countries have adopted measures that can serve as examples.

For what concern the collection and treatment of Waste Electrical and Electronic Equipment, RREUSE appreciate Commission’s willingness to implement regulatory measures making electronics and ICT products (including mobile phones, tablets, and laptops) more durable, repairable, upgradable, maintainable, reusable and recyclable. It also encourages the Commission to ensure that the ability to repair, upgrade and maintain these products is given to all consumers. (RREUSE, 2020)

Spain and Finland introduced a law facilitating the dismantling, repair, reuse, and recycling of electronic equipment. Moreover, Finland introduced measures to strengthen the reuse expertise of actors within the producer responsibility system and increasing the provision of consumer information on EEE lifespans, repair potential and warranty periods. (Report, 2017)

For what concern construction materials, according to RREUSE, requirements for construction and demolition procedures promoting reuse and recycling of construction materials such as recovery-oriented demolition and obligatory selective dismantling of reusable components prior to demolition can be developed to save a tremendous number of resources. (RREUSE, 2020)

The Austrian Recycling Building Materials Ordinance, issued in 2015 and revised in 2016, aims precisely at these points. To inform the population about these legal requirements, the Styrian Guide on Construction & Demolition Waste was created

and most recently revised within the framework of the Interreg Europe project CONDEREFF. It is available free of charge online (also in English). In line with the Austrian regulation and waste management objectives, the association BauKarussell is dedicated to the increased implementation of reuse in the construction sector.

In addition, the role of social enterprises working in waste management needs to be explicitly supported and recognised in the circular economy at local, national, and international level and this will be an effective way to make the circular economy more just and inclusive. For what concern the rules on the Extended Producer Responsibility (EPR) scheme, Finland and Sweden are good examples of what can be achieved through this legal instrument, as will be shown below.

Italian legislative framework

In Italy, prevention has found a place in national and regional waste planning with the transposition of WFD by means of Legislative Decree no. 152 of 3 April 2006. (Decree 152/06)

With regard to reuse in particular, article 180-bis of the decree, provide those public administrations have to promote initiatives aimed at encouraging the reuse of products. These initiatives may also consist in logistical measures, such as the establishment and support of accredited repair/reuse centres and networks.

The regional guidelines regulate the operation of reuse centres, and they are the reference for Municipalities.

According to the provisions of the guidelines, anyone from the territory of competence, registered in the list of taxpayers of the waste tax or tariff, can deliver an intact and functional second-hand good to the reuse centre, free of charge.

The reuse centre may only receive used goods, after verification by the staff in charge, that are in good condition, and that can be directly reused for their original uses and purposes, except for cleaning and minor maintenance. It is not allowed to bring materials or objects that must be brought to urban waste collection centres or sent for recovery or disposal.

Whenever possible, reuse centres are set up close to urban and assimilated waste collection centres or authorised ecological stations in order to exploit their synergies in compliance with waste and product legislation. (Decree 152/06)

Law no. 221 of 28 December 2015 (Law 221/2015), introduces considerable flexibility of options for those intending to intercept reusable goods or waste at municipal waste collection centres.

Art. 66 has inserted in the decree 152/2006 paragraph 1-bis of Article 180-bis, according to which municipalities may also identify appropriate spaces, at the collection centres, for the temporary exhibition of used and functioning goods directly suitable for reuse in order to facilitate the exchange between private individuals. At the collection points, special areas can also be identified for the pre-collection storage of waste intended for preparation for reuse and for the collection of reusable goods.

The legislative provision also provides incentives for reuse preparation chains (this waste treatment option is in fact one of the operations that can be incentivised, as it

is a form of waste recovery). Modalities, requirements, and level of incentives will be defined by the ministerial decrees provided by the law. In addition, art. 36, provides for tariff reductions for users of the urban waste management service based on the quantity of used goods delivered in order to promote the centre's activity. (SUBTRACT Italy, 2021)

With the entry into force of Law no. 166 of 19 August 2016 (Law 166/2016) containing provisions concerning the limitation of waste, new rules have been introduced for the recovery of waste consisting of clothing, in order to reuse them in new consumption cycles. Law 166/2016 also clarifies the borderline between goods and waste: art. 14 establishes that used clothing articles and accessories not given away free of charge by private individuals directly at the operating premises of donors, or not deemed suitable for subsequent use, constitute management waste pursuant to Legislative Decree 152/2006. (Fondazione per lo sviluppo sostenibile, 2017)

With the implementation of the Circular Economy Package last August 2020, reuse centres have received a considerable boost in terms of bureaucratic simplification in opening, as all that is needed now is a SCIA to the municipality, whereas before the procedure was much more complex. The decree on reuse centres is in the final stage of preparation by the Ministry's circular economy department.

Austrian and Styrian legislative framework

The Austrian Abfallwirtschaftsgesetz (Waste Management Act) sets out the main principles of Austrian waste management, which include sustainability, the protection of human beings and the environment, and the conservation of natural resources.

With the amendment of the Waste Management Act 2002 (AWG, 2002) in 2010, the new five-tier waste hierarchy according to the WFD has been incorporated into the Austrian Federal Waste Management Act 2002. The 2010 amendment to AWG 2002 also includes the obligation to establish a nationwide waste prevention programme.

The waste status of items (the Austrian Waste Management Act 2002 refers to them as "movable objects") occurs under legally defined terms and conditions and includes items that can still be used. The purpose of this legislation is to protect people and the environment from harmful effects, that could result from an improper or unauthorized handling of these items. At the same time, abusive circumvention of waste law provisions and the impairment of fair competition conditions for reuse companies under the false guise of "reuse" shall be avoided. Within the waste regime, items are therefore subject to a special duty of care and regulatory control.

Since 2016, reuse of C&D waste components has been obligatory under certain conditions in accordance with the Recycling Building Materials Ordinance.

According to the Waste Treatment Obligations Ordinance (2017), WEEE, which are destinated for reuse, must be collected, stored, and transported in such way that the subsequent preparation for reuse is not made difficult or impossible. According to the end-of-life vehicles ordinance, manufacturers and importers shall reuse reusable components of end-of-life vehicles as far as possible. Almost everyone, who is collecting or treating waste in Austria, has to strike a waste balance each year AWG 2002 and Waste Balance Sheet Ordinance). However, calculation of reuse- and recycling rates from these data does usually not yet distinguish between reuse and recycling. (Meissner, Schwarzlmüller, & Neitsch, 2019)

The Austrian Waste Prevention Programme 2011, which was updated in 2017, contains "reuse" as one of five fields of action.

In Austria, the management of non-hazardous municipal waste is the responsibility of the provinces. The Styrian Waste Management Act 2004 (StAWG 2004) also includes the five-step waste hierarchy accordingly. Even before the implementation of the Waste Framework Directive 2008 into Austrian law, the new waste hierarchy was included as the essential principle of waste management in the Styrian Waste Management Plan 2010 (decision of the Styrian regional government of May 2010). Key objectives for the increased implementation of re-use were planned in this sense and implemented in the following years (details see below under “Reuse Activities – Historical Outline”). According to the premises of StAWG 2004, the municipalities are responsible for municipal waste collection, whereas the waste associations (16 waste associations each comprising of several municipalities plus the city of Graz, which performs the function of the association itself) are responsible for municipal waste treatment. According to § 8 AWG 2002, a Federal Waste Management Plan shall be prepared or updated at regular intervals. Since 2011, it also contains the national waste prevention programme. The Regional Waste Management Plan Styria is prepared/updated in accordance with § 5 StAWG 2004. The Styrian waste management associations have to prepare or update the waste management plans for their respective operation area, based on the current Regional Waste Management Plan Styria. (Winter Austria, 2021)

Spanish and Catalan legislative framework

In Spain, the regulatory regime for waste establishes measures to protect the environment and human health by preventing or reducing the adverse impact of generating and managing waste.

The regulatory framework in the field of reuse and preparation for reuse is defined by Law no. 22 of 28 July 2011 (Law 22/2011) on waste and contaminated soils which transposes into Spanish legislation the WFD adopting all related targets and objectives.

In December 2008, the Ministers’ Council of Spain approved the Integrated National Waste Plan for the period 2008-2015. The plan updated and reintroduced some of the concepts of the previous plan and set ambitious targets for the 7-year period. Specifically, it set the three ‘R’s (reduce, re-use, recycle) framework as the main driver of Spanish waste management and set out the guidelines and the main measures to be implemented, which are developed in thirteen specific plans for each type of waste.

By Royal Decree 110/2015, Spain introduced a “preparation for reuse target” for two collection groups, large EEE and small IT and telecommunications equipment, in the national legislation transposing the WEEE Directive (2012/19/EU). (Report, 2017)

In addition to state-level regulations, Legislative Decree no.1 of 21 July 2009 which approves the revised text of Law 22/2011, aims to regulate waste management in Catalan territory. It establishes that municipal waste management is a responsibility of the municipality, and that «municipalities with more than five thousand inhabitants ...» «must establish the waste service by means of the installation of the centre or centres required for the collection of waste detailed in the annex to this law». At the same time, the Technical Standard of Collection Centres 2019, a document that

defines the technical requirements that collection centres must fulfil, recognizes the waste collection centres as possible reuse and preparation for reuse centres and establishes recommendations for their design and operation as the provision of an area of reusable elements, its inclusion in municipal ordinances, the need for the owner of the object to show his/her will to donate it for reuse purposes, and the minimum surfaces and requirements of spaces required for the different initiatives of reuse and preparation for reuse. (SUBTRACT Spain)

The regulatory framework is complemented by a number of strategic planning instruments. Already in 2001, Catalonia had introduced its own Waste Management Plan, the Catalan Municipal Waste Management Programme (PROGREMIC). It was more far-reaching than plans from other regions and set a good example for the other regions of Spain to follow. More recently, the General Programme of Prevention and Management of Waste and Resources of Catalonia 2013-2020 has been approved. The promotion of reuse and preparation for reuse are strategic objectives of PRECAT20, proposing activities such as the promotion of reuse centres, the preservation and promotion of businesses and associations linked to reuse and preparation for reuse, and commercialization of reconditioned goods. (Almasi & Milios, 2013)

Finally, The Catalan General Waste and Resource Management and Prevention Programme 2019–2025 (PREMET25) has set ambitious waste reduction targets: - reduce total primary waste generation and, specifically, to achieve a 15% weight reduction in waste generation by 2020 (baseline 2010) - maximum of 150 kg of residual waste generated per inhabitant per year by 2025. (EEB, 2020)

Finnish legislative framework

The waste policy and legislation in Finland is based on the EU waste hierarchy. Finnish waste legislation concerns almost all types of waste. Special wastes, e.g., radioactive wastes, are controlled by separate laws. The Finnish waste legislation mentions the waste priority and reuse as preferable methods over recycling, but reuse is combined with recycling in many of the requirements and in practice there are no separate targets for reuse. (Alanko & Utter, 2013)

In accordance with the Waste Act and the Packaging Waste Decree, waste holders, such as private individuals, property owners or companies, are primarily responsible for the management of waste. The main principle behind the legislation is to minimise production of waste by industrial activities and households and maximise recycling and reuse of waste. If generated waste cannot be recycled or reused, other forms of reuse, such as incineration of waste for energy production must be favoured over landfill. The most economically viable technology and the best practices for preventing harmful environmental or health effects must be used in waste management. The Waste Act prohibits uncontrolled dumping or treatment of waste. (SUBTRACT Finland, 2020)

An exception to this rule is the responsibility municipalities and certain manufacturers have for organizing waste management. Indeed, some product groups are under the producer responsibility. Extended Producer Responsibility (EPR) means that the producer has the obligations to the recovery of product, and it is prescribed by law. Producers are obligated to finance and organize the collection, pre-processing, recycling, utilization, and waste management of their products removed from use.

They can take care of this obligation themselves or transfer the recovery obligation to the producer organization.

The aim of producer responsibility is to encourage manufacturers and importers to think through the whole life cycle of their products. Producer responsibility promotes environmentally favourable product planning, waste prevention, the separate collection and recovery of useful wastes, waste reuse and recycling and the incorporation of environmental costs into product prices. In the context of producer responsibility, the producer means the manufacturers and importers of the products or, in the case of packaging, packagers and the importers of packaged products. Producer responsibility covers electronic and electrical appliances; batteries and accumulators; tires from motor vehicles, other vehicles, and equipment's; cars, vans and comparable vehicles; newspapers, magazines, copy paper, and other comparable paper products and packaging.). (Ministry of the Environment, 2020)

Finland is among the top reusers of packaging in Europe. The recovery of packaging waste means both the recovery of packaging to make raw material for new products, and the recovery of packaging as energy. Sorting itself or the delivery of packaging to waste collection or sorting sites is not recovery. Recycling is the altering of packaging material so that it can be used to produce a new product. Packaging that is not used anymore is considered as packaging waste. Reusable packaging is packaging waste only when it is taken out of the reuse system. Because of the effective collection and recycling system for packaging materials, the amount of waste packages is very low in Finland: only 84 kg per inhabitants (ca. 200 kg in EU on average). (Piippo, 2020)

"From Recycling to a Circular Economy. National Waste Plan to 2023" sets out the objectives for waste management and waste prevention in Finland and the measures to reach the objectives. The Government approved the Waste Plan in December 2017. Indicators have been selected for monitoring the Waste Plan. Halfway through the period covered a mid-term review is to be conducted on the progress made in the implementation of the measures.

Swedish legislative framework

The Swedish legislation concerning waste is largely based on the WFD. The directive has been implemented in Swedish legislation through the Environmental Code and the Waste Ordinance. In Sweden, the least preferred solution is the disposal of waste at landfills. The most favourable option is to prevent waste generation and reuse and repair products. If waste is still generated, the key target is to recycle the materials.

According to the Environmental Code (SFS 1998: 808), each municipality is responsible for disposing or recycling household waste. The municipalities are working at increasing rates to promote the prevention and reuse of waste. Preparation for reuse of household waste is also part of the municipal responsibility. The municipalities also have a duty to inform about waste management and about the content of the waste plans. Part of the municipal responsibility is therefore to establish recycling centres where citizens can leave waste that are not collected from households. When a product has been submitted to a recycling centre, this is transferred to the municipality's ownership. The right of ownership means that the municipality has the exclusive right to decide on how the waste is to be treated,

taking into account national guidelines such as the waste hierarchy. (Avfall Sverige, 2018). For businesses that handle products submitted with the explicit purpose of being reused, and thus will not be classified as waste, a waste management permit does not have to be applied, according to the Environmental Assessment Ordinance. For reuse to be possible, in some cases it is required that the submitted waste is in some way processed or prepared for reuse. This may, for example, involve checking, repairing, or cleaning. (Milios & Dalhammar, 2020)

Extended Producer responsibility (EPR) is a governmental policy and a Swedish law that aims to better waste management and collection. (Smart City Sweden) The principal approach of this framework, which was adopted by the Swedish Parliament in 1993, is that the environmental responsibility for a product lies with the producer. Extended producer responsibility (EPR) is based on the polluter pays principle. The concept entails that the party responsible for the pollution is responsible for paying for the damage done. The policy applies to different goods such as packaging, newsprint, electronic products, batteries, tires, end-of-life vehicles, pharmaceutical waste, stray radioactive products and radioactive sources. In their information about waste, the municipalities are also obliged to inform about the responsibility of producers. This is done, inter alia, through the national waste portal sopor.nu, which is a collaboration between Avfall Sverige and several other actors. (Milios, Municipal waste management in Sweden, 2013)

Slovenian legislative framework

In Slovenia, the structure of waste management legislation is in line with EU law. Waste management in Slovenia comprises collection, transport, recovery or and disposal of waste, including the control of these activities. Regulations in the area of waste management are mostly based on the Environmental Protection Act. The general acts are the national Environmental Protection Act (Official Gazette, No. 39/06, 70/08-ZVO-1B), the Decree on Waste Management (Official Gazette, No. 34/08), the Regulation (EC) No. 1013/2006 on shipments of waste and the Decree on the implementation of the Regulation (EC) No. 1013/2006 on shipments of waste (Official Gazette, No. 71/07). Other legislative measures are organised in three clusters:

- legislation concerning different sorts of waste (e.g., packaging, batteries and accumulators, waste electrical and electronic equipment)
- legislation on waste management (landfilling, incineration)
- legislation on monitoring emissions from waste treatment.

The most important change was adopting a structured approach, acknowledging that waste management is futile without the prevention of waste production. When dealing with waste, the primary objective is the preparation of waste for their reuse, followed by recycling and other forms of processing, whereas disposal in landfills can only be used as a last resort, where the negative environmental impact or costs of processing would exceed the impact of disposal into landfills. The tasks and obligations of all waste management participants have been further detailed, while the supervisory role of government authorities has been increased through the implementation of an information system for waste management. The Decree of 2015 also prescribed the obligation of the Ministry of the Environment and Spatial

Planning to analyse data on waste management and report to the European Commission on the implementation of WFD.

Slovenia illustrates that circular economy policies and improved waste management can be done in short timeframes. A comprehensive strategy on circularity has stimulated separate collection and recycling, with the help of EU funds. (SUBTRACT Slovenia, 2020) (EEB, 2020)

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