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Material Reuse Good Practice Guide

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Roinn Cumarsáide, Gníomhaithe ar son na hAeráide & Comhshaoil
Department of Communications, Climate Action & Environment

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ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency (EPA) is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. We are committed to protecting people and the environment from the harmful effects of radiation and pollution.

The work of the EPA can be divided into three main areas:

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Advocacy: *We work with others to advocate for a clean, productive and well protected environment and for sustainable environmental behaviour.*

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- waste facilities *(e.g. landfills, incinerators, waste transfer stations)*;
- large scale industrial activities (*e.g. pharmaceutical, cement manufacturing, power plants)*;
- intensive agriculture *(e.g. pigs, poultry)*;
- the contained use and controlled release of Genetically Modified Organisms *(GMOs)*;
- sources of ionising radiation *(e.g. x-ray and radiotherapy equipment, industrial sources)*;
- large petrol storage facilities;
- waste water discharges;
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- Supervising the supply of drinking water by public water suppliers.
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- Enforcing Regulations such as Waste Electrical and Electronic Equipment (WEEE), Restriction of Hazardous Substances (RoHS) and substances that deplete the ozone layer.
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- Funding environmental research to identify pressures, inform policy and provide solutions in the areas of climate, water and sustainability.

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- Monitoring developments abroad relating to nuclear installations and radiological safety.
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- Providing timely and easily accessible environmental information to encourage public participation in environmental decision-making *(e.g. My Local Environment, Radon Maps)*.
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- Generating greater environmental awareness and influencing positive behavioural change by supporting businesses, communities and householders to become more resource efficient.
- Promoting radon testing in homes and workplaces and encouraging remediation where necessary.

Management and structure of the EPA

The EPA is managed by a full time Board, consisting of a Director General and five Directors. The work is carried out across five Offices:

- Office of Environmental Sustainability
- Office of Environmental Enforcement
- Office of Evidence and Assessment
- Office of Radiation Protection and Environmental Monitoring
- Office of Communications and Corporate Services

The EPA is assisted by an Advisory Committee of twelve members who meet regularly to discuss issues of concern and provide advice to the Board.

EPA RESEARCH PROGRAMME 2014–2020

Material Reuse Good Practice Guide

(2014-RE-DS-4)

Prepared for the Environmental Protection Agency

by

The Rediscovery Centre and RPS Engineering

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1 Introduction

Ireland and the European Union (EU) currently face a crisis in terms of resource availability, use and disposal. Because of our current consumption and disposal habits, our valuable and finite resources are being depleted on a daily basis. Furthermore, the extraction of raw materials, and the manufacturing and disposal of products, are having increasingly harmful effects on the environment. On average, 13.3 tonnes (t) of materials are consumed per person annually in the EU. Much of this ends up as waste, with an average waste production rate of 5 t of total waste per person annually (EC, 2015a). Within this 5 t of waste, an average of 180 kg of food is wasted per person annually in the EU (European Parliamentary Research Service, 2014).

The outdated industrial economic model of “take–make–use–dispose” is no longer acceptable within modern society. We must learn to live well, and within our means, for the benefit of our fragile environment and to ensure an acceptable standard of living for future generations. A key step in the transition towards a more sustainable society is the protection of resources, the retention of goods within the product cycle for longer and the development of a repair and reuse culture to facilitate change.

This guide brings together knowledge from the reuse community in Ireland and from international experience. Members of the reuse community in Ireland have contributed to the project by sharing their knowledge and experience via surveys and interviews and by participating in workshops. Their feedback was incorporated into the preparation of reuse guides to help build capacity within, and expand, the reuse sector. The guides align with international good practice with respect to developed guidelines and established protocols for material reuse.

1.1 Who Is This Guide For?

The guide is written for reuse practitioners. If you are just beginning a reuse operation, you can benefit from the experiences gathered within this report. If you are already engaged in reuse, it is likely that you are utilising many of the good practices highlighted here within your own organisation already. Whether new to material reuse or a seasoned practitioner, this guide provides access to international good practice and clarity on legislative considerations and makes recommendations for operational reuse.

1.2 How to Use This Guide

This guide will help you as a practitioner to gain further knowledge of the reuse sector in Ireland, provide access to international good practice and navigate the legislative framework as it applies to reuse. It includes:

- a short introduction to reuse as part of the circular economy and its place within the waste management hierarchy;
- information about the benefits and barriers associated with material reuse;
- an assessment tool to determine whether materials are suitable for reuse;
- a framework for material reuse; and
- recommended templates to assist operational good practice.

2 What is Reuse?

Reuse occurs when an owner continues to use a material for the same or an alternative use, or when the item is transferred to someone else for continued use. In both cases, the item is still a resource and is not considered waste. At some point, everyone has things that are no longer useful to them, but these items, which still have value, may be useful to others and can therefore be reused.

Reuse is well established in Ireland. Materials reused include clothing and textiles, furniture, bicycles, paint, food, waste electrical and electronic equipment (WEEE), mattresses, toys, books and games. Organisations that participate in reuse vary from sole traders to large social enterprises and charities. In some cases, companies, civic amenity sites and recycling centres help to facilitate reuse by providing access to materials for reuse. In other cases, private individuals and social enterprises operate in co-operation with the public. Many reuse organisations are members of the Community Reuse Network of Ireland (CRNI), which is the all island representative body for community-based reuse, recycling and waste prevention. While still a relatively new sector, reuse organisations have grown significantly, in both number and operational scope, since 2010. The exact quantity of materials prevented from entering the waste stream because of their operation is not officially collectively measured at present; however, estimates from the CRNI in 2015 suggest that their members diverted 39,000t of waste from landfill in 2015 (24,000t of which was direct reuse) and that such organisations employ over 690 staff in their operations.

3 Reuse and the Circular Economy

Reuse plays a significant role in the circular economy, the new mainstream sustainability concept that aims to keep the added value in products for as long as possible and which strives to eradicate waste. This chapter reviews the concept of the circular economy and the policies and regulations relevant to it.

3.1 An Overview of the Circular Economy Concept

In a circular economy, growth is decoupled from the use of scarce resources through production models based on longevity, renewability, reuse, repair, upgrade and refurbishment.

Figure 3.1 shows potential feedback loops in which materials (biological on the left and technological on the right) have the potential to benefit our economy multiple times (e.g. through maintenance and reuse). This more sustainable model is in contrast with the current status quo in which goods have a limited lifespan under the linear economy model of take–make–use–dispose.

The linear economy model focuses more on producing goods for consumers with limited consideration of finite resources. When goods are produced in this manner, raw materials have a limited lifespan, after which the goods are treated by waste processes or disposed of in landfills. The circular economy model focuses on making the best use of raw materials through eco-design, waste prevention and the reuse and recycling of goods. When goods are produced in this manner, raw materials have an extended lifespan with multiple uses and less material ends up in landfills. Using a washing machine as an example, a consumer purchases a washing machine that is produced using sustainable production methods, uses the washing machine sustainably, repairing it if necessary, and donates it to a charity or reuse organisation when they no longer want it. Alternatively, washing machines might be shared across a number of households or an organisation may lease/rent and maintain washing machines and make them available to multiple users (Ellen MacArthur Foundation, 2015b).

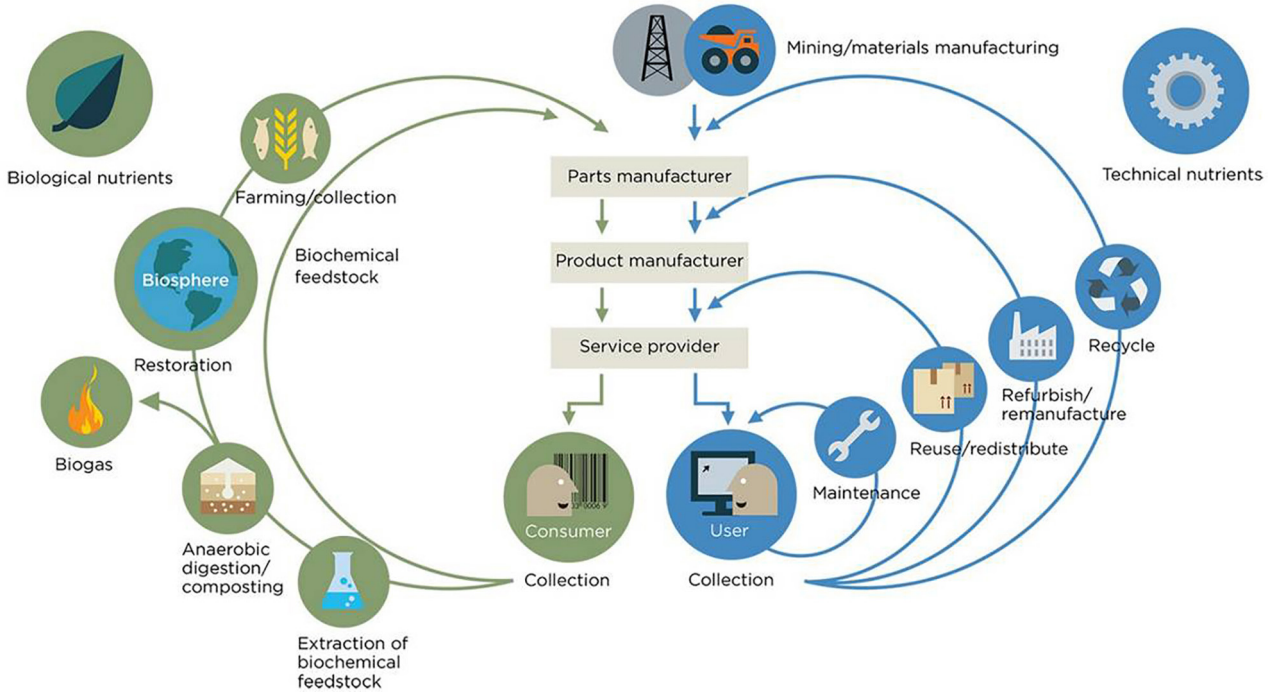

Figure 3.1. Circular economy model to maximise use of biological and technological nutrients. Reproduced from Ellen MacArthur Foundation (2015a) with permission (http://ellenmacarthurfoundation.org).

Bringing the vision of a circular economy to reality can be facilitated through improved reuse practices, as illustrated in Figure 3.2. Key benefits to adopting the circular economy include improved use of existing resources and the corresponding reduced need for new production. These benefits bring about an extended lifespan for goods through eco-design, waste prevention and recycling. Improved reuse practice increases the uptake of material reuse and supports the development of an efficient and effective circular economy.

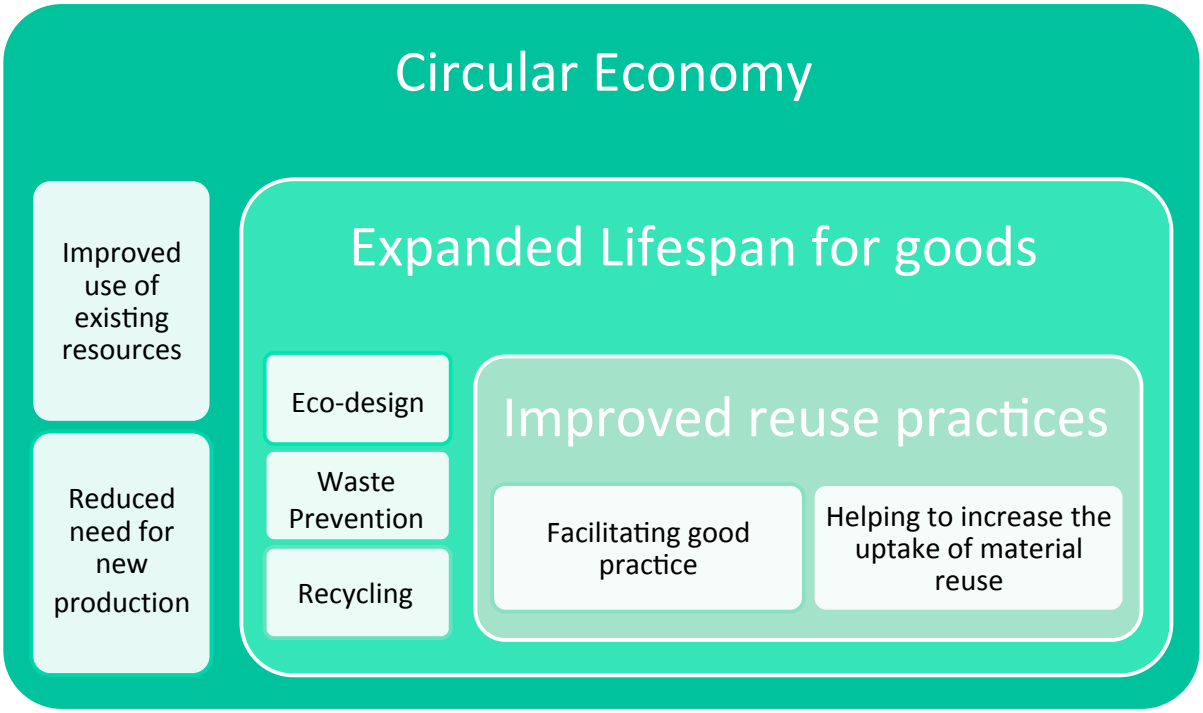

Figure 3.2. Reuse as part of the circular economy.

4 Relevant Policies and Regulations

4.1 EU Policies Relevant to Reuse

Reuse and the circular economy are an inherent part of EU policies for sustainable growth and environmental protection. Sustainable growth is prioritised in strategies and initiatives for consumption/ production and raw materials. The Europe 2020 strategy extends far beyond just reuse to a more comprehensive view of jobs, economic processes and equality: the goal is to deliver growth that is smart, sustainable and inclusive. Most relevant to reuse within that strategy, the Resource Efficiency Roadmap [COM(2011) 571 final] (EC, 2011a) sets forth the ambition to change consumption patterns and to minimise waste. In 2015, Closing the Loop – An EU Action Plan for the Circular Economy brought about a change by prolonging the lifespan of goods, increasing sustainable consumption patterns and reducing waste (EC, 2015b).

Specific initiatives also prioritise reuse and resource efficiency. The Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan (EC, 2008) promotes sustainable consumption by raising consumers' awareness with initiatives by retailers, eco-product labelling and eco-innovations. The Raw Materials Initiative, Tackling the Challenges in Commodity Markets and on Raw Materials [COM(2011) 25 final] (EC, 2011b) identified resource efficiency, recycling and reuse as key elements to delivering on raw material continuity ambitions for the EU.

EU environmental policies, such as the Seventh Environmental Action Programme, advocate that "recycling and re-use should be applied more systematically across the EU". In addition, a societal transformation is needed to achieve a resource-efficient, resilient and carbon-neutral economy. This builds on the Sixth Environmental Action Programme, which prioritised waste prevention and recycling, as well as sustainable use of natural resources.

4.2 Irish Policies Relevant to Reuse

The Irish government supports the EU circular economy package (DECLG, 2015). While many Irish policies, such as A Resource Opportunity, are framed under the waste management paradigm as will be discussed in section 4.5, the government is also moving forward on sustainability and improved resource management in non-waste-related policy. For example, both Our Sustainable Future – A Framework for Sustainable Development in Ireland (DECLG, 2012a) and Green Tenders: An Action Plan on Green Public Procurement (DECLG, 2012b) have prioritised these issues. Our Sustainable Future identifies principles for sustainability, including the efficient use of resources and ecological integrity, and highlights that prices should reflect the real costs to society of production and consumption activities and suggests that polluters should pay for the damage they cause to human health and the environment. A sustainable development indicator has been set in this regard to facilitate measuring progress. Green Tenders outlines Ireland's national policy on green public procurement and, by incorporating sustainability criteria into procurement, the government is taking specific actions to improve Ireland's performance on sustainability and waste management issues. The Action Plan for Jobs (DJEI, 2014) also supports the reuse sector (which incorporates preparing for reuse and upcycling) in Ireland. This plan implements a direct action calling for "job creation through the greater use of waste as a resource". This specific action is part of the transition towards a greener, healthier and more sustainable economy and is also reflected in the Department of Jobs, Enterprise and Innovation's statement on growth and employment in the green economy (DJEI, 2012), "Delivering Our Green Potential", which notes the need to develop new products and services and to find new ways to reduce inputs, minimise waste and improve production processes.

4.3 Reuse as Part of the Waste Management Hierarchy

As illustrated in Figure 4.1, reuse is part of the waste hierarchy in two ways: first, prevention, whereby measures are taken before an item has become waste (defined as "reuse") and, second, where waste materials are prepared for reuse (defined as

Figure 4.1. Waste management hierarchy. Reproduced from the Waste Framework Directive (EC, 2016).

"preparation for reuse"). In the first case, waste is prevented through reuse. In the second case, existing waste is removed from the waste stream and prepared for reuse. Under the Waste Framework Directive (2008/98/EC) (EU, 2008) and related EU guidance, reuse is the repeated use of materials when a "person takes over a material, e.g. piece of clothing, directly from the current owner with the intention of reusing (even if some repairing is necessary) for the same purpose" (EC, 2012).

Examples of reuse include three different scenarios: (1) continued use by the original owner, (2) direct transfer from the original owner to a new owner, or (3) reuse through intermediate organisations. People who own materials can extend the lifespan of items by having them repaired, serviced, upgraded or overhauled. People can also extend the lifespan of items by direct transfer to another person for continued use. For example, someone can give an item to a friend or sell it to someone else through a car boot sale or online exchange. A third alternative for extending the lifespan of an item is where an organisation only accepts items that can be reused and makes them available to a third party. For example, reuse organisations or charity shops can be selective in the items they accept. In this case, items that are suitable for reuse can be accepted. However, items that are not suitable for reuse should be declined because they are waste and are subject to waste legislation. Another category of waste management is "preparation for reuse" activities. This is separate from reuse, as it refers to materials that have been discarded and so are considered waste. Even in these circumstances, the lifespan of many items can be extended. The item can be checked, cleaned, repaired or upcycled to add value and prepare for reuse.

4.4 EU Policies Relevant to Waste Management

The EU Waste Framework Directive (EU, 2008) establishes the waste hierarchy, which encompasses reuse, and requires Member States to promote the reuse of products and prepare for reuse activities in preference to recycling, recovery and disposal. This was transposed into Irish legislation in 2011 (S.I. No. 126 of 2011). The Waste Framework Directive defines "reuse" and "preparing for reuse" (see glossary) as "reuse" not being a waste activity, and "preparing for reuse" being a waste activity. Additional guidance on interpreting the Directive was issued by the EC in June 2012 (EC, 2012). Regarding the difference between reuse activities and preparing for reuse activities, reuse is a means of waste prevention and forms part of the waste prevention tier of the hierarchy. It is not a waste management operation. The definition of waste is important because the classification of substances as waste is the basis for the formulation of waste management policy and initiates the application of regulatory controls to protect the environment and human health.

Overall, the intention of the owner, either to transfer ownership or to discard, is the determining factor. An item is not waste when the owner is not discarding it and does not intend to discard it. For example, if a person takes over a material, e.g. a piece of clothing, directly from the current owner with the intention of reusing it for the same purpose, even if some repairing is necessary, the material is not considered waste. This applies when owners transfer items to reuse services such as reuse organisations and online exchanges. The key difference between "reuse" and "preparing for reuse" is that in the former case the material or object has not become waste, whereas in the case of "preparing for reuse", which sits on the second tier of the waste hierarchy, the material in question has been determined to be waste by the holder who intends to or is required to discard it (EC, 2012). Under the above definitions, *if products or components are being transferred for reuse, it is not a waste activity and thus is not subject to waste legislative requirements*.

Another area of interest addressed in Article 6 of the Waste Framework Directive is "end-of-waste", which establishes criteria under which materials can qualify for end-of-waste status. The Directive enables certain specified waste to cease being waste when it has undergone a recovery or recycling operation, and complies with specific criteria developed in accordance with the following conditions:

- The substance or object is commonly used for specific purposes.
- A market or demand exists for such a substance or object.
- The substance or object fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products.
- The use of the substance or object will not lead to overall adverse environmental or human health impacts.

End-of-waste criteria are not directly relevant to this project and are included here for reference only.

The European Commission (EC) will address the wider issue of the chemical/waste/products legislation interface and the implementation of the Action Plan on the Circular Economy as set out in Annex I, p. 3 (EC, 2015b):

> Analysis and policy options to address the interface between chemicals, products and waste legislation, including how to reduce the presence and improve the tracking of chemicals of concern in products.

4.5 Irish Policies Relevant to Waste Management

The national strategy for waste prevention (EPA, 2014) supports reuse enterprises to support sustainable growth and employment in the green economy. This policy is mirrored within the underlying strategy of the regional waste plans. The Irish government is implementing the Europe 2020 strategy by supporting reuse organisations with funding, inclusion in national committees and raising awareness through the media. For example, the National Waste Prevention Programme funds networking activities and reuse projects. The reuse community representation on national/regional committees, such as the National Waste Prevention Committee, and media activities, such as the Eco-Eye "Rethinking Waste" episode (EPA, 2015), highlight efforts made to raise awareness relating to reuse.

Irish resource management policies address reuse within their specific policies for waste prevention, sustainable development and green public procurement. The government's policy A Resource Opportunity – Waste Management Policy in Ireland (DECLG, 2012c), published in 2012,[1] prioritised prevention and minimisation, highlighting how waste can be reduced through better design, smart green purchasing and use of locally produced goods to boost jobs and reduce transport impact. The policy laid the groundwork for the current regional plans and for future waste planning in Ireland (DECLG, 2012c). In May 2015, regional waste management plans were launched in Ireland to the three newly

1 Policies that preceded and contributed to the development of the current waste management policy include: Waste Management: Changing our Ways, 1998; Preventing and Recycling Waste: Delivering Change, 2002; Taking Stock and Moving Forward, 2004; and National Strategy on Biodegradable Waste Management, 2006.

aggregated regions: the Eastern Midlands Region, the Southern Region and the Connacht–Ulster Region. The new waste plans place a central focus on the waste hierarchy, with reuse and repair prioritised as a core objective for the authorities during the lifetime of the waste plans, which will run until 2020. These waste management plans provide a plan for local authorities to deliver the goals and objectives within their areas. At the local level, waste management offices, local authority environmental awareness officers and local enterprise officers will help facilitate effective waste management. Reuse and resource exchange organisations are essential to achieving the reuse targets set in the waste management plans, such as the policy adopted by each region to establish reuse, repair, preparing for reuse activities, and networks to recirculate and extend the lifespan of items. The objective of promoting behavioural change and extending waste prevention activities through information campaigns, targeted training, local capacity building, and working with households, communities, schools, businesses and other public institutions can also be facilitated by working closely with the reuse sector.

It is possible that the ambition to eliminate landfilling of municipal waste can be realised through effective reuse and diversion of materials from the waste stream. The National Waste Prevention Programme has been advancing these opportunities through all sectors including business, home/community, public sector and agriculture. The CRNI has also been instrumental in raising awareness through innovative campaigns, such as a smartphone app, a pop-up shop, revival roadshows and increasing co-operation among reuse organisations (EPA, 2015).

5 Existing Protocols and Guidance for Reuse

This guide presents protocols to help determine if materials are suitable for reuse and what regulations may apply. Best practice reuse procedures for the reuse sector are also presented along with templates/ tools to assist in facilitating the procedures. The guide focuses on post-consumer materials in the main part, but also on post-manufacturing materials. This chapter provides clarity with respect to the current status of reuse protocols.

5.1 National Protocols and Guidance

At present, agreed national protocols for reuse do not exist. To date in Ireland, the development of protocols and guidance for reuse has been facilitated through informal information exchange in reuse, business and industry networks and through policy, research and legislative documents. CRNI, for example, offers information about the location and operations of its members and has developed a mobile app "ReUseIt!" to help consumers and manufacturers identify local operators; it also provides some video instruction on how to reuse at home. The Irish Charity Shops Association has developed a code of charity retailing providing good practice and general requirements with respect to shop operations, collections, sustainability and corporate responsibility. The Environmental Protection Agency's (EPA) Green Business programme is a free and confidential resource efficiency service for all types of small and medium-sized enterprises (SMEs) in Ireland and provides valuable assessments and assistance to organisations wishing to reduce their water, waste and energy bills. Useful reports, guidance and case studies are also provided. Information for Irish consumers and manufacturers is also provided through online services, links to reuse organisations and general information about personal reuse of items. For example, FreeTrade Ireland provides links to the CRNI. Similarly, An Taisce's "Green Home" web page offers links to reuse organisations along with some general information to reduce waste. While no specific protocols are in place to determine if the items are suitable for reuse or to provide guidance on reuse operations, the information provides a useful starting point and information service for consumers.

5.2 EU and International Protocols and Guidance

Some countries, such as the Nordic countries and the UK, have developed advanced reuse protocols that address traceability, transparency and documentation of material flows (Palm *et al*., 2014). However, the majority of reuse protocols provide guidance without mandatory reporting requirements. France, however, has introduced mandatory reporting requirements (RREUSE, 2013) relating to textile and furniture reuse and recycling. This area is very topical at present, given the interest in developing the circular economy. A review of EU and international reuse protocols was carried out in order to inform the development of this framework and associated protocols and is available within the final research report "Developing a reuse framework for Ireland*"* (2014-RE-DS 4).

6 Reuse Stakeholders and Sector Analysis

Everyone has a role to play in reusing goods and reducing the materials sent to landfills (see Figure 6.1). People can act individually (as donors or receivers) and also as part of larger organisations (e.g. businesses, schools and government organisations).

The reuse process generally utilises materials from post-consumer or post-manufacturing activities. Post-consumer materials are those sourced from individuals and organisational donors comprising the general public, schools, businesses, social enterprises and government organisations, all of which present materials for reuse. They participate in reuse via online resource exchanges and interaction with civic amenity sites, charities and reuse organisations.

Post-manufacturing materials are materials sourced from, or made available by, businesses. They are also made available for reuse via online resource exchanges or direct exchange to charities and reuse organisations. Within the scope of this document, receiving organisations are those entities that receive donated goods for reuse from the public and other organisations. They include civic amenity sites, online resource exchange, reuse organisations and charities.

This higher level guidance document is intended as a guide for charities and reuse organisations in all their relevant operations. Guidance provided is also deemed relevant to civic amenity sites, specifically to those receiving and processing donated materials for reuse. The guidance does not extend to covering their other recycling services and operations.

A number of key stakeholders were identified as critical to the development and implementation of this reuse framework and good practice guide. They are highlighted in Figure 6.2.

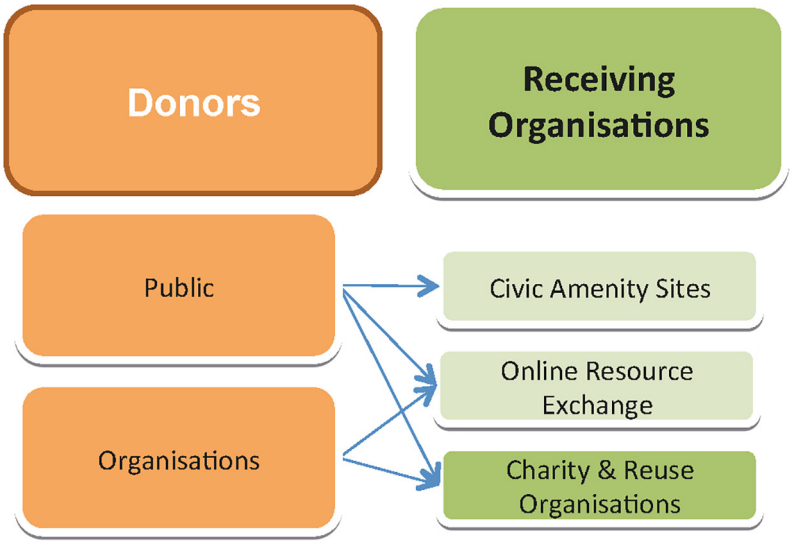

Figure 6.1. Schematic of donor and receiving organisations.

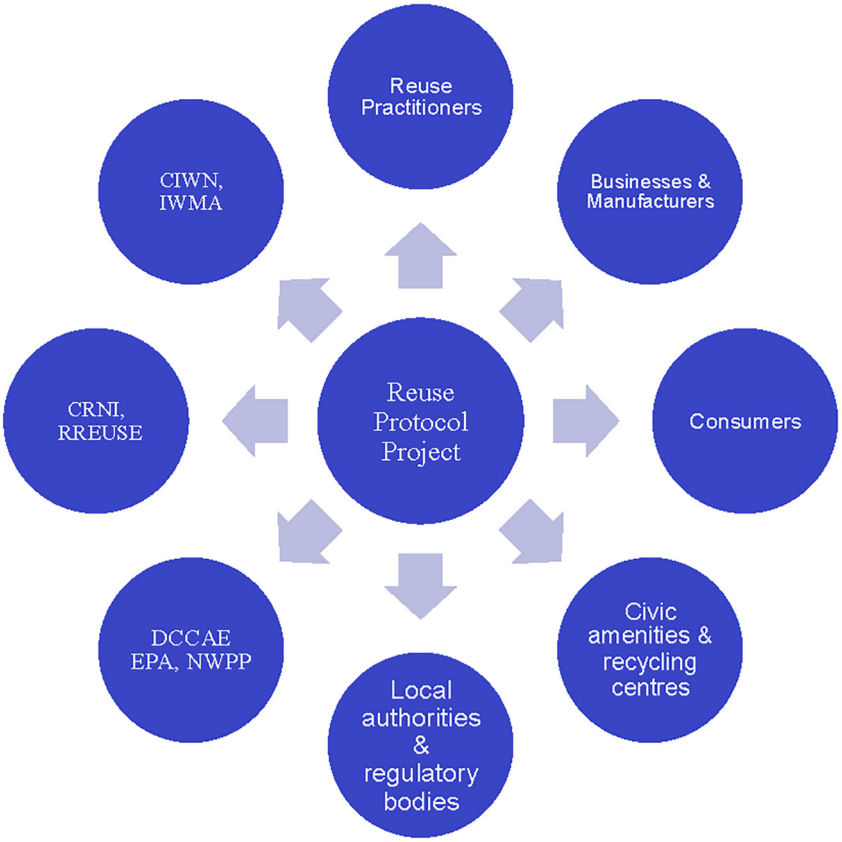

Figure 6.2. Material reuse framework – key stakeholders. CIWM, Chartered Institution of Wastes Management; IWMA, Irish Waste Management Association; NWPP, National Waste Prevention Programme.

7 Benefits of Reuse

The key benefits associated with reuse relate to the environment, society and the economy. Resource efficiency and reuse reduces the environmental impacts related to waste production and manufacturing and transport emissions, economic impacts through inputs to the local economy and provision of jobs with reuse organisations, and social impacts through job creation and access to locally produced items available as an alternative to imported goods.

7.1 Environmental Benefits

Reusing goods helps to reduce the demands for the earth's resources and reduces pollution associated with material extraction, processing and manufacturing. When items are reused, pollution is reduced in two ways: fewer items are produced and fewer items decay as they are maintained. When items are not reused, new items are required. Producing new items uses energy, water and chemicals in the manufacturing process, which results in emissions (chemicals and carbon dioxide, a greenhouse gas) (WRAP, 2011a). The energy that was originally used to manufacture an item can be preserved through continued use/reuse of the item (European Week for Waste Reduction, 2016). O'Connell and Fitzpatrick (2013) noted a reduced need for energy and water from processing, as well as reduced demands for precious metals and minerals when WEEE items were reused (O'Connell and Fitzpatrick, 2013). Manufacturing and production also result in increased transport emissions, both in sourcing new materials and in delivering newly produced goods. These transport emissions can be greatly reduced when existing materials are reused locally. In addition to the pollution associated with new production, the creation of waste materials may result in environmental pollution through treatment and disposal methods. Landfills have finite storage capacity and can negatively affect the surrounding environment through pollution of the air, water and soil.

7.2 Economic Benefits

Reusing materials offers economic benefits related to reduced costs and increased strength of the economy. The reduced costs are applicable to producers, consumers and government programmes. For producers, the costs of reusing materials are, for the most part, less than the costs of producing new goods. When producing new goods, the producer must purchase virgin materials to create the new goods, as well as pay for energy, water and labour for the production process. Costs are incurred too from disposing of any waste materials from the production process. On the other hand, reused materials are sourced from donations at no cost, have limited processing costs and waste management costs are minimised or avoided entirely. Consumers can purchase reused goods at a reduced cost and donate/sell old items, thereby avoiding waste disposal costs (WRAP, 2011a). Government programmes have reduced costs for social programmes through job creation and training (European Week for Waste Reduction, 2016).

The economy is strengthened through increased competitiveness, job creation and a reduced need for imported goods. Reusing materials offers opportunities for increased competitiveness through innovation and the potential for replication of new ideas and practices, new markets and new businesses based on green principles (DEFRA, 2009). Reuse leads to associated job creation, as it is a labour-intensive process (O'Connell and Fitzpatrick, 2013). This facilitates economic development in disadvantaged areas (Furniture Re-Use Network, 2006). All these benefits will help Irish businesses offer an alternative to importing new goods from other countries, which can help improve the Irish trade balance (EEB, 2015).

7.3 Social Benefits

Social benefits of reuse operations can include poverty reduction, improved social cohesion and community development. Poverty is reduced through job creation, skills training and the availability of affordable goods. Jobs and skills training are provided by many reuse organisations and include areas such as business practices and specialised skills such as carpentry, marketing, electronics and computer expertise, and dressmaking (EEB, 2015). Affordable goods can be

made available by reusing materials that can offer low-income households opportunities to meet their needs without incurring debts or making do without essential items (Furniture Re-Use Network, 2006). Improved social cohesion results when disadvantaged people re-entering the labour market become more engaged with the community and have increased self-esteem and improved well-being. As reuse organisations tend to source materials and make goods available locally, this is an opportunity for community engagement, regeneration and enhancement of civic pride.

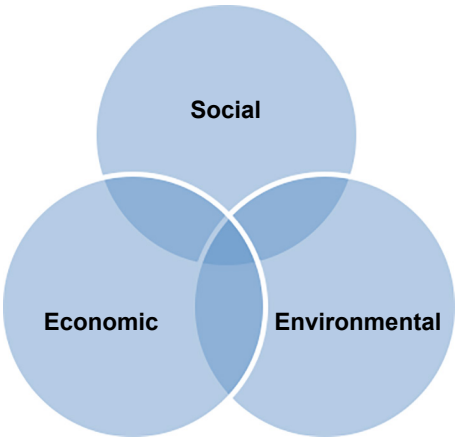

Figure 7.1. Sustainability factors

8 Barriers to Reuse and Opportunities Presented

The most commonly identified barriers to reuse include access to useable materials and storage, regulatory issues, operating costs, labour intensity, skill requirements and public perception. These are discussed below.

8.1 Access to Useable Materials and Storage

Reuse organisations face barriers related to the materials available, both in terms of quality of goods on the market and in terms of donated materials. Many goods on the market are lower quality goods with poor product design that are difficult to reuse (Pookulangara and Shephard, 2013). This market factor is driven by the demand for lower prices and a "disposable attitude" on the part of the public (Palm *et al*., 2014; Len, 2015). While this has a positive impact related to the public uptake of reusable goods and a willingness to purchase second-hand goods (76% for books, CDs, DVDs and video games; 59% for furniture; and 32% for textiles), many believe that second-hand goods are inferior (43% of respondents) (EC, 2014).

The materials available for reuse organisations are also limited by donor choices. Research has shown that people are less likely to donate materials when they have "concerns about the potential for theft or about the state of charity bins" (Lane *et al*., 2009). In a 2014 survey carried out by The Wheel, more than 60% of charities operating in Ireland surveyed reported often "detrimental" falls in donations following scandals relating to the governance of major charities operating in the state (Hillard, 2014). These findings are cause for concern for reuse organisations that depend on a sufficient flow of materials to make reuse worthwhile. This relates to issues about public perception, as described further below in section 8.4, which can be addressed though public awareness.

While many organisations work with recycling centres to gain access to reuseable materials, these centres are increasingly operated by third-party contractors, which causes difficulties with respect to access to materials and clarity of ownership. If material reuse is to become a mainstream activity, the need for policy drivers at the regional level is clear. Furthermore, most recycling centres have a limited amount of space dedicated to reuse storage areas and have mixed collection systems rather than material-specific storage areas, which can result in reuse items being broken or damaged. Policy instruments that provide a clear mandate for reuse could help place an emphasis on improved access to materials.

Many reuse organisations also face barriers related to limited premises and storage space for materials both at recycling centres/civic amenity sites and within their organisations. This relates, in part, to a lack of regulations governing how potential reuse materials are managed at collection points. An alternative approach used in a Lancaster reuse organisation used a vehicle with compartmentalised boxes to protect the different types of materials collected (WRAP, n.d). Similarly, reuse organisations require sufficient space to store donations as they are received and await purchase by the public. The rx3 (rethink recycle remake) All Island Bulky Waste Reuse Best Practice Management Feasibility Study, carried out in 2013, addresses challenges faced by reuse organisations and recycling centres/civic amenity sites (rx3, 2013).

8.2 Regulatory Challenges and Legislative Requirements

Regulatory challenges affect reuse organisations in terms of licensing requirements, health and safety standards and insurance. There is a lack of knowledge among the reuse community with respect to the interpretation and application of waste legislation and the immature nature of the resource paradigm, which results in many organisations being unsure of their specific requirements. Furthermore, while reuse organisations working with reused materials are exempt from waste classification, many of the processes result in waste production that needs to be addressed as a waste process.

8.3 Operating Costs and Skill Requirements

Reuse organisations face barriers in terms of the limited funds available to cover operating costs. While significant and recognised benefits are realised through community reuse organisations on an environmental and social level, most reuse organisations do not receive payment for their work in waste prevention and many do not have any income for training and employment services. As much of the work is labour intensive, the need for skills training demands a significant time investment, which is often not realised in terms of return through current business models. The need to capitalise on externalities is evident and this offers opportunities for new models to be developed. With limited resources available, reuse organisations are often reliant on volunteers and community employment schemes to fulfil all staffing requirements. Many participants at this level have limited experience or expertise working with the materials being reused, which places additional pressures on business operators. In addition, workers are often on schemes that end once they are trained, which presents challenges for business continuity (CRNI, 6 October 2015, personal communication).

8.4 Public Perception

Public perception presents a barrier to reuse organisations because of how reused products are perceived. Members of the public often characterise second-hand or reused items as being of a lower quality, which may limit their uptake of reused materials and their willingness to pay the prices charged for upcycled and reused items. Reuse organisations and local authorities have identified a limited public awareness (among manufacturers, designers and consumers) (RSA, 2015) of “what reuse is” and related benefits to alleviate the externalities of social and environmental costs (London CRN, ND). Given that, across Europe, 72% of people will buy second-hand goods and 55% of people will buy second-hand furniture (EC, 2014), the potential of the reuse sector to access this market and target the sale of higher value reconditioned, redesigned and upcycled products is significant.

There is potential to build awareness of reuse within the general public through the rebranding of items as high quality, and building relationships among different organisations and groups. Reuse organisations can be contrasted with low-cost retailers by highlighting the quality and social benefits associated with their goods (Dururu *et al*., 2015). For example, ethical fashion has been growing in popularity as an alternative to “throw-away” fashion. This transition is driven by consumer demand to protect the environment and the people who produce the clothes (Pookulangara and Shephard, 2013).

Improved relationships between different groups can help facilitate increased exchange of goods and informal knowledge transfer. In Ireland there is limited networking among reuse organisations and related enterprises, and with central and local government (Davies and Mullin, 2012). These relationships can be fostered through awareness raising and communication through networks, such as CRNI. Raising awareness increases public uptake of reuse opportunities and can include face-to-face events, such as the “Textile Thursday” evenings in Amsterdam. These networking events showcase products made from textile waste and “act as an informal playground for industry and entrepreneurs to connect, learn and join forces in working towards a circular textiles industry” (Circular Economy, 2015).

9 Material Reuse Protocols

People have long reused items by passing them along in families or to friends and this can be extended through other outlets. Prolonging the lifespan of items by offering them for reuse is an effective way to manage our resources in a sustainable manner. Resource management is a key component of the circular economy model and the waste management framework, as discussed below.

Material reuse protocols illustrate good practice for reuse organisations, which can be applied across a variety of material streams. The general provisions of the protocols include a framework for reuse practice with recommended procedures, decision trees for determining whether a material is suitable for reuse, and example templates and paper tools. They have been designed to help reuse organisations and charities to improve operations, increase resource efficiency and better serve the community.

9.1 Reuse Decision Trees for Donors

These decision trees will help you determine whether or not your material or item is suitable for reuse and what type of regulations may apply. Two different decision trees are presented depending on the type of material you have. The first decision tree relates to the types of materials that are more common to manufacturers and the second to other types of businesses and consumers.

Figure 9.1 is for use by manufacturers who have items that are not suitable for sale as part of their main business (e.g. products, by-products and items requiring preparation for reuse). It gives an overview of the different types of material categories and applicable regulations.

Businesses and consumers may also have items that are no longer useful to them (e.g. when newer goods are purchased, when preference changes, or when life circumstances change). When people purchase new technology and new fashion, their current possessions can be passed along to another person who can use the item. Similarly, preferences can change where someone no longer finds an item to be useful or desirable to them – again these items can be transferred to someone else. Likewise, when life circumstances change, e.g. moving house, you can pass items to another party, which benefits you by creating more space in your home, improves someone else's life and also benefits the environment.

Figure 9.2 is for use by business owners and consumers who have items that are no longer useful

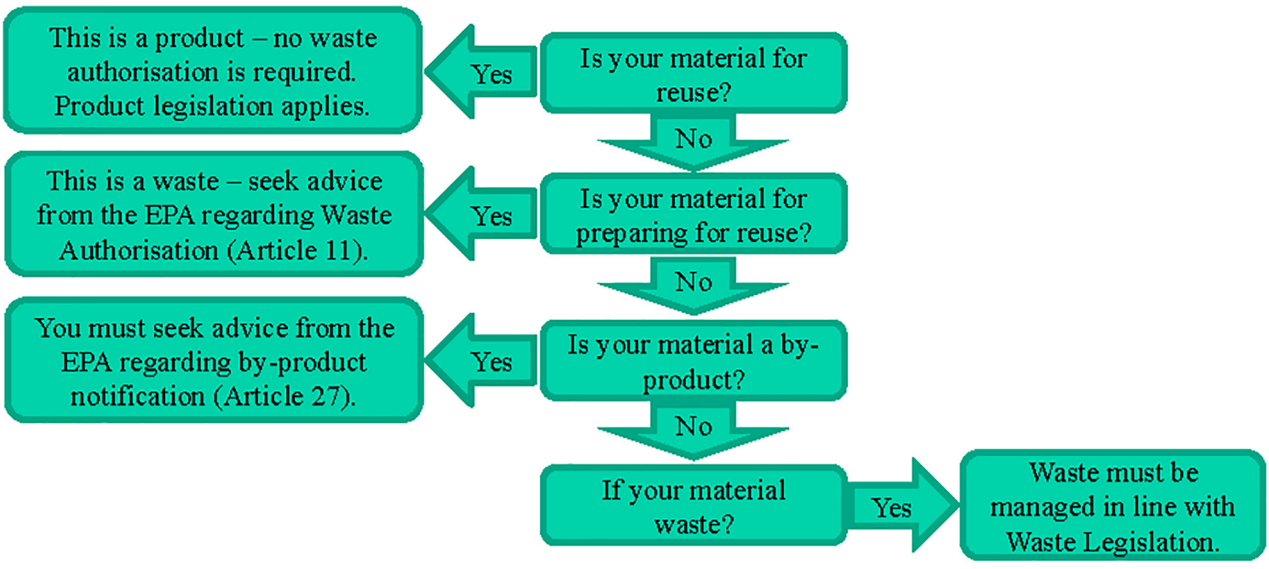

Figure 9.1. High-level reuse decision tree for manufacturers.

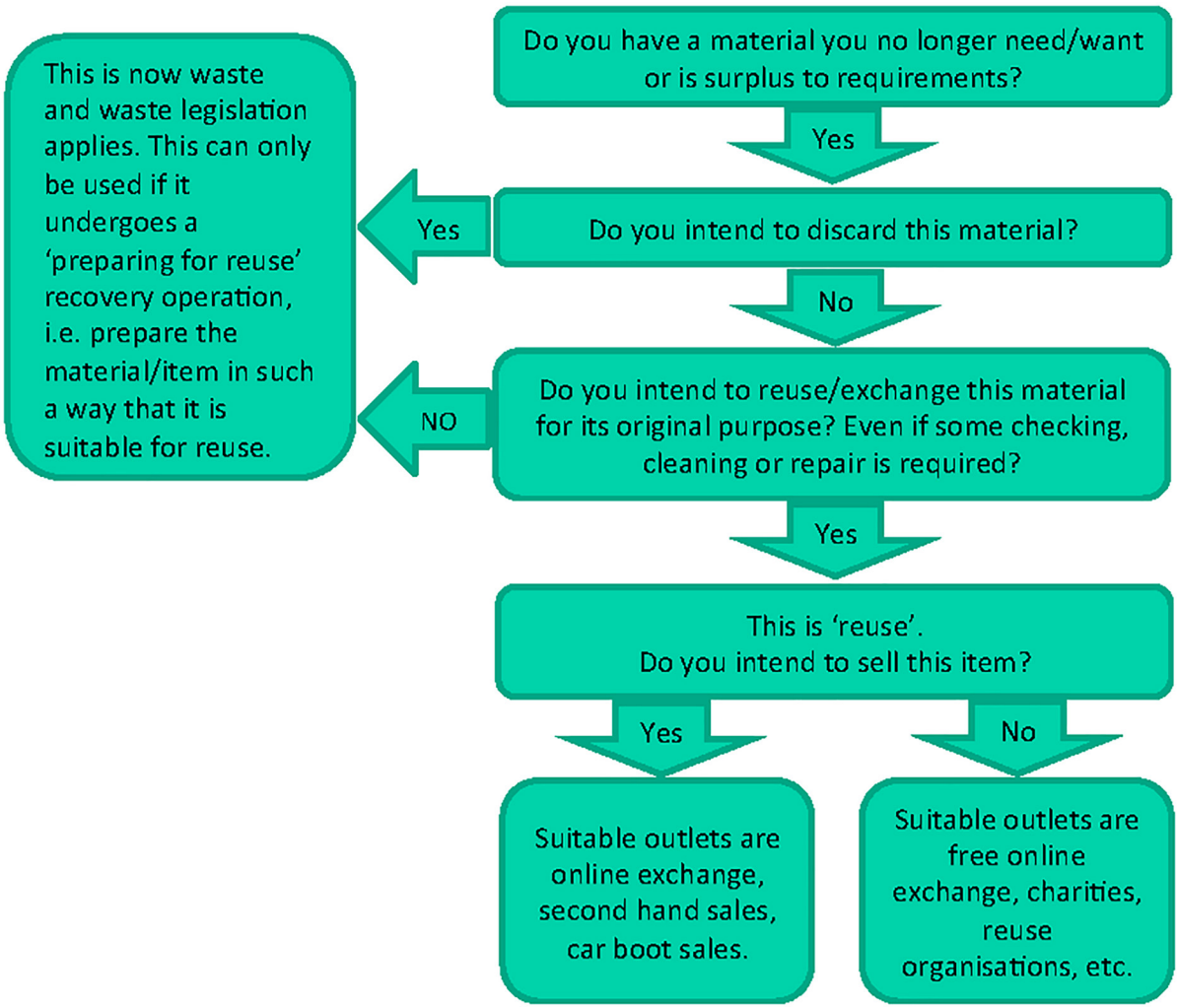

Figure 9.2. Reuse decision tree for businesses and consumers.

to them. This decision tree gives an overview of the considerations when you no longer want an item and gives information about places you can use to make that item available to others. For example, if you have an item that you no longer want or need, you can make this item available for reuse through suitable outlets, as shown in Figure 9.2.

9.2 Reuse Framework for Reuse Organisations

The framework for good reuse practice, as illustrated in Figure 9.3, includes a step-by-step guide to getting things done and highlights the things to be considered through all stages of reuse practice. It is intended for those just starting out and those who have an established business. People who are starting new reuse organisations can use the framework to shape their organisation, while existing organisations, many of which already address framework considerations, can use the framework to improve operations through minor adjustments. You can continue to grow and improve your business by including these things on an ongoing basis.

9.2.1 Getting ready

Once you have decided to set up a reuse organisation, some preparatory considerations and planning will help get things off to the right start.

Accessing materials

As shown in Figure 9.4, materials can be sourced through various onsite and offsite donations (e.g. civic amenity sites if made available by local authorities and/or operating contractors, local businesses, resource exchange websites, markets, car boot sales,

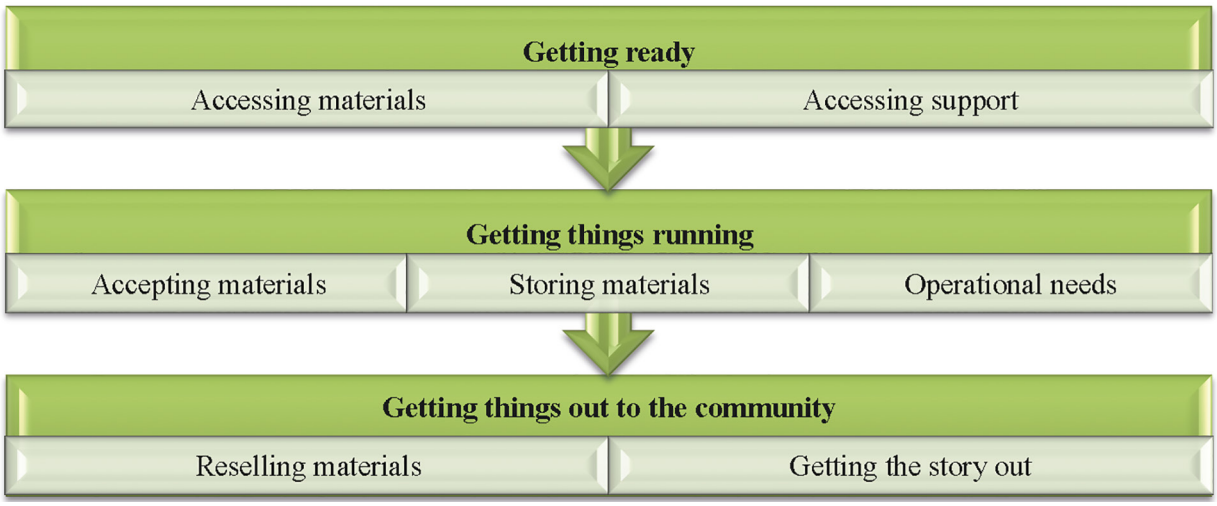

Figure 9.3. Framework for reuse organisations.

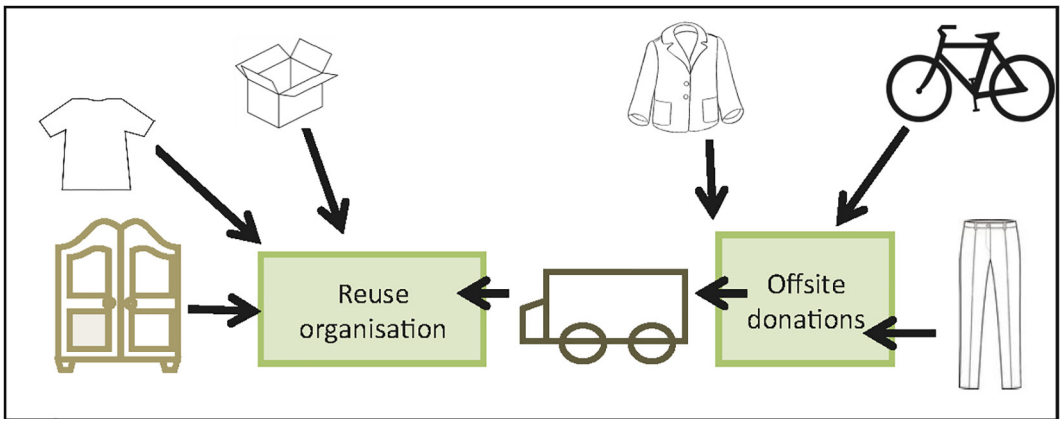

Figure 9.4. Donations for reuse.

charity shops, friends and families). Individual donors can determine whether or not their item is suitable for reuse by using the decision trees outlined in Figures 9.1 and 9.2.

Reuse organisations can ensure that they have adequate materials available for resale by establishing relationships with as many sources as possible. You should set up standard operating procedures (SOPs) to cover all operational aspects associated with this action, as discussed in Appendix 1. This could include detailed acceptance criteria, materials handling procedures, collection of the materials, van use, etc. SOPs should be evaluated periodically based on operational practice to assess their efficiency and ensure compliance throughout the organisation. Some considerations with respect to donations follow.

Onsite donations

In some cases, business owners, friends, family members and local people will bring materials to your organisation. In these cases, there is no additional need for transport. Onsite donations may present challenges because materials presented or left as donations may not be suitable for reuse. It is important that your acceptance criteria are clear and there is no ambiguity. Customer service training should be provided to ensure that all staff are aware of the policy and can handle difficult queries in person, on the phone and by email. The criteria should be published on promotional materials, online platforms and social media to avoid disappointed customers. Onsite donation is a useful and cost-effective way to accept materials where you have sufficient space and

scope to deal with unknown quantities. When starting off, word of mouth is often the best way to progress until you can identify the demand for services within your area without exceeding your storage capacity. All potential negative effects relating to material donations can be reduced through established policies and operating procedures.

Offsite donations

Donations made available offsite (e.g. civic amenity sites, markets, car boot sales, businesses, etc.) may provide access to greater volume of materials due to higher levels of footfall. Established relationships with civic amenity sites and large-scale businesses can help ensure an ongoing donation base. These relationships should be formalised with written agreements, such as a contract of service, memos of understanding or service level agreements (see Appendix 1 for a template). The agreement should cover issues such as access, health and safety, insurance, material ownership, material specification and transfer. The agreements should be reviewed periodically by both parties to ensure their continued relevance.

Offsite donations require consideration of storage and transport requirements. The items need to be stored properly prior to collection to protect them from weather damage and to avoid contamination from waste streams. Your organisation will need to transport any offsite donations to your place of business; this will require measures to ensure that materials are not damaged in transit.

In all cases, it is important to determine whether or not an item is suitable for reuse before accepting it. If the item is suitable for reuse, then your organisation can accept it. It is unwise to accept materials that you cannot reuse from an operational point of view as, ultimately, you will have to dispose of any unwanted materials, which will add to your business costs. In addition, if the item is *not* suitable for reuse, then the item is waste – this means that waste regulations and considerations may apply (see Chapter 4 for further information regarding waste regulations).

Accessing support

From time to time all organisations need help with their businesses, in terms of advice, support or development. Reuse organisations have access to support through government agencies, formal networks and informal contacts with other social enterprises. Government agencies include local enterprise offices, local development companies and county councils.

- Local enterprise offices are located throughout Ireland and offer over 80 government supports for start-ups and small businesses including grants, advice and mentoring programmes (http://www.localenterprise.ie/).
- Local development companies [e.g. local area partnerships, LEADER partnerships (Liaison Entre Actions de Développement de l'Économie Rurale i.e. Liaison among Actors in Rural Economic Development), integrated development companies and local development companies] work with communities to develop local solutions to local issues (http://www.ildn.ie).
- County councils have staff officers to help businesses and social enterprises (e.g. environmental awareness officers and green enterprise officers).

Formal networks include groups of similar types of people working together to achieve goals individually and collectively. Reuse networks provide information about how to establish, run and expand social enterprises, as well as offering opportunities to learn from other people with more experience.

- In Ireland, the CRNI is an established network that is open to all reuse organisations and includes some organisations that offer materials for reuse (http://www.crni.ie/).
- In Europe, reuse networks [e.g. RREUSE (http://www.rreuse.org/) and Circular Europe Network (www.circular-europe-network.eu)] advise members on reuse practices and have some input into European policies.
- In the UK, reuse networks [e.g. Community Resources Network Scotland (http://crns.org.uk/), London Re-Use Network (http://www.londonreuse.org/), and Furniture Reuse Network (http://frn.org.uk/)] offer members reuse and business information, and seek to advance the circular economy with members, government and the public.

There are many reuse organisations in Ireland with direct experience in maximising opportunities and overcoming challenges. A list of some useful

contacts and additional business supports for reuse organisations is included in Appendix 2.

9.2.2 Getting things running

Regardless of your business, most reuse organisations (as part of their operation) will accept materials for reuse and will have operational processes and storage requirements. Reuse organisations can make best use of opportunities by setting up procedures to improve their business potential, increasing the services they offer such as diversifying the type of materials reused and/or training provided, and raise awareness about sustainability within their local community. These procedures focus on information needed, public perceptions and keeping records.

Accepting materials

A review of good practice highlights the need for the collection of information relating to material acceptance, such as donor details, material details, dates and locations, etc. Donor information allows you to contact them if there are any questions, build your contact list for marketing and track the growth of your reuse organisation. As a minimum, the donor information receipt should include your company's details, name, address, telephone number and email (and company no., charity no., if applicable), and the donor's details, name, address, email and telephone number (and company no., charity no., if applicable). Good practice would also include a confirmation of ownership and acknowledgement that the person is donating the item for reuse without stipulating the use or final distribution of the item. Item information should include the type of item and any known information about defects or safety considerations. While this may seem onerous, simple templates can be developed that record all of the above information on one customer receipt, such as the template presented in Appendix 1, Paper tool (PT) 1. The receipt is a key consideration for the company or individual donating the materials, as it is their receipt of transfer of ownership and its existence assures them that they are donating to a professional and legitimate organisation. In the absence of a receipt system, notes should be made at the point of collection or transfer, referring to material ownership and reuse potential (see Appendix 1, PT2 and PT3 for examples).

Public perception

As a reuse organisation, you can help build positive ideas about reuse and sustainability by giving people a positive experience at their first point of contact with your business, whether they come to your place of business, you go to them or via the telephone, your website or social media. You can enhance this positive experience by offering high-quality, innovative products and good customer service based on eco-design principles. This can include when people donate materials, when you host public events and when you make materials available for reuse through retail outlets. Throughout all phases of the enterprise, your organisation can provide information about benefits to the community and the environment, both locally and globally. Record keeping provides valuable information and reuse organisations should maintain this information for each item and cumulatively for all items handled. This should include payments/donations made and received, types of materials handled and ultimate reuse. Some of the larger reuse organisations in Ireland employ supply chain management systems to manage material flows but PTs can also be used effectively.

Storing materials

Offering high-quality, innovative goods requires that they remain in good condition through their product lifecycle and have been stored properly to protect them from damage. These storage conditions apply prior to donation (while being stored by companies, civic amenity sites and previous owners) and while being stored by your organisation. You should identify other storage sites for use when a high volume of donations is received. A potential alternative might include a centralised storage facility shared with other reuse organisations. If there is insufficient storage, your organisation should provide people with a list of alternative reuse organisations that may have capacity for the items. Organisations should work together to meet demand.

Operational needs

Reuse organisations, like all other businesses, need resources to perform their daily operations. They include staff, space, tools and transport.

- Staff for reuse organisations typically include volunteers, paid employees participants on labour activation programmes, etc. Human resource (HR) management is a significant aspect of any business and requires specialised skills to manage it well. All people working in the organisation should be fully trained in organisational matters and skills required for their specific role, have a clear understanding of their role and responsibilities, and receive adequate supervision with regular meetings. There are lots of financial and legal governance considerations related to people management. It is important to ensure that you have the right structure in place to manage HR effectively and have adequate support where required.
- Physical space is important for all reuse organisations that are not operating online, to work with the materials and display them for resale or exchange. The retail areas can include displays that will help the customer see the materials without obstructions, much as in any retail shop. Reuse organisations also need space for staff members (for breaks and storing personal belongings) and office space for administrative duties. It may also be helpful to have spaces for meetings with other network members and funding agencies.
- Many operations require tools and/or operate workshops and studios for their reuse activities. It is important that works spaces and tools are safe and appropriate to the task. Health and safety regulations will apply and robust policies and maintenance schedules can reduce the risk of accidents.
- You can often increase your access to materials and expand your customer/client base if you have transport, e.g. a van. This will give options to accept offsite donations and deliver items to customers. If the resources are not available at first, you might share a van with other enterprises or rent a van for occasional use. This investment has the costs associated with buying the vehicle, storing it, insurance, fuel, maintenance and training for staff members.

9.2.3 Getting things out to the community

Your organisation can offer good services and products to the community – and it is important to get the story out so that people will know about your organisation, avail themselves of your services and share the information with their friends and family.

Reselling materials

You can offer materials at physical permanent and temporary locations and through online outlets. You should evaluate these outlets in terms of suitability for your customer base and the needs of your specific organisation. You can also consider sharing spaces with other reuse or commercial retailers.

- Physical locations include dedicated spaces (e.g. workshops and retail spaces), which offer a great opportunity to engage with the public on an ongoing basis, build name brand recognition and also provide a location for workshop space. Facility management can be demanding, particularly in the early stages, and should not be underestimated. The organisational and financial demands associated with a dedicated space such as rent, utilities (e.g. light, heat and communications), occupational licences/leases and insurance can be difficult. Once established however, the value of being able to build a loyal customer base and following can be realised.
- Other physical locations include special events such as pop-up shops, festivals, fairs and markets, which present an opportunity to test the market while limiting initial outlay. They provide access to higher footfall than normally experienced in “brick and mortar” shops, but, depending on the event, it may not be your target customer base. Special events can be challenging for small organisations to resource and manage as they are often one-off events. Travelling to and from events also presents an opportunity for damage to goods in transit. Working with like-minded organisations in developing temporary opportunities can reduce the resource demands within your own organisation by sharing jobs. Scaling up also helps to raise the profile of the event/project and increase footfall.
- Online outlets can include your organisation’s website, social media (e.g. Facebook), resource exchanges (e.g. www.smileexchange.ie) and online markets (e.g. www.ebay.ie and www.etsy.com/ie). These low-budget options allow access to an unlimited audience. Consideration needs to

be given to packaging and posting requirements, stock photography and commission rates.

As with all retail operators, reuse organisations need to be mindful of applicable legislation, such as that relating to product, public and employee liability, consumer rights, environmental protection and health and safety. A detailed risk analysis should be carried out in advance of selling goods. Robust financial and operational procedures should be in place to mitigate against any anticipated problems and should include a policy on handling cash and processing payments.

The need for a sales strategy that takes into account your customers' needs, target market, proposition and organisational capacity is very important and should be documented and communicated with staff. Customer service training for all staff is also advisable.

When offering materials for reuse, whether through sale of products or not, it is good practice to keep records of all transactions; as a minimum you should keep records about the item and, if possible, who purchased or received it. Receipts can also include space for advertising and raising awareness about reuse. PT1 in Appendix 1 gives an example of a receipt suitable for a reuse organisation.

Getting the story out

Improving the general practices of reuse organisations, as described above, is important to ensure your success. So is raising awareness and getting the reuse story out – this will help to increase public awareness about the importance of reuse and increase the amount of material diverted from landfills. Getting the story out is all about communications and marketing. A good communication strategy will provide a structure for the dissemination of information about your organisation and operations, will help you raise the organisation's profile and will let people know about your products and services. You can share your organisation's message through many channels, including traditional advertising in print and media and low-cost alternatives such as social media and online stores. In addition, you can get the story out by building your reputation in the community and offering good services and innovative products that offer added value to the customer. For example, you might consider offering other related goods for resale along with your other stock to increase customer traffic. If you need more information, a list of services that offer support is included in Appendix 2.

9.3 Considerations for Specific Material Streams

In addition to this guide, the material reuse framework and protocols have been applied to specific types of post-consumer goods and post-manufacturing goods to produce some sample material-specific protocols. The post-consumer goods addressed are furniture, textiles and bicycles. The post-manufacturing goods addressed are surplus food. Individual protocols have been produced for all four materials. Each material stream has specific needs for storage, different considerations for reselling the materials and some materials have special regulatory considerations. In addition, each reuse organisation will need to have knowledge and experience with the specific materials that they are offering for reuse. The material-specific protocols are available online at www.rediscoverycentre.ie.

References

Chertow, M.R., 2000. Industrial symbiosis: literature and taxonomy. *Annual Review of Energy and the Environment* 25: 313–337. Available online: http://www.annualreviews.org/doi/abs/10.1146/annurev.energy.25.1.313

Circular Economy, 2015. *Recover on Textile Thursday: From Textile Waste to Valuable Resource.* Available online: http://www.circle-economy.com/recover-on-textile-thursday-from-textile-waste-to-valuable-resource/

Davies, A. and Mullin, S., 2012. Waste and community enterprises in Ireland: co-operation, collaboration, and the formation of the Community Resource Network. In Davies, A. (ed), 2012. *Enterprising Communities: Grassroots Sustainability Innovations.* Emerald Group Publishing, Bingley, UK.

DECLG (Department for Environment, Communities and Local Government), 2012a. *Our Sustainable Future, a Framework for Sustainable Development for Ireland*. DECLG, Dublin, Ireland.

DECLG (Department for Environment, Communities and Local Government), 2012b. *Green Tenders – Action Plan on Green Public Procurement*. DECLG, Dublin, Ireland.

DECLG (Department for Environment, Communities and Local Government), 2012c. *A Resource Opportunity*. DECLG, Dublin, Ireland.

DECLG (Department for Environment, Communities and Local Government), 2015. Minister welcomes publication by the European Commission of Circular Economy Package. Available online: http://www.environ.ie/environment/waste/recycling/minister-welcomes-publication-european-commission-circular-economy

DERFA (UK Department for Environment, Food and Rural Affairs), 2009. *Benefits of Third Sector Involvement in Waste Management.* DERFA, London, UK.

DJEI (Department of Jobs, Enterprise and Innovation), 2012. *Delivering Our Green Potential*. DJEI, Dublin, Ireland.

DJEI (Department of Jobs, Enterprise and Innovation), 2014. *Action plan for jobs*. Available online: www.djei.ie (accessed September 2015).

Dururu, J., Anderson, C., Bates, M., Montasser, W. and Tudor, T., 2015. Enhancing engagement with community sector organisations working in sustainable waste management: a case study. *Waste Management & Research* 33: 284–290.

EC (European Commission), 2008. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "The Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan". COM(2008) 397 final {SEC(2008) 2110} and {SEC(2008) 2111}, Brussels.

EC (European Commission), 2011a. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "Roadmap to a Resource Efficient Europe". COM(2011) 571 final.

EC (European Commission), 2011b. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "Tackling the Challenges in Commodity Markets and on Raw Materials". COM(2011) 25 final.

EC (European Commission), 2012. Guidance on the interpretation of key provisions of Directive 2008/98/EC on waste. Available online: http://ec.europa.eu/environment/waste/framework/pdf/guidance_doc.pdf

EC (European Commission), 2014. Flash Eurobarometer [Survey] 388. Attitudes of Europeans towards waste management and resource efficiency. Available online: http://ec.europa.eu/public_opinion/flash/fl_388_sum_en.pdf

EC (European Commission), 2015a. European Semester Thematic Fiche: Resource Efficiency. Available online: http://ec.europa.eu/europe2020/pdf/themes/2015/resource_efficiency_20151126.pdf (accessed 10 June 2016).

EC (European Commission), 2015b. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "Closing the Loop – An EU Action Plan for the Circular Economy". COM (2015) 614 final.

EC (European Commission), 2016. Directive 2008/98/EC on waste (Waste Framework Directive). Available online: http://ec.europa.eu/environment/waste/framework/

EEB (European Environmental Bureau), 2015. *Walking the Circle – The 4 Guiding Pillars for a Circular Economy*. European Environmental Bureau, Brussels.

Ellen MacArthur Foundation, 2015a. Outline of a circular economy. Available online: https://www.ellenmacarthurfoundation.org/circular-economy/overview/concept (accessed May 2016).

Ellen MacArthur Foundation, 2015b. In-depth – Washing machines. Available online: https://www.ellenmacarthurfoundation.org/circular-economy/interactive-diagram/in-depth-washing-machines (accessed May 2016).

EPA (Environmental Protection Agency), 2014. *Towards a Resource Efficient Ireland: A National Strategy to 2020.* EPA, Johnstown Castle, Ireland.

EPA (Environmental Protection Agency), 2015. *National Waste Prevention Programme: Annual Report 2014.* EPA, Johnstown Castle, Ireland.

EU (European Union), 2008. Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives. OJ L 312, 22.11.2008, p. 3–30.

EU (European Union), 2012. Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE) (recast). Available online: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012L0019&from=EN

European Parliamentary Research Service, 2014. *Tackling Food Waste: The EU's Contribution to a Global Issue*. European Parliamentary Research Service, Brussels.

European Week for Waste Reduction, 2016. *Reuse – Preparing for Reuse and Reuse*. Available online: http://www.ewwr.eu/en/ideas/reuse

Furniture Re-Use Network, 2006. *Bulky Basics*. Furniture Re-Use Network, Bristol, UK.

Hilliard, M., 2014. Majority of charities report drop in donations following scandals. *The Irish Times*, 15 May 2014.

Lane, R., Holme, R. and Bicknal, J., 2009. Routes of reuse to second-hand goods in Melbourne households. *Australian Geographer* 49: 51–168.

Len, M., 2015. Kickstarting reuse in Europe. Waste Management World. Available online: https://waste-management-world.com/a/kickstarting-reuse-in-europe

London CRN (Community Recycling Network), no date. *Third Sector Reuse Capacity in London.* London. Available online: http://nlwa.gov.uk/docs/waste-recycling-guides/reuse-fullreport.pdf

O'Connell, M. and Fitzpatrick, C., 2013. *RE-Evaluate Re-use of Electrical and Electronic Equipment.* Environmental Protection Agency, Johnstown Castle, Ireland.

Palm, D., Elander, M., Watson, D., Kiørboe, N., Salmeperä, H., Dahlbo, H., Moliis, K., Lyng, K.-A., Valente, C., Gíslason, S., Tekie, H. and Rydberg, T., 2014. *Towards a Nordic Textile Commitment: Collection, Sorting, Reuse and Recycling*. Nordic Council of Ministers (Norden), Copenhagen, Denmark.

Pookulangara, S. and Shephard, A., 2013. Slow fashion movement: understanding consumer perceptions – an exploratory study. *Journal of Retailing and Consumer Services* 20: 200–206.

RREUSE (Reuse and Recycling EU Social Enterprises network), 2013. *Extended Producer Responsibility and the Role of Reuse Activities: Opportunities for a Resource Efficient, Socially Inclusive Waste Management System*. Available online: http://www.rreuse.org/wp-content/uploads/EPR_and_product_reuse.pdf (accessed 16 February 2016).

RSA (Royal Society of Arts, Great Britain), 2015. *Rearranging the Furniture. An RSA Great Recovery Design Residency in collaboration with SUEZ Recycling and Recovery UK.* RSA, London. Available online: https://www.thersa.org/globalassets/pdfs/reports/rsa_great_recovery_rearranging_the_furniture_090915.pdf

rx3 (rethink recycle remake), 2013. *All Island Bulky Waste Reuse Best Practice Management Feasibility Study*. Available online: http://www.housing.gov.ie/sites/default/files/migrated-files/en/Publications/Environment/Waste/WasteManagement/FileDownLoad%2C43297%2Cen.pdf

WRAP (Waste and Resources Action Programme), no date. *Bulky Waste Re-use Partners in Lancaster.* Available online: http://www.wrap.org.uk/sites/files/wrap/BULKY_WASTE_CS_Lancaster_3P_0.pdf

WRAP (Waste and Resources Action Programme), 2011a. *Bulky Waste Guidance: Benefits of Reusing and Recycling Bulky Waste*. Available online: http://www.wrap.org.uk/sites/files/wrap/Benefits_of_reusing_and_recycling_bulky_waste.pdf

WRAP (Waste and Resources Action Programme), 2011b. *A Methodology for Quantifying the Environmental and Economic Impacts of Reuse*. Available online: http://www.wrap.org.uk/sites/files/wrap/Final%20Reuse%20Method.pdf

Abbreviations

CRNI	Community Reuse Network of Ireland
DECLG	Department of the Environment, Communities and Local Government
EC	European Commission
EPA	Environmental Protection Agency
EU	European Union
HR	Human resources
PT	Paper tool
rx3	Rethink recycle remake
SOP	Standard operating procedure
t	Tonne
WEEE	Waste Electrical and Electronic Equipment

Glossary

Approved preparing for reuse of WEEE organisation	A preparation for reuse of electrical and electronic equipment organisation approved and registered by the national registration body for the purposes of Regulation 17(3)[2]
By-product	A substance or object, resulting from a production process, the primary aim of which is not the production of that item. A substance may be regarded as not being waste as defined in point (1) of Article 3, but as being a by-product only if the following conditions are met: • further use of the substance or object is certain; • the substance or object can be used directly without any further processing other than normal industrial practice; • the substance or object is produced as an integral part of a production process; and • further use is lawful, i.e. the substance or object fulfils all relevant product, environmental and health protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts (EU, 2008)
Creative reuse	An umbrella term for upcycling and repurposing
Electrical and electronic equipment (EEE)	Equipment that is dependent on electric currents or electromagnetic fields to function properly, and equipment for the generation, transfer and measurement of such currents and fields that is designed for use with a voltage rating not exceeding 1000 volts for alternating current and 1500 volts for direct current (EU, 2012)
Industrial symbiosis	The part of industrial ecology that engages traditionally separate industries in a collective approach to competitive advantage involving physical exchange of materials, energy, water and by-products. The keys to industrial symbiosis are collaboration and the synergistic possibilities offered by geographic proximity (Chertow, 2000)
Preparing for reuse	Checking, cleaning or repairing recovery operations by which products or components of products that have become waste are prepared for reuse without any other pre-processing
Prevention	Measures taken before a substance, material or product has become waste that reduce: • the quantity of waste, including through the reuse of products or the extension of the life span of products; • the adverse impacts of the generated waste on the environment and human health; or • the content of harmful substances in materials and products
Recovery	Any operation the principal result of which is waste serving a useful purpose by replacing other materials that would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy (EU, 2008)

Recycling	Any recovery operation by which waste materials are reprocessed into products, materials or substances, whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations (EU, 2008)
Repurposing	To reuse something for a different purpose from the one that was originally intended[3]
Resource exchange	The exchanging of resources, such as surplus raw materials, surplus finished stock, by-products, packaging, waste and unwanted items, among different parties, such as businesses or householders, in order to save money, reduce waste going to landfill and to develop new opportunities[4]
Reuse	A means of waste prevention; it is not a waste management operation. For example, if a person takes over a material, e.g. piece of clothing, directly from the current owner with the intention of reusing it (even if some repairing is necessary) for the same purpose (EU, 2012)
Social costs	The total cost of an activity to society. The social cost excludes taxes and transfers, which move money from one part of the economy to another, but do not add to or remove from the overall balance (WRAP, 2011b)
Social enterprise	A business model that puts people and community first, ahead of private or personal gain, while operating in a commercially viable and sustainable way
Social enterprises	Organisations or businesses set up to tackle social, economic or environmental issues. Driven primarily by social and/or environmental motives, they engage in trading or commercial activities to pursue these objectives and produce social and community gain. Profits or surpluses generated by the enterprise are reinvested to further their social objectives. Ownership of the enterprise is within a community, or among people with a shared interest. Social enterprises have a strong job creation focus to help local people and communities. Social enterprises are committed to social justice and social inclusion[5]
Traceability	The ability to verify and account for the history, origin, location, journey, movement or application of an item by means of documentation, records or identification, for example with food products (supply chain), etc.[6]
Waste electrical and electronic equipment (WEEE)	Electrical or electronic equipment that is defined as waste within the meaning of Article 3(1) of the Waste Framework Directive, including all components, sub-assemblies and consumables that are part of the product at the time of discarding (EU, 2012)
Upcycling	The reuse of discarded objects or materials in such a way as to create a product with a quality or value higher than that of the original[7]
Waste	Any substance or object that the holder discards, intends to discard or is required to discard (EU, 2008)

2 S.I. No. 149 of 2014, European Union (Waste Electrical and Electronic Equipment) Regulations 2014.
3 Repurpose, definition. Available online: http://www.macmillandictionary.com/dictionary/british/repurpose
4 SMILE frequently asked questions. Available online: http://www.smileexchange.ie/faq/
5 About Social Enterprise. Available online: http://www.socialenterprise.ie/default.aspx?m=23&mi=215
6 Cambridge Online Dictionary http://dictionary.cambridge.org/
7 Upcycle, definition. Available online: http://www.oxforddictionaries.com/definition/english/upcycle

Appendix 1 Recommended Templates and Paper Tools

The following templates are a starting point for establishing good practice. Each reuse organisation will have specific needs and, as such, they can develop procedures and tools specific to their particular practices. In addition to these examples, you can expand your good practice by consulting with regulatory authorities, accountants and solicitors as needed. The templates included here relate to reuse organisational needs identified as part of this research project and include template receipts, standard operating procedures (SOPs) and agreements with donors, such as businesses, individuals and local authorities.

Template 1: Standard Operating Procedures

Businesses can improve their operations by setting up and using SOPs.

What are the benefits of SOPs?

- SOPs set up standard practices for routine tasks.
- SOPs make operations safer and more efficient.
- SOPs make the organisation's standards clear.
- Employees can refer to SOPs when questions come up during the day.
- SOPs ensure clear roles for all staff.
- SOPs assist communication and teamwork.

What areas can SOPs address?

- Company matters (e.g. general housekeeping, material deliveries and collections, logging pictures, external events, recording customer numbers and training).
- Transport (e.g. use of company vehicle, use of your own vehicle).
- Reuse matters (e.g. receipt of donations, customer repairs, textile donation evaluation).
- Health and safety (e.g. control of chemicals, manual handling, working at height, lone working, appropriate dress, fire safety, first aid, storage and use of chemicals, slips trips and falls).
- Specific things about materials (relevant legislation, handling considerations, etc.).

Managing SOP documents:

- SOPs should be developed and maintained by a dedicated member of executive staff.
- SOPs should be reviewed and approved by the most senior staff member, director or, where applicable, the board of management.
- SOPs should be regularly reviewed and updated.
- SOPs should be included in staff training.
- Copies of SOPs should be readily available for all staff.

What makes for a good SOP?

- Clarity of instruction.
- Inclusion of the type of policy, scope, responsibilities and definitions of key terms.
- Keeping SOPs simple and making them specific.
- Involvement of staff when developing, maintaining and updating SOPs.

Template for standard operating procedure

Company Information: [Name, Department, Location]		
ID: SOP number [Each SOP should have a unique number] **TITLE: [Clear title for each SOP that describes the type of procedure]** **Print Date:**		
VERSION 1.0	PREPARED BY:	DATE PREPARED:
EFFECTIVE DATE:	REVIEWED BY:	DATE REVIEWED:
APPROVED BY:		DATE APPROVED:
GENERAL INFORMATION		
POLICY		
PURPOSE		
SCOPE		
RESPONSIBILITY		
DEFINITIONS		
PROCEDURE		
1.[Include precise steps to enable the completion of the task with minimal supervision] **2.** **3.**		
HEALTH AND SAFETY CONSIDERATIONS		
RISK MITIGATION & OTHER		
REVISIONS TABLE		
REVISION NO.:	REVISION DATE:	DETAILS:

SOPs should employ a procedure for review and signoff at an executive/managerial level and/or board level (as appropriate) before adoption and implementation.

This section should enable the reader to determine quickly whether the procedure relates to the task they are performing.

Including pictures or smart art diagrams may help communicate the stages involved in the task. They may also be useful where literacy issues exist.

SOPs should be reviewed and updated at regular scheduled intervals and should also be updated when any change to the procedure is implemented. Copies of previous versions should be kept on file.

Paper Tool 1: Receipts

When accepting textiles, it is good practice for the donor to confirm, in writing, that they are donating the item(s) for reuse. Receipts are a useful way to gather information on the quantity and quality of materials donated and where possible should also collect details about the donor such as email, telephone number and confirm right of ownership. Receipts can also include information about reuse benefits and information about how the material may be used to avoid any future misunderstanding. A template receipt is included below:

Template Donation Receipt

Company logo

Reuse organisation name

Address

Company number

Contact details

Charity number

[POSITIVE MESSAGE ABOUT REUSE]

[Statement about how the organisation intends to reuse the item and potential benefits to the community and environment.]

Details of donation:

Type of material

Quantity

Condition of item

Signature of donor: _____ Date of donation: _____

I certify that the material donated to [insert company name] is my property to donate or I have the authorisation of the owner to do so.

Receipt No. _____

Please check this box if you would like to be added to our contact list to receive our newsletter and notification of events. □

Contact details:

Paper Tool 2: Signage – Donors and Ownership

> The [insert company name] thanks you for your donation. All materials donated are assumed to be the property of the donor. If this is not the case please notify us. In the case of a dispute over ownership, materials will be held by [insert company name] until claim of ownership is verified by the Community Garda.

Paper Tool 3: Signage – Material Reuse

> The [insert company name] relies on donations to carry out its activities. We appreciate your generous donation and will use it responsibly, ensuring that all direct and indirect benefits from donations support our company's mission and objectives.
>
> Once donated, materials cannot be reclaimed.
>
> By donating the materials, you are agreeing to transfer ownership to [insert company name].

Paper Tool 4: Agreements with Local Authorities and Large-scale Companies

Reuse organisations can benefit from standing agreements or memoranda of understanding with local authority and other donor organisations, which establish an ongoing relationship and define the terms of the relationship. These agreements should include a signed agreement by the reuse organisation and the donor, details about the materials, detailed responsibilities of both parties, length of contract and renewal/termination provisions.

Template Agreement with Donor

Reuse organisation name	Donor company name
Address	Relevant department
Contact details	
Company number	
Charity number	Address
	Contact details

This agreement is between [reuse organisation] and [donor, i.e. company, local authority, etc.] and the agreement details the requirements and responsibilities of both parties for the transfer of the following materials.

Detailed terms should be included regarding:

- materials covered by the agreement;
- actions to be taken by the local authority or civic amenity site;
- actions to be taken by the reuse organisation;
- storage requirements for materials covered by the agreement;
- measurement of materials;
- specific handling requirements;
- minimum/maximum quantity of materials;
- schedule for collection of materials;
- requirements for return of any unusable items;
- length of contract and renewal provisions;
- details about any payments being made;
- agreement for possible termination of agreement and required notice period.

This should be agreed, signed and dated by both parties.

Appendix 2 List of Useful Websites and Business Supports

Organisation	Website details
Circular Europe Network	http://www.circular-europe-network.eu
Companies Registration Office	https://www.cro.ie/
Community Reuse Network Ireland	http://www.crni.ie
Department of Communications, Climate Action and Environment (formerly Department of Community and Local Government)	http://www.dccae.ie/
EC	http://ec.europa.eu/environment/waste/
Enterprise Ireland	https://www.enterprise-ireland.com
EPA	http://www.epa.ie
EPA's Green Business Initiative	http://greenbusiness.ie/
Health and Safety Authority	http://www.hsa.ie
Irish Social Enterprise Network	http://www.socent.ie
Irish Local Development Network	http://www.ildn.ie/
Local Authority Prevention Network	http://localprevention.ie/
Local Enterprise Office	https://www.localenterprise.ie/
Revenue	http://www.revenue.ie/
RREUSE Network	http://www.rreuse.org
Small Firms Association	http://www.sfa.ie/
Social Entrepreneurs Ireland	http://socialentrepreneurs.ie/
The Charity Shops Association	http://www.icsa.ie/
The Wheel	http://www.wheel.ie/

AN GHNÍOMHAIREACHT UM CHAOMHNÚ COMHSHAOIL
Tá an Ghníomhaireacht um Chaomhnú Comhshaoil (GCC) freagrach as an gcomhshaol a chaomhnú agus a fheabhsú mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaol a chosaint ó éifeachtaí díobhálacha na radaíochta agus an truaillithe.

Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

Rialú: *Déanaimid córais éifeachtacha rialaithe agus comhlíonta comhshaoil a chur i bhfeidhm chun torthaí maithe comhshaoil a sholáthar agus chun díriú orthu siúd nach gcloíonn leis na córais sin.*

Eolas: *Soláthraímid sonraí, faisnéis agus measúnú comhshaoil atá ar ardchaighdeán, spriocdhírithe agus tráthúil chun bonn eolais a chur faoin gcinnteoireacht ar gach leibhéal.*

Tacaíocht: *Bímid ag saothrú i gcomhar le grúpaí eile chun tacú le comhshaol atá glan, táirgiúil agus cosanta go maith, agus le hiompar a chuirfidh le comhshaol inbhuanaithe.*

Ár bhFreagrachtaí

Ceadúnú
Déanaimid na gníomhaíochtaí seo a leanas a rialú ionas nach ndéanann siad dochar do shláinte an phobail ná don chomhshaol:
- saoráidí dramhaíola *(m.sh. láithreáin líonta talún, loisceoirí, stáisiúin aistrithe dramhaíola)*;
- gníomhaíochtaí tionsclaíocha ar scála mór *(m.sh. déantúsaíocht cógaisíochta, déantúsaíocht stroighne, stáisiúin chumhachta)*;
- an diantalmhaíocht *(m.sh. muca, éanlaith)*;
- úsáid shrianta agus scaoileadh rialaithe Orgánach Géinmhodhnaithe *(OGM)*;
- foinsí radaíochta ianúcháin *(m.sh. trealamh x-gha agus radaiteiripe, foinsí tionsclaíocha)*;
- áiseanna móra stórála peitril;
- scardadh dramhuisce;
- gníomhaíochtaí dumpála ar farraige.

Forfheidhmiú Náisiúnta i leith Cúrsaí Comhshaoil
- Clár náisiúnta iniúchtaí agus cigireachtaí a dhéanamh gach bliain ar shaoráidí a bhfuil ceadúnas ón nGníomhaireacht acu.
- Maoirseacht a dhéanamh ar fhreagrachtaí cosanta comhshaoil na n-údarás áitiúil.
- Caighdeán an uisce óil, arna sholáthar ag soláthraithe uisce phoiblí, a mhaoirsiú.
- Obair le húdaráis áitiúla agus le gníomhaireachtaí eile chun dul i ngleic le coireanna comhshaoil trí chomhordú a dhéanamh ar líonra forfheidhmiúcháin náisiúnta, trí dhíriú ar chiontóirí, agus trí mhaoirsiú a dhéanamh ar leasúchán.
- Cur i bhfeidhm rialachán ar nós na Rialachán um Dhramhthrealamh Leictreach agus Leictreonach (DTLL), um Shrian ar Shubstaintí Guaiseacha agus na Rialachán um rialú ar shubstaintí a ídíonn an ciseal ózóin.
- An dlí a chur orthu siúd a bhriseann dlí an chomhshaoil agus a dhéanann dochar don chomhshaol.

Bainistíocht Uisce
- Monatóireacht agus tuairisciú a dhéanamh ar cháilíocht aibhneacha, lochanna, uiscí idirchriosacha agus cósta na hÉireann, agus screamhuiscí; leibhéil uisce agus sruthanna aibhneacha a thomhas.
- Comhordú náisiúnta agus maoirsiú a dhéanamh ar an gCreat-Treoir Uisce.
- Monatóireacht agus tuairisciú a dhéanamh ar Cháilíocht an Uisce Snámha.

Monatóireacht, Anailís agus Tuairisciú ar an gComhshaol
- Monatóireacht a dhéanamh ar cháilíocht an aeir agus Treoir an AE maidir le hAer Glan don Eoraip (CAFÉ) a chur chun feidhme.
- Tuairisciú neamhspleách le cabhrú le cinnteoireacht an rialtais náisiúnta agus na n-údarás áitiúil *(m.sh. tuairisciú tréimhsiúil ar staid Chomhshaol na hÉireann agus Tuarascálacha ar Tháscairí)*.

Rialú Astaíochtaí na nGás Ceaptha Teasa in Éirinn
- Fardail agus réamh-mheastacháin na hÉireann maidir le gáis cheaptha teasa a ullmhú.
- An Treoir maidir le Trádáil Astaíochtaí a chur chun feidhme i gcomhair breis agus 100 de na táirgeoirí dé-ocsaíde carbóin is mó in Éirinn.

Taighde agus Forbairt Comhshaoil
- Taighde comhshaoil a chistiú chun brúnna a shainaithint, bonn eolais a chur faoi bheartais, agus réitigh a sholáthar i réimsí na haeráide, an uisce agus na hinbhuanaitheachta.

Measúnacht Straitéiseach Timpeallachta
- Measúnacht a dhéanamh ar thionchar pleananna agus clár beartaithe ar an gcomhshaol in Éirinn *(m.sh. mórphleananna forbartha)*.

Cosaint Raideolaíoch
- Monatóireacht a dhéanamh ar leibhéil radaíochta, measúnacht a dhéanamh ar nochtadh mhuintir na hÉireann don radaíocht ianúcháin.
- Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as taismí núicléacha.
- Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta.
- Sainseirbhísí cosanta ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

Treoir, Faisnéis Inrochtana agus Oideachas
- Comhairle agus treoir a chur ar fáil d'earnáil na tionsclaíochta agus don phobal maidir le hábhair a bhaineann le caomhnú an chomhshaoil agus leis an gcosaint raideolaíoch.
- Faisnéis thráthúil ar an gcomhshaol ar a bhfuil fáil éasca a chur ar fáil chun rannpháirtíocht an phobail a spreagadh sa chinnteoireacht i ndáil leis an gcomhshaol *(m.sh. Timpeall an Tí, léarscáileanna radóin)*.
- Comhairle a chur ar fáil don Rialtas maidir le hábhair a bhaineann leis an tsábháilteacht raideolaíoch agus le cúrsaí práinnfhreagartha.
- Plean Náisiúnta Bainistíochta Dramhaíola Guaisí a fhorbairt chun dramhaíl ghuaiseach a chosc agus a bhainistiú.

Múscailt Feasachta agus Athrú Iompraíochta
- Feasacht chomhshaoil níos fearr a ghiniúint agus dul i bhfeidhm ar athrú iompraíochta dearfach trí thacú le gnóthais, le pobail agus le teaghlaigh a bheith níos éifeachtúla ar acmhainní.
- Tástáil le haghaidh radóin a chur chun cinn i dtithe agus in ionaid oibre, agus gníomhartha leasúcháin a spreagadh nuair is gá.

Bainistíocht agus struchtúr na Gníomhaireachta um Chaomhnú Comhshaoil
Tá an ghníomhaíocht á bainistiú ag Bord lánaimseartha, ar a bhfuil Ard-Stiúrthóir agus cúigear Stiúrthóirí. Déantar an obair ar fud cúig cinn d'Oifigí:
- An Oifig um Inmharthanacht Comhshaoil
- An Oifig Forfheidhmithe i leith cúrsaí Comhshaoil
- An Oifig um Fianaise is Measúnú
- Oifig um Chosaint Radaíochta agus Monatóireachta Comhshaoil
- An Oifig Cumarsáide agus Seirbhísí Corparáideacha

Tá Coiste Comhairleach ag an nGníomhaireacht le cabhrú léi. Tá dáréag comhaltaí air agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair imní agus le comhairle a chur ar an mBord.

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Material Reuse Good Practice Guide

Authors: Sarah Miller, Jackie McGloughlin, Olivier Gaillot and Louise Connolly

Background

Ireland and the EU currently face a crisis in terms of resource availability, use and disposal. Due to current consumption and disposal habits, global resources are being depleted on an unsustainable level. On average 13.3 tonnes of materials are consumed per person annually in the EU. Much of this ends up as waste with an average of 5 tonnes of total waste per person annually. Reuse has the potential to keep materials in circulation for longer, maximising value creation and reducing or preventing waste generation. In Ireland, many reuse organisations are extending product lifecycles, contributing to the reduction of waste generation and demonstrating more efficient resource consumption models.

This research project assessed current reuse practice in Ireland and other countries, and identified opportunities to support reuse activity through the development of a good practice guide, material specific reuse protocols and operational templates. This report is aimed at reuse practitioners, national, regional and local authorities, and policy makers, particularly those involved in reuse sector.

Identifying pressures

The research identified that the common barriers to reuse include: access to useable materials, adequate facilities to store reusable materials, regulatory requirements, operating costs, skills requirements and public perception. The findings suggested that reuse organisations face barriers related to (i) the availability of materials, both in terms of quality of goods on the market, and in terms of donated materials; as well as (ii) storage of materials at recycling centres/civic amenity sites and within their organisations. The findings also highlighted regulatory challenges that affect reuse organisations in terms of licensing requirements and ambiguity of waste terminology. Furthermore, members of the public often consider second-hand or reuse items as lesser quality and that may limit their uptake of reused materials.

Developing solutions

The outputs from the research have been developed in collaboration with the reuse sector and bring together practitioner experience from current activities here in Ireland and throughout Europe. Results from this study show variances between operational practice of reuse organisations related to materials use, scale, company policy, licensing requirements and data collection.

This research project facilitated a greater understanding of the challenges and opportunities for reuse organisations and promoted good operational practices. The research project developed a Good Practice Guide and individual Protocols for food, textile, bicycle and furniture reuse, which provide a resource for established reuse organisations to review their operational practice.

The research identified that there is potential to overcome barriers to reuse by building awareness, rebranding items as high quality, and building relationships among different actors. The research findings indicate that improving general reuse practices will ensure the success of individual reuse organisations, build public awareness about the importance of reuse, and increase the quantities of materials diverted from the overburdened landfills.

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