



Summary Report on International Best Practice January 2020





Background

As a means of promoting reuse in the EU, the revised Waste Framework Directive (WFD) of 2018 intends that Member States (MS) take 'appropriate measures to prevent waste generation and monitor and assess progress in the implementation of such measures'.

In other words, what cannot be measured cannot be managed. To ensure such measurement takes place, and to ensure that is achieved uniformly across all MS, the Directive proposes that 'common indicators and targets should be established'. This is further developed in Article 9(4) of the Directive which requires that MS measure reuse, applying the common methodology to be established by the implementing Act.

In order to support Ireland in meeting the requirements of the WFD, the Environmental Protection Agency, in its Research Call for 2018 for Sustainability, included a project: 'Qualifying and quantifying the Reuse Sector in Ireland'. The aim of the project is to develop and test a methodology whereby Ireland can create a system of measuring reuse in Ireland on a regular basis.

In March, 2019, a consortium led by The Clean Technology Centre (CTC) at CIT, including the Community Resource Network Ireland (CRNI) and The Rediscovery Centre began work on the research project. It will continue for two years.

An early task in the project entailed researching the qualification and quantification of reuse in other countries – looking at State of the Art. This was done to support development of a methodology for quantifying and qualifying reuse for Ireland. This report summarises the initial findings of that research.

Ten major programmes, measurement systems and sets of activities in other regions were analysed by the project team in the following regions:

- Scotland
- Spain
- UK
- New South Wales
- Netherlands
- Flanders
- Finland
- Greece
- New Zealand
- New York City

Every region took a different approach and some regions are more advanced in the reuse of materials and its measurement than others. Some regions have similar socio-economic profiles to Ireland and some do not. Where possible, systems and activities that may be replicable in Ireland were given special consideration. This analysis of best practice in reuse will continue in the project.



SCOTLAND - P4.



SPAIN - P5.



UK - P6.



NEW SOUTH WALES - P7.



NETHERLANDS - P8.



FLANDERS - P9.



FINLAND - P10.



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NEW YORK CITY - P13.

Scotland



Introduction:

The population of Scotland is 5.2 million and that of Ireland is 4.8 million. Both Ireland and Scotland have a population density of around 68/km². Zero Waste Scotland published an analysis of the reuse sector in Scotland in 2013.

Scope:

One of the main elements of the Scottish study by Zero Waste Scotland was to map or locate the reuse outlets in the country. That is not a concern of this study or of EU measurement requirements and therefore is not analysed herein.

Another point of divergence was that the Scottish study excluded car boot sales, online exchange and one-off business reuse. The Scottish study also included construction reclamation and salvage yards, whereas we are not measuring construction and demolition (C&D) sector reuse in Ireland. EEE was also measured in Scotland – again this is outside the remit of this study.

Methodology:

The survey in Scotland was done via telephone or online and the data were recorded using SNAP survey software. The methodology in Scotland included a literature review, mapping research, a questionnaire and in-depth surveys.

1,527 reuse outlets in Scotland were mapped. These included 943 charitable outlets (61.7%), 533 commercial outlets (34.9%) and 51 social enterprises (3.3%).

Overall, 591 calls were made to 406 businesses, generating 108 questionnaire responses.

Facts and Figures:

The study found that Scotland was reusing about 89,000 tonnes of material, including 12,000 tonnes of furniture, 9,500 tonnes of EEE and 66,000 tonnes of textiles. 73% by weight of all reuse was textile-based, despite the greater comparative weight of furniture and EEE. The turnover for this was around £244 million across the 1,527 reuse outlets in place. Over 6,000 FTE people were employed in the sector with about 3,000 FTE volunteer positions (involving around 13,000 people).

Per person in Scotland, over 17kg of materials is reused per person, per annum – not including online-based reuse. This is a very high level of reuse, one to which Ireland should aspire.

Other relevant information:

Reuse was measured from environmental (actual amounts), financial (turnover) and social (employment and volunteerism) perspectives.

A limitation for the Scottish study is that outlets were not visited and actual measurements did not take place, making verification of the data impossible.



Spain



Introduction:

Spain was of interest to the study because of the high level of activity by the social network AERESS and because the country, in 2015, had set targets for reuse and a system in place to measure them.

Scope:

The reuse targets in Spain are specific and narrow and are outside the scope of this study. They are: preparation for reuse targets for two collection groups, large EEE and small IT and telecommunications equipment), in the national legislation transposing the WEEE Directive (2012/19/EU). These are: (1) from 1 January 2017 until 14 August 2018, 2% of preparation for reuse of category 4 and 3 % of preparation for reuse of category 6; (2) from 15 August 2018, 3% preparation for reuse of category 4 and 4% preparation for reuse of category 6.

Methodology:

Spain is also using other indicators to measure reuse: the number of reuse centres in operation and number of associated new jobs. Spain has also set specific objectives in relation to the reuse of furniture, clothing and textiles as well as electronic equipment.

While detailed data was received for reuse via AERESS, it was difficult to get specific information on the methodology used to officially report reuse in Spain and the specifics of the online system being utilised to report it.

Facts and Figures:

In terms of the actual level of reuse of material gathered by AERESS, only 5.6% (of weight) of bulky goods is reused, only 2% of WEEE is reused, almost no paper/cardboard is reused, but 51.5% of textiles is reused.

Of the 16,088 tonnes of material reused by AERESS, 13,478 tonnes or 84% is textiles. This reflects the data for Scotland on the prevalence of this stream above all others in reuse despite the weight differential between textiles and furniture, WEEE, etc.

Other relevant information:

Because the reporting focuses on preparation for reuse for EEE, it may only be targeted at centres that undertake such activities – and may not, therefore, be very applicable to Ireland. These centres may be larger than typical charity shops, and may have larger staffing levels and methods of data gathering.

Because each piece of EEE that is reused has a relatively high value and is different from others, it may be easier to report. Likewise, the number of individual items will be much less than that number of individual garments sold, for example, in a charity shop.



UK



Introduction:

A UK study carried out by the Chartered Institute of Waste Management (CIWM) in 2016 has some useful information but its purpose is very different from this one. While the title of the survey included Ireland, very little information was given regarding this country. However, some of the questions in the survey are of interest, including: the potential scale of reuse; which products are mostly involved and why; which products have potential for growth and why; and examples of best practice. Also the recommendations for how to develop and expand the reuse sector are of interest to Ireland.

Scope:

The methodology of the study was similar to what we envisage for this project and the Scottish study. However, of the 278 responses to the questionnaire, 157 were from local authorities, 42 from waste management companies, 27 from housing associations and only 52 from reuse organisations (only 18%). This means that the results are badly skewed regarding outlook and priorities, and not enough hard data was received from the reuse sector itself.

Methodology:

The purpose of this study was not to quantify reuse in the UK, but some data regarding the charity sector in the UK was gathered by the researchers and is provided below.

Facts and Figures:

The Charity Retail Association (CRA) is the primary membership organisation for charity shops in the United Kingdom whose members run 8,900 charity shops, out of a total of 11,500 charity shops in the UK.

The charity retail sector in the UK generates more than £295m surplus funds per year from more than £1 billion of turnover. Charities avail of the skills of more than 234,000 volunteers nationwide, with a staff of about 23,000 people.

There are, on average, 65 customer transactions per shop per day, with an average transaction of around £4.03. On average, each volunteer gives 6 hours of labour per week.

The charity sector in the UK alone kept 323,000 tonnes of textiles out of landfills in 2006/2007, saving councils £27 million in landfill tax and reducing CO₂ emissions by around 6.8 million tonnes. This approximates to about 5kg of textiles per person.

Other relevant information:

The charity sector in the UK is very strong and active. Regarding the CIWM study: insights about the challenges to reuse, the product-type information, the benefits of reuse, and recommendations on how to increase demand, may be applicable to Ireland.

The UK has a particularly strong reuse sector and the reasons for this merit further analysis.



The Netherlands



Introduction:

Reuse is an important aspect of the circular economy policy of The Netherlands. It's 'Raw Material Agreement' seeks to promote reuse of textiles, furniture and WEEE as priority material streams.

Scope:

BKN, the Dutch Association of Second-hand Shops, has 66 members, covering 200 shops. Founded in 1994, it has recently developed the '100% Kringloop' (100% Second-hand) label to certify their members' activities.

Methodology:

BKN collects annual data through an online survey tool and in 2017 the response rate was 80%. Reuse data are not uniformly gathered by members, with some weighing the products and others using approximate weights. Yet, a large amount of data is already collected and extrapolated to the entire association.

Facts and Figures:

In 2017, about 13,500 people were working or volunteering with BKN in the member shops and 139,000 tonnes of material for reuse was collected. This approximates to about 8kg per person.

32% of this material was furniture, 21% textiles, 13% small household goods, 12% brown and white EEE, and 10% others. This led to a sales revenue of approx. €95 million, of which 26% came from textiles, 23% small goods, 18% furniture and 12% books and CDs.

Other relevant information:

BKN gathers data on social impact and quantitative reuse. Sources and collection points of reuse, quality and storage are also monitored. Economic data are also gathered by the system: total revenue, and revenue per material stream. Online sales are also reported on. Cash register data is also provided but considered unreliable by BKN. Number of visitors to shops, shop floor size, subsidies and donations and business costs (staff, operations, transport, marketing administration disposal etc.) are all reported.

Given that Ireland will have to report its reuse data in the future this well-established system is one that merits further investigation.



Flanders



Introduction:

Flanders has a population of approximately 6.4 million people, but its population density is much higher than Ireland. It has a well-established reuse infrastructure that include: an active umbrella organisation, strong ties between policy instruments and the reuse sector, and the Waste and Materials Decree (a solid legal basis for waste prevention). Reuse centres were legally embedded in legislation from 2003.

Scope:

The Federation of Flemish Re-use Centres (KVK) was established in 1994 as a network of non-profit enterprises in Flanders, with grant aid from OVAM. In July 2008, KVK expanded and became known as KOMOSIE. The Public Waste Agency of Flanders, OVAM, is responsible for monitoring reuse and its targets. The chain of reuse shops in Flanders is known as De Kringwinkel.

Methodology:

There is a long history of data collection in the region, unlike in most other areas worldwide. KVK has been surveying its members since 1995, first using a written questionnaire, then moving to a computerised system in 1998.

The De Kringwinkel shops have 67 standards which each is benchmarked against. Sales of reuse goods make up approximately 39% of turnover in the shops. A full account of turnover across the stores each year is maintained.

De Kringwinkel reuse shops have used a quality system since 2002. The EFQM (European Foundation for Quality Management) Model was used to guide the development of a better system to replace the Triage software to accurately measure and report what is accepted and sold. Since 2013, the ECLIPS online software system tracks the movement of goods from the point of collection to sale. Uniform weight tables further facilitate the process across centres so that year on year, activity can be compared. Again, this has been built up and improved over many years.

Facts and Figures:

During 2018 the Kringwinkel chain of stores reused 35,440 tons of goods (up 2% from 2017) through its 145 points of sale. This amounts to almost 5.5kg per person in Flanders. This is an increase of 76% compared to 2008. More than 6 million customers (number of transactions) each bought an average of 5.4 kg of stuff in the shops. The turnover of the chain was €55.5 million for the year. The breakdown, according to turnover was: Textiles: 35.6%; Home materials: 19.8%; Furniture: 18.6%; Books, music, multimedia: 7.9%; Leisure materials: 7.8%; Electrical and electronic equipment (4.9%); White goods (2.4%); Means of transport such as bicycles or steps (1.9%); Do-it-yourself (0.9%).

Other relevant information:

Under the Waste Plan 2016-2022, the target for reuse is 7 kg/inhabitant and a reuse rate of more than 50% (of donations).

The reuse sector is strongly tied to employment policy and approximately 80% of workers recruited to reuse shops and centres are from vulnerable target groups.

Further information from OVAM, KOMOSIE and De Kringwinkel would be useful for this project to learn how the system of data acquisition works in practice and to see it in action. A site visit is planned by the research team in 2020.

Finland



Introduction:

Kierrätyskeskus is a non-profit social enterprise in the Helsinki Metropolitan Area that runs eight stores plus an online store, selling reused and upcycled goods.

The stores sell reused household items, furniture, media, bicycles, electrical and electronic equipment, bulky items, craft materials, flowers and plants, construction materials, sports equipment and textiles. Additional to immediate second-hand reuse, Kierrätyskeskus also upcycles textiles, furniture and accessories, and acts as the official collection point for producer responsibility organisations for certain waste streams. All their activities fall under 'reuse', 'upcycling', and 'repair' rather than 'preparation for reuse', as items are donated to them as products without entering the waste stream. Products can be donated to Kierrätyskeskus by delivery, a collection machine in a shopping mall, collection by Kierrätyskeskus vans (from home or business premises), and from containers in waste sorting areas.

Scope:

A recent study of reuse in Finland by the research organisation SYKE examined four product categories: clothes and shoes, electrical and electronic devices, furniture, and sporting equipment.

Methodology:

Kierrätyskeskus collects data from the shops for several relevant metrics. The cash register system provides real-time information on sales, resource savings, weight, and carbon emissions saved. Products are divided into around 300 different categories that are assigned average weights and average material composition. These metrics are used to create approximate CO2 and natural resources savings. Items that are free to take are also logged in the cash system when they are moved into the 'free' section. Additional data collected from the shops are staff numbers and type of employment, shop size, amount of visitors purchasing items, the costs of operation at company and store level, and the number of deliveries and collections.

Facts and Figures:

The reuse of the four materials studied in Finland led to 56,000 tonnes of waste diversion from landfill in 2017 – 2% of the overall Finnish municipal waste arisings. Around 20% (16,400 tonnes) of discarded textiles in Finland were separately collected by charity organisations in 2012. Of this, 3,400 tonnes (21%) were reused domestically, 8,280 tonnes (50%) were exported for reuse and 4,770 tonnes were rejected and sent to recycling or energy recovery. However, not all outlets were included in the survey.

Other relevant information:

Although Kierrätyskeskus only has 8 stores, their measurement system, based on cash registers, may provide some potential for Ireland.



New South Wales



Introduction:

This study was carried out by Zero Waste Network Sydney (ZWN-S) in 2018. The members of ZWN-S include community-run reuse, repair and recycling organisations (CREs), which are all non-profit. To date, it is dependent on grant aid and struggles to cover overheads.

ZWN-S does not gather data from its members on a regular basis, and thus the aim of their study was to quantify the activities of its CREs, with a view of using it to advocate on behalf of the sector.

Scope:

The study measured from four of the forty community-run reuse, repair and recycling organisations (CREs) in the region over a six-week period. Amounts of material measured were deposits alone, and not actual sales or outgoing. The overall amount of reuse by CREs was extrapolated up, once averages were taken.

Methodology:

The study measured the weights of several streams, including bricks, concrete, foam, glass, timber etc. using weighbridges and weighing scales.

Facts and Figures:

Because the reuse systems in NSW are so different to Ireland, the actual results of the measurement are not of value – the methodology and extrapolation methods were of most use to the researchers.

Other relevant information:

ZWN-S also measured the social impact of reuse, with staff and volunteer numbers. An advantage of the New South Wales approach over Scotland was that materials were actually weighted and characterised for the project. A specification of an online self-measuring system was an output of the work and this was of special interest to the project team, since something similar will have to be specified for Ireland to ensure systematic and consistent measurement over time.

Greece



Introduction:

The 2016-2020 LIFE Environment co-funded project (ReWeee) from Greece is being undertaken to prevent and reuse EEE and WEEE.

Scope:

While ReWee was specific to only two WEEE and EEE collection/repair facilities in Greece, the process of developing a decision tree system was of interest to this project.

Methodology:

The project will use the methodology developed and measure EEE reuse in the centres in Greece and other countries.

Facts and figures:

Data are not yet available from the project and because only EEE reuse is being measured, results are not very applicable to our research or Ireland.

Other relevant information:

While these materials are not a focus of this current project, some elements of ReWeee are of interest, in particular in the identification of the stages in the reuse life cycle (the material flow tree) where measurement of reuse would be most effective. This decision will have to be made in Ireland if reuse is to be measured.



New York

**Introduction:**

The New York City Center for Materials Reuse (NYC CMR) works to support local reuse organisations and promote reuse.

Scope:

A large study of New York City's reuse sector was undertaken in 2017 and updated in 2019, taking into account redistribution, repair and sharing activities.

Methodology:

Under the DonateNYC programme, NYC CMR developed the Reuse Impact Calculator, an online tool developed to address challenges in data collection and to show the environmental impact of reuse. As reuse organisations in New York do not uniformly collect data, the Reuse Impact Calculator was developed as an easy user-friendly tool that standardizes products

Facts and Figures:

Reuse member organisations of the Donate NYC Partnership divert over 45,000 tons of material from landfill each year.

Other relevant information:

While it is interesting that reuse is being measured regularly in New York City, the applicability of the methodology or the usefulness of the results are of limited value to Ireland at this time. However, continued monitoring will continue during the project duration.

New Zealand



Introduction:

In New Zealand, local authorities are responsible for waste management. This means that across the country, there is diversity in how waste is managed depending on how the local council operates.

Scope:

New Zealand's reuse industry is co-ordinated by Zero Waste Network Aotearoa/New Zealand (ZWNZ) and has 85 members. However, the charity shop sector does not engage with ZWNZ.

Methodology:

Network members are surveyed on an annual basis. The sector is at an early stage of development and has gathered some data from its members, but on an ad hoc basis. This includes social, economic and environmental data, but a fully implemented reporting system is not yet in place.

Facts and Figures:

The data gathered is not yet of relevance to Ireland and the reuse sector here.

Other relevant information:

One network member has developed a 'product tracker' in Excel format and this sheet is used by many other network members organisations. This is a simple spreadsheet with a drop down menu for the different types of materials, categories, the date, number of items, weight, cost and payment method. Different member organisations use the same sheet in different ways.

Already some network members use weighbridge data. Conversion factors would aid this process. ZWNZ endorses the existing product weight protocol in the UK developed by WRAP where the conversion factors are reviewed every three years.



Overall Conclusions

Some regions, such as Scotland, New South Wales, and the UK have carried out once-off quality or quantity related assessments of reuse. Each of these used different data gathering methods with different assumptions and parameters.

Since this study is essentially carrying out such a once-off measurement, the methodologies used in those regions are of interest – with a view to potential replication and/or to inform regarding aspects that are either suitable, or unsuitable, for Ireland.

Equally important are those other regions, such as Flanders, The Netherlands, Spain and Greece, that have set up systematic, online, multi-annual data gathering systems to measure reuse (though the system in Spain has just begun and appears to focus on preparation for reuse of EEE only, and the system in Greece is also in early development and only EEE related).

This is to measure performance in relation to specific annual targets or policy commitments. Given the potential upcoming requirement for Ireland to report on reuse levels to the European Union, it is expected that these types of systems could offer solutions to meet such requirements in the longer run. Annual or bi-annual studies such as carried out in this study are not cost-effective – eventually the reuse sector will have to report its own data.

Consequently, further investigation of the systems in Flanders and The Netherlands, including a site visit to both regions, would appear a useful exercise in informing our actions later in the project, especially in the development of a reuse quantification system for Ireland.

This work – the analysis of best practice in reuse qualification and quantification – is ongoing in the project until March 2021.



