PART 2 EXISTING SITUATION

7 REGIONAL WASTE DATA

Since 2005 the reporting and recording mechanisms for waste data have improved significantly for most waste streams; this is in part due to the introduction of a new system, hosted by the National Waste Collection Permit Office (NWCPO), which allows collectors to submit their annual data return online. Improved surveying and data modelling by the EPA and increased validation of all data by the EPA and the local authorities have also contributed to the improvements in data quality.

Nevertheless there is a need for all stakeholders to improve data management and reporting continually and to ensure that returns are made in an accurate and timely manner. A national register of waste facilities that facilitates collation of annual returns from facilities needs to be developed during 2015 and needs to be supported by all stakeholders.

It should be noted that some differences exist between the EPA published National Waste Report (NWR) data and the data published in this draft Waste Management Plan (WMP), due to amendments in the EPA data following publication of the National Waste Report (NWR).

7.1 REGIONAL WASTE QUANTITIES

The WMP for the SR is an amalgamation of four previous waste regions, three of which are entirety within the boundary of the SR and one other region which is partly included. The transformation and consolidation of the waste regions mean that waste data cannot be readily compared to 2005 statistics. The waste quantities presented in the plan are for the years 2010, 2011 and 2012 where available and the key sources of data include the following:

- EPA NWR 2010, 2011 and 2012;
- NWCPO Annual Returns data for waste collection permits datasets 2010, 2011 and 2012; and
- WEEE Ireland & European Recycling Platform (ERP) Compliance Schemes.

Table 7-1 lists the key waste categories in accordance with the requirements set out in the Waste Management (Planning) Regulations 1997.

The total waste arisings from 2010 to 2012 are estimated to be between 2.0 Mt and 2.5 Mt and the figures are reasonably consistent over the course of the three years.

The figures presented do not include non-natural agricultural wastes, animal by-products and other agricultural wastes. Agricultural wastes (dry solids) are exempt from the requirements of the waste management collection permit system and an estimated 1.6 Mt of this stream was managed in 2012. For full details on the quantities of agricultural wastes refer to **Section 7.1.12**.

The figures reported in **Table 7-1** include all private sector and any public sector quantities of waste collected in the region including kerbside schemes, from bring banks, civic amenity sites and waste collected under the producer responsibility schemes for WEEE and batteries.

Table 7-1: Wastes Collected in the Southern Waste Region

Waste Type	Tonnes per Annum		
	2010	2011	2012
Kerbside Household Waste Managed[36]	364,027	357,418	345,151
Household Waste delivered to CA sites/BB (excluding WEEE & Batteries)[37]	81,783	78,436	69,452
Household Waste delivered to other bring facilities (PTUs) & direct to landfill[37]	11,136	3,574	3,367
Bulky Household Waste[37]	39,470	30,853	29,148
Estimate of unmanaged waste[37]	105,912	133,943	83,020
Litter & Street Sweepings[37]	24,917	16,372	14,907
Non-Household Municipal Waste[37] (Commercial)		-	390,403
Priority Wastes (Collected)			
Construction & Demolition Waste[37]	916,355	890,680	970,319
WEEE (Household)[38]	13,173	11,674	11,317
WEEE (Non-Household)[39]		4,503	6,425
Batteries (portable)[39]	82	149	143
Batteries (non-portable)[40]	2,330	5,154	4,524
ELVs (16 01 04 only)[36]	33,931	41,781	28,011
Tyres[37]	7,151	9,402	8,705
Healthcare[37]	3,064	5,884	3,363
Oils[37]	14,245	16,638	19,658
PCBS[37]	21	93	23
Other Wastes (Collected) [37]			
Contaminated Soil[37]	975	2,250	3,948
Mining & Quarry Waste[37]	2,610	0	5,138
Industrial Waste not otherwise specified - Non-Haz[37]	164,580	183,702	160,736
Industrial Waste not otherwise specified- Hazardous[37]	5,706	44,966	72,147
Industrial Sludges[37]	8,340	11,213	9,685
Ash & Incinerator Residues[37]	13,494	8,099	6,963
Landfill leachate[37]	141,641	113,245	154,409
Sewage Sludges[37]	127,776	132,273	144,525
Water Treatment Sludges[37]	10,918	9,090	7,255
TOTAL	**2,093,637**	**2,111,392**	**2,552,742**

[36] EPA NWR/LA RETURNS.
[37] NWCPO.
[38] PRI-Compliance Schemes.
[39] NWCPO/PRI-Compliance Schemes.

7.1.1 Household Waste

It is estimated that over 345,000 tonnes of household waste has been collected annually in the region through the kerbside collection systems over the years 2010-2012.. Kerbside waste is generally segregated at source and predominantly collected by private collectors, with only three local authorities currently engaged in household waste collection. The waste collected through this kerbside collection system represents 76% of household waste managed (HWM) in the region in 2012. The comparable national figure for 2012 was 79%.

The quantity of waste collected through the network of bring banks and civic amenity sites represents 15% of the HWM in 2012 and has dropped by 1–2 percentage points when compared to 2011 and 2010. This is still a significant portion of household waste and support for this infrastructure, almost exclusively provided by local authorities, needs to continue.

Waste collected through pay-to-throw units (PTUs) was recorded in 2012 for the first time. The future use of PTUs as part of the waste collection system will be a requirement of the new household waste regulations and the waste collection permit regulations. A reported 2,212 tonnes was collected using PTUs in the region in 2012 and this represents less than 0.5% of HWM.

Unmanaged waste is an estimate of the quantity of waste generated by households but not captured via one of the kerbside or non-kerbside collection systems, which includes households that deliver their waste directly to landfills and other bring facilities. The estimate of unmanaged waste is 15% of the total household generated figure in 2012, representing an estimated 83,020 tonnes for the SR. The percentage of households not availing of a kerbside collection service in the region is estimated to be 33%, which is slightly above the national average of 28%. It is worth noting that some of the less densely populated counties in the region have greater than 45% of households that are not availing of a kerbside collection service.

7.1.2 Non-household Municipal Waste (Commerical)

The commercial waste figure for the region in 2012 reached almost 400,000 tonnes, and this will be the baseline figure for future comparisons. Statistics are not available for 2010 or 2011 as a different input and compilation model was in place. The greater part of commercial waste is segregated at source and collected by private collectors at commercial premises. It is acknowledged that other wastes are also generated at commercial premises and may be recorded under other headings and not separately identified as commercial.

7.1.3 Construction & Demolition Waste (C&D Waste)

The C&D waste arisings for the region have been consistently reported at slightly less than 1 million tonnes annually from 2010 to 2012. The national figures show a major decline over a longer period, with quantity of C&D waste collected falling from a high of almost 18 Mt in 2007 to 3 Mt by 2011. The C&D waste figure includes waste collected and deposited at permitted infill sites in the region. As the construction sector begins to recover in the region it is imperative that construction and demolition plans for developments in excess of the specified thresholds are put in place and enforced. The appropriate processing facilities need to be in place to facilitate increased reuse, recycling and recovery of this waste stream.

7.1.4 Waste Electrical & Electrical Equipment (WEEE)

Since the publication of the previous waste management plans the collection and handling of WEEE waste has developed considerably and two compliance schemes, WEEE Ireland and ERP, have been introduced. All local authorities have set up WEEE collection points at the civic amenity sites in the region and WEEE is also collected from retailers and at special collection events. The total WEEE collected increased from approximately 16,200 tonnes in 2011 to almost 17,800 tonnes in 2012;[40] this is against the national trend, which shows no change between 2011 and 2012. 60–70% of the WEEE is collected through the compliance schemes, with the remainder collected by authorised collectors.

7.1.5 Batteries

The compliance schemes for WEEE also collect and manage certain portable waste batteries. It is estimated that approximately 140 tonnes of portable batteries was collected each year from 2010 to 2012. The other main type of batteries is lead acid batteries and collections are estimated at approximately 4,500 tonnes per year; these are considered valuable due to their lead content.[41]

7.1.6 End-of-Life Vehicles (ELVs)

ELVs in the region are mainly managed at Authorised Treatment Facilities (ATFs) which were developed during the last plan period and it is estimated that approximately 28,000 tonnes of ELVs were handled in the region in 2012: a decrease when compared to 2010 and 2011.

7.1.7 Healthcare Wastes

Healthcare wastes are generated from hospitals, clinics, care homes, pharmacies and medical practices. Healthcare waste is collected by the private sector and delivered to a number of specialist facilities. Between 3,000 and 5,000 tonnes per annum of healthcare waste has been handled in the region over the past three years.

7.1.8 Oils

Oil waste includes both mineral based and non-mineral based oils, and there has been an increase in the waste oils collected over the past three years from 14,245 to 19,658 tonnes per annum. Waste oils are categorised as hazardous and most of the liquid waste is treated in Ireland, whereas solids/wipes contaminated with oil are mainly exported to thermal recovery plants for final destruction.

7.1.9 Polychlorinated Biphenyls (PCBs)

Capacitors and transformers account for most of the PCB waste stream in Ireland. Use of electrical equipment containing PCBs has been banned since 1986 and therefore the tonnage collected largely represents old PCB waste coming to its end of life.

[40] This data does not include an estimate of WEEE segregated from skips and similar sources so it cannot be compared to NWR data, which does include an estimate of these.

[41] Nationally 140 tonnes of portable lead acid batteries has been collected by the conpliance scheme; this cannot be broken down by region and hence is not included in portable battery tonnage for SR.

The EPA and local authorities are working actively with confirmed holdings on the national inventory to ensure that they are aware of their obligations to comply with the disposal requirements of the PCB Directive. Due to the absence of the required specialist waste management infrastructure for PCB waste in Ireland, such waste is typically exported as hazardous waste under transfrontier shipment procedures for destruction or irreversible transformation in accordance with legislative requirements.

The figures presented in **Table 7-1** vary depending on the quantity of this historic waste discarded per annum.

7.1.10 Contaminated Soils

Contaminated soil is generally generated from construction projects and the quantity collected has increased over the past three years in line with the increased activity in the construction sector, from slightly less than 1,000 tonnes to almost 4,000 tonnes over this period. There is one facility in Ireland processing contaminated soil and the remaining is exported for treatment.

7.1.11 Mining & Quarries Wastes

Mining and quarry waste collected increased from 2,610 tonnes in 2010 to 5,138 in 2012, with no records of movement of this waste in 2011. 512 tonnes of this was collected directly from the mining industry and the remaining tonnage is silt from washing of gravel at quarries. There are three active mines in this region and many more inactive mines.

7.1.12 Agricultural Wastes

Agricultural waste is shown in **Table 7-3** as two categories: non-natural and natural. The collected non-natural agricultural wastes decreased by over 30,000 tonnes from 2010 to 2012, to 54,924 tonnes. Non-natural agricultural waste includes but is not limited to discarded packaging, waste rubber, plastic film and scrap metal/machinery. Farming organisations and the compliance schemes have made considerable efforts to collect farm film plastics over the past few years by hosting local collection events with the cooperation of the local authorities and, as is evident from **Table 7-2**, there has been a steady increase in the tonnage collected.

Table 7-2: Farm Film Plastics in the Southern Waste Region

Waste Type	Tonnes per Annum		
	2010	2011	2012
Farm Film Plastics[42]	10,922	11,846	13,666

Natural agricultural sludges are generated directly from animals and animal washings from housing of animals and **Table 7-3** indicates an estimated tonnage, based on standard calculations of quantities generated in 2012. While some of this sludge would be available for shipment to facilities such as anaerobic digestion facilities, significant quantities are managed on farmlands. (Unmanaged sludges generated from outdoor management of farm animals are not considered.)

[42] IFFPG & FRS.

Table 7-3: Agricultural Wastes in the Southern Waste Region

Waste Type	Tonnes per Annum		
	2010	2011	2012
Non-Natural Agricultural Wastes[43]	87,725	71,691	54,924
Natural Agricultural Wastes-Dry solids[44]	-	-	1,604,883
Total			**1,659,807**

7.1.13 Industrial Waste

Table 7-1 shows industrial hazardous and non-hazardous wastes and while the non-hazardous waste remained consistent over the three-year period there was a significant increase in the hazardous waste, mainly associated with the increased activity in the pharmaceutical sector in the region. The hazardous waste stream reached over 72,000 tonnes in 2012.

7.1.14 Sludges

Sludges are generated from three different sources as shown in **Table 7-1**. Industrial sludge generated showed only slight changes over the three-year period and reached 9,685 tonnes for 2012. Sewage sludge is increasing gradually year on year and this may be as a result of increased investment in waste water treatment plants.

7.1.15 Ash & Incineration Residues

In this region the ash and incineration residues decreased year on year over the three-year period, but this figure is entirely dependent on the level of boiler cleaning taking place at the big thermal power generating stations in the region such as in Clare and Cork.

7.1.16 Landfill Leachate

Landfill leachate generation in the region varied over the three years, with the figure in 2012 being the highest at 154,409 tonnes. Leachate generation is dependent on a number of factors including rainfall and landfill operational factors (for example the extent of the landfill face exposed). This figure is expected to decrease going forward as many more landfills close and become permanently capped.

The landfill leachate generation figure does not include leachate from landfills discharging directly to the sewerage system as there is no central recording system for this waste. An important consideration is the strength of the leachate, and regular analysis of its parameters, in particular metal concentrations, is required as these are generally processed in waste water treatment plants controlled by Irish Water.

[43] NWCPO.
[44] CSO data and Statutory Instrument 610 of 2010.

Policy

The local authorities recognise that the waste plan must take account of waste streams which are not covered currently by European or national performance targets. The management of these wastes needs to be addressed over the plan to ensure the systems in place are appropriate and the risk to the environment is managed and minimised. In relation to the management of sludges in the region, the local authorities will coordinate with Irish Water regarding water and wastewater sludges, and with other relevant stakeholders to ensure sludges are managed in a safe and compliant manner. Effective communication between stakeholder groups addressing the control and management of sludge in an environmentally sustainable manner will provide long-term protection of the environment.

Policy:

H1. Work with the relevant stakeholders and take measures to ensure systems and facilities are in place for the safe and sustainable management of sludges (sewage, waterworks, agricultural, industrial, and septic tank) generated in the region having due regard to environmental legislation and prevailing national guidance documents, particularly in relation to the EU Habitats and Birds Directives.

The local authorities recognise that other non-hazardous and hazardous waste streams often require specialised management. The suitability or likelihood of a national compliance scheme for these niche streams, be it voluntary or mandatory, is uncertain. The local authorities in the region are keen to explore opportunities to investigate if management of these streams can be improved. Opportunities to improve the rate of reuse and recycling may exist and the local authorities are committed to piloting measures. Such schemes would protect the environment and may lead to reduced quantities of toxic waste entering the atmosphere, ground waters or surface waters provided all schemes are conducted in an environmentally sustainable manner.

Policy:

H2. Investigate the opportunity to establish and expand management schemes for particular hazardous and non-hazardous waste streams including (but not limited to) paints, medicines, mattresses, other bulky wastes, agricultural and horticultural chemicals and waste oils (where technically, environmentally, and economically practicable).

8 PREVENTION & REUSE

Waste prevention is the most preferred waste management option and central to achieving a more resource efficient society. By preventing waste from being generated, the need to handle, transport, treat and dispose of waste is eliminated, resulting in both environmental and economic cost savings.

Significant advances in the development of an Irish ideology for waste prevention and reuse have occurred in recent years, including in 2004 the establishment of the EPA-led National Waste Prevention Programme (NWPP). At the same time a National Waste Prevention Committee was established consisting of a broad stakeholder group who meet periodically to provide strategic direction for the EPA in implementing the NWPP. The NWPP and programmes such as the Local Authority Prevention Network (LAPN) have fostered networks in the resource efficiency area (see **Section 8.3.7**). One of the programme's objectives is to encourage and promote reuse and preparation for reuse though its activities and projects. Legislation and policy relating to waste prevention and reuse can be found in **Chapter 3, Section 3.1**. Member States are required under the WFD to promote the reuse of products and preparing for reuse activities, notably by encouraging the establishment and support of reuse and repair networks.

This chapter outlines the waste prevention, awareness and education activities which have been undertaken and are ongoing by the local authorities in the region.

8.1 PROGRESS TO DATE: WASTE PREVENTION

The 2012 evaluation of the regional waste management plans that now make up the SR reports varying degrees of progress on waste prevention and minimisation. Each separate region had a policy in place and made reference to integration of waste management in line with the EU waste management hierarchy. The broad approach to delivering waste prevention policy objectives has been to adopt a mix of practical initiatives alongside awareness raising.

To a certain extent the "recycling culture" that was adopted in the early 2000s has become a barrier to encouraging resource-efficient behaviour. In the recently published EC Barometer *Attitudes of Europeans towards waste management and resource efficiency* (June 2014), 40% of respondents believe it is the responsibility of the producer to reduce waste, not theirs. 39% admitted to throwing things away as it is difficult or too expensive to get them repaired. Additionally 30% said that they didn't know how to reduce the amount of waste they generate.

8.1.1 Waste Prevention Community/Household Level

There is an Environmental Awareness Officer (EAO) or equivalent in each local authority across the region and this group is tasked with developing and implementing a comprehensive education and awareness programme targeting households, communities, schools and local business. A variety of established networks and traditional and new media are used to deliver campaigns, and this group is at the forefront of the progress to date in developing awareness of waste prevention.

Community groups are pivotal and the Tidy Towns network in particular is a rich source of activity for both awareness raising and practical initiatives. The Tidy Towns competition involves participating areas being rated on various aspects of their local environment, with prizes awarded under many different categories.

The competition has included a waste prevention/resource efficiency category since 2012. In addition, a new EPA-sponsored Special Category Award for Best Waste Prevention Initiative was introduced in 2014 and was awarded to the Siopa Glas Project in Ballon, Co. Carlow.

Figure 8-1 Best Waste Prevention Initiative 2014, Siopa Glas (Carlow)

Siopa Glas is a community thrift shop staffed by local volunteers. Monies generated from the sale of donated goods provide the main source of funding for Ballon Improvement Group and are used to enhance Ballon village, school and wildlife area.

Examples of innovative waste prevention initiatives developed and offered to Tidy Town groups across the region include:

1. Preventing household hazardous waste (HHW) through "Greener Cleaning" and "Greener Gardening", which was piloted in Limerick city with the Castletroy View Tidy Towns Group. Resources include a toolkit with survey forms for householders, a video and Greener Cleaning & Gardening booklets;
2. A research project with Tarbert Tidy Towns into the barriers to waste prevention actions in the home, involving 30 households;
3. The involvement of Killorglin Tidy Towns in the production of the RTÉ documentary Waste Watchers, aimed at preventing food waste in homes and SMEs;
4. A pilot project by Cobh Tidy Towns to demonstrate the effectiveness of using compostable disposable crockery at festivals and events instead of polystyrene or plastic.

The 2013 Tidy Towns Results book shows that there were 387 Tidy Town groups across the SR, making this competition the largest national community initiative. If each of these groups were to undertake a waste prevention project in their community as part of the annual competition, there would be great potential to change attitudes and behaviour.

Other community initiatives at local authority level include talks and workshops to promote all aspects of waste prevention: food waste, real nappies, slim your bin initiatives etc. Groups such as the ICA, Men's Shed and Residents Associations make full use of their local EAO to address and encourage them to undertake prevention activities.

8.1.2 Home Composting

Composting is the natural process of decomposition that turns organic materials like garden waste and raw vegetable food scraps into a dark, crumbly and earthy smelling material called compost.

Home composting is a most sustainable method of handling organic waste as the waste is treated at source eliminating the need to collect, process, treat and/or dispose of biodegradable materials. In addition the finished product when re-used in the garden is the perfect example of using waste as a resource.

Composting is a process and, unlike disposing of materials in a bin, composting requires time and effort in order to do it properly. All local authorities within the region promote home composting by conducting home composting demonstrations and talks at community fora such as Tidy Towns, the distribution of information guides at public counters and on websites, along with supporting the Home Composting arm of the Stop Food Waste Programme.

The master Composter programme first began in 2009 and it encompasses training alongside the building of a demonstration site. The benefit of these sites is that people can learn by doing and many of the trained master composters use these sites for information days and smaller training programmes. In total there are now 16 main demo sites and there have been almost 600 people trained nationally. In the Southern region there are 7 such sites and over 270 volunteers have been trained.

In addition, many of the volunteers have given talks and hosted information stands at local events quite often in partnership with the Environmental Awareness Officers to convey to encourage greater participation rates or to assist the general public with learning how to compost properly and troubleshoot any difficulties.

8.1.3 Waste Prevention in Education

Each local authority supports environmental education and awareness through the An Taisce Green Schools and Green Campus programmes. The Green Schools programme is particularly successful, adopting a modular approach to improving environmental awareness alongside practical steps to improve the school's environment. The first theme for which a flag is awarded is *Litter and Waste*.

Waste prevention is encompassed in this first theme and, largely through the work of the EAOs, schools have begun to place more emphasis on preventing waste generated at school. Examples of successful prevention initiatives include "Zero Waste Lunches" to reduce packaging waste; choosing tap water campaigns that encourage the reuse of water bottles or drinking beakers to reduce plastic waste. Reuse is also widely practised, particularly in arts & crafts modules in primary schools.

The importance of the Green Schools programme as a mechanism for raising awareness about waste prevention cannot be overestimated. The Department of Education and Skills reports that for academic year 2012/13 pupil numbers for this region were as shown in **Table 8-1.**

Table 8-1: Pupil Numbers 2012–2013

No. of Mainstream Primary School Pupils	No. of Secondary Level Pupils
158,024	127,551

Source Dept of Education & Skills

Additionally, as the Green Schools programme requires an element of outreach to the local community (particularly pupil families), there remains great potential to communicate a waste prevention message as part of this programme.

At secondary level the ERP funds the *Junkouture* initiative, which encourages second-level students to design and make couture pieces from waste (particularly WEEE) and is now well established and delivered in many schools as part of the TY (Transition Year) programme. In 2013, 80 schools from the SR participated in this programme and 20 schools made it to the "Grand Final". This creative and novel approach encourages students to view waste as a resource and is successfully targeting a difficult to reach group. The success of the programme can be measured by the annual increase in the numbers entering the competition.

Figure 8-2 Junkouture Activities 2014

The TY and CSPE (Civic, Social and Political Education) programmes in secondary schools are particularly well structured to encourage engagement with environmental and social issues. In recent years TY students have been used to assist the SR and local authorities across the region to deliver behavioural change messages about waste prevention including Ecopledge and Stop Food Waste (SFW) Initiatives.

The interest shown by schools in engaging in environmental campaigns is evidenced by the 2012 service indicators for local authorities which reports on the percentage of schools participating in Environmental Campaigns per local authority:

Table 8-2: % of Schools in the SR Participating in an Environmental Campaign

Local Authority	No. of Schools	Percentage of Schools Participating in Green Schools Programme
Carlow	54	86%
Clare	137	90%
Cork City	90	65%
Cork County	361	73%
Kerry	165	89%
Kilkenny	95	80%
Limerick	183	90%
Tipperary	195	84%
Waterford	89	88%
Wexford	125	85%

Source LGMA

There are also two Universities and five Institutes of Technology (ITs) in the region. Both Universities and many of the ITs have-long established environmental committees which liaise with their local EAO to develop campus-wide initiatives and awareness raising campaigns. University College Cork (UCC), University of Limerick (UL) and Cork Institute of Technology (CIT) are participating in the An Taisce Green Campus programme which strongly focuses on waste prevention, particularly food.

Resource efficiency and waste prevention are encouraged academically as well at colleges and universities across the region by supporting students to engage with waste prevention directly. For example:

- UL participated in the Local Authority Prevention Demonstration (LAPD) Programme and successfully achieved a 32% reduction in paper consumption over a two-year period, resulting in annual cost savings to UL of €41k;
- UCC was the first university in the world to be awarded the International Green Campus Award, the world's first third-level institution to be awarded the ISO 5001 standard in energy management, and third among the world's universities for environmentally friendly university management;
- Art students from Limerick School of Art & Design (LSAD) avail of free paint at the Mungret Civic Amenity (CA) site;
- Architecture students from UL avail of wood for practical design and model work from the Mungret CA site;
- The SR sponsored a product design student competition to encourage behavioural change and prevent plastic waste by choosing tap water on Campus in UL;
- The SR sponsored the Limerick College of Further Eductation (LCFE) textile students' fashion show;
- Participation by LCFE students in the 2013 Christmas Jumper Upcycling Event, Limerick City in December 2013; and
- A food waste prevention module for all culinary arts students at IT Tralee.

Figure 8-3 Paint Reuse & Upcycling Workshop Activities

Policy

The evaluation reports completed by the local authorities on the previous waste plans identified the lack of resources as a key barrier to the successful implementation of a coherent prevention programme. The aim of the local authorities is to build on the prevention activities which are under way through the region, and the appropriate staff need to be in place in each authority. The role of local authority awareness staff, in particular the EAO, is central to building a strong waste prevention team of resources across the region. In addition to putting in place the necessary resources, funds need to be made available by the local authorities to ensure that programmes and campaigns can be effectively delivered. Prevention is the most effective waste management option in terms of protection of the environment and human health. It provides environmental and economic savings through a reduced need for transport of materials and wastes and reduced requirements in terms of capacity for collection, treatment and disposal of waste.

Policy:

B1. Local authorities in the region will ensure that the resources required to implement waste prevention activities are available through the lifetime of the plan.

The local authorities in the region are involved in many different types of prevention activities. These have been documented in the evaluation reports and in this plan and demonstrate the wide scope of work being undertaken by local authorities in implementing national campaigns at a local level as well as establishing prevention activities specific to their functional area. Over the plan period local authorities in the region will continue to implement local campaigns and activities. The restructuring of the region also affords the opportunity to make the most of all local authority prevention resources through collective and regional collaboration. This approach will be established over the plan period to yield greater coordination of activities and ultimately a better use of existing staff in an area which is resource intensive. Education and awareness is an important policy area in terms of environmental protection as it offers the greatest scope to reduce negative behaviours at the individual, community, regional and national levels. Behavioural changes leading to the prevention of waste ensure reduced levels of waste and consequently reduced requirements to manage waste, which positively affects the natural environment.

Policy:

B2. Promote behavioural change and extend waste prevention activities through information campaigns, targeted training and local capacity building, working with households, communities, schools, business, and other public institutions.

8.2 PROGRESS TO DATE: REUSE

Reuse as a mainstream waste management concept is still disjointed, and little awareness of the opportunities reuse offers has been delivered to date. However reuse is practised widely but not necessarily measured and there are many difficulties with quantifying reuseit. For instance, passing on household items, children's clothes, equipment and toys to family and friends is reuse. This type of informal exchange doesn't even register with us as being reuse: it's seen instead as part of everyday social interaction.

T*he EU's Resource Efficiency Roadmap*, for example, sets an aspirational target that by 2020 waste generation per capita will be in absolute decline, reuse & recycling will be at their maximum level and European waste policy will have been fully implemented.

In the recently published EC FLASH EUROBAROMETER 388 "*Attitudes of Europeans towards Waste Management and Resource Efficiency*", in all but one Member State, books, CDs, DVDs and video games are the kind of products that most people would consider buying second-hand.

Almost eight out of 10 people would buy second-hand furniture in Sweden (79%), but in other Member States 40% of respondents say that the inferior quality of the product prevents them from buying second-hand, while 41% have health and safety concerns. Addressing these barriers and issues of concern will need to be undertaken through awareness and education programmes if reuse is to become an established norm.

Some progress has been made in this area, as a number of innovative reuse initiatives have been developed and supported across the SR and are detailed below.

The private sector has also played a significant role in encouraging reuse, albeit from a commercial perspective: websites such as DoneDeal.ie, Boards.ie and Gumtree.ie, which encourage the sale of used or "pre-loved" items alongside new items, have grown exponentially in recent years and will continue to play a significant future role in waste prevention.

8.2.1 SMILE Resource Exchange

The SMILE Resource Exchange is a free service for businesses that encourages the exchanging of resources between members in order to promote resource efficiency, save money and prevent waste. Potential exchanges are identified through networking events, an online exchange facility and a support team that provides assistance and carries out marketing. Resources offered on www.smilexchange.ie are either free of charge or below market value. The service was originally available to businesses in Cork, Limerick, Clare and Kerry but is now being extended nationwide.

Figure 8-4 SMILE Initiatives in SR

The project is managed by Macroom E Enterprise Centre. In 2014 SMILE membership was in the order of 1,100. Active brand development and promotion alongside favourable press coverage has led to a positive approach to promoting resource efficiency & reuse.

To date SMILE has:

- Held 12 events across four counties in the SR, with an attendence of more than 600 people;
- Helped 89% of event attendees to identify a potential match;
- Had 200,551 website hits with 719 resources posted;
- Had 499 enquiries to the SMILE office;
- Developed a case study booklet.

8.2.2 FreeTrade Ireland

FreeTrade Ireland has been online since July 2010, providing a national platform for users to engage in the reuse of items and for local authorities to support and promote the better use of resources. The service was developed on the back of the FreeTrade service previously hosted on Dublinwaste.ie The quantity of items reused in the region through the service and the associatated environemental and financial saving are presented in **Table 8-3**.

Table 8-3: FreeTrade Ireland data (July 2010 – March 2015)

Region	Items Reused	Diversion (KG)	Savings (€)
SR	324	11,764	34,753

FreeTrade Ireland was developed with funding provided by DECLG and is currently financed on an ongoing basis by the EPA. The service allows users to advertise old, unused and unwanted items and materials on the website for free. It is aimed at households, businesses, schools and communities.

Initiatives to promote FreetradeIreland.ie across the SR include:

- Five events across Kilkenny, Waterford, Cork and Limerick;
- A travelling exhibition;
- A smartphone app;

- A promotional video;
- Google advertising;
- Homepage upgrade.

Figure 8-5 FreeTrade Home Page

In 2015 FreeTrade Ireland established a Public Resource Exchange Platform (PREP) which is a free online reuse service for public services, allowing its users to pass on unused or unwanted items for free within the public sector. Prep.ie delivers real financial savings to all its users, as well as being good for the environment.

8.2.3 Give or Get Project

GiveOrGet.ie is a Cork County Council web-based resource initiative, supported by the Environmental Awareness and Research Unit and managed by Macroom E Enterprise Centre. It's a platform, aimed entirely at householders, to facilitate users to engage in the reuse of items. It is a means for Cork County Council to promote a change in attitude and behaviour in respect of the reuse or longer life of household goods. All items are offered on the website free of charge. At year end 2013 membership of the site stood at 1,780. In June 2014 there were 133 active items on the site.

8.2.4 Boomerang Mattress Recycling

This reuse/recycling project was set up in January 2014 by Cork Environmental Forum with initial support from the EPA and Cork City Council. Mattresses are being sourced from furniture retail units and other sources (hotels, student accommodation, etc). They are deconstructed and the constituent parts, namely steel springs, wood and textiles, are reused or recycled. To date the textile component is proving most challenging in finding a reuse or recycling solution. Components may be

suitable for production of geotextiles for automotive insulation, padded envelopes or even new mattress textiles. Part of the work of this project is to research and find appropriate avenues for reuse and recycling of the textiles.

A key objective of the project, which is now also funded by Cork County Council, is to provide employment and training opportunities for long-term unemployed people. The project allows for the diversion of a problematic bulky waste stream from landfill.

8.2.5 Upcycling, Reuse and Preparing for Reuse

Upcycling and preparing for reuse enterprises have been setting up and developing across Ireland in recent years. The significant contraction in the national economy and as a consequence the level of income available to families has altered personal consumption behaviours. A renewed interest in the value and life of our materials has taken root, with many new businesses employing innovative solutions to waste materials.

In the EC Barometer study referenced previously it was found that more than 70% of people would buy second-hand furniture in Sweden, Finland and Denmark but 43% of all respondents in the barometer believed that second-hand goods were inferior. If we are to move reuse and upcycling from niche to mainstream, successive regional awareness raising programmes are required.

Upcycling is the repurposing of items that may otherwise be seen as waste or useless products. The process converts these waste materials into new materials or products of higher value and quality, giving them a new purpose and, most importantly, avoiding adding them to landfill. Upcycling and similar prevention and preparing for reuse activities can no longer be viewed as add-ons to our waste management system. If waste is to become a resource which is fed back into the economy as a valuable and usable material, then much higher priority needs to be given to REUSE and recycling. There are direct social, environmental and financial benefits to be gained by those working in the sector and for consumers.

Fiscal, technical and regulatory supports are being provided by the EPA to specific upcycling groups under the programme. The local authorities also provide funding and supports to local initiatives in the sector where possible. However, the availability of funding supports through environmental and local sources is limited and cuts to existing funding are making it more challenging for dependent activities to survive. To ensure lasting viability, upcycling activities must have a commercial plan from creation and all funding avenues, such as local enterprise grants, should be explored to help kick-start and grow the business.

Upcycling activities are varied: in some instances items or products which have never become waste are renewed and converted into higher value items, e.g. an old piece of furniture painted or upholstered. In other cases waste materials are repaired or modified or cleaned into usable and valuable products and items, e.g. a discarded broken bike. From a waste perspective upcycling activities straddle waste prevention and preparing for reuse treatments as defined on the waste hierarchy. Both activities represent an efficient use of resources and the expansion of this sector is a positive outcome of the recession in Ireland and has created direct employment for many people.

Table 8-4: Upcycling Case Studies in the Southern Region

Mamukko is an award winning creative design and manufacturing workshop run by two Hungarian brothers in Kinsale, Co. Cork. Mamukko designs and makes limited edition stylish, fun and eco-friendly bags from upcycled materials. The design style is a mixture of contemporary and classical bag designs using unique raw materials to create an eco-eclectic style. Using upcycled fabrics, this collection reinvents and reinterprets textiles giving a green slant to fashion accessories. The end results are contemporary, functional and ethical accessories including sailing bags, gear bags and fashionable ladies' totes. Mamukko is supported by the South Cork Enterprise Board and has been the recipient of a number of commendations and awards:

The Irish Times "New Innovator".

Silver Award @ Startup Awards 2013 "Green Startup of the Year" category.

Highly Commended Award @ Showcase Best Product Awards 2014 "Accessories" category.

Finalist & Green Awards 2014 "The Waste to Business Resource Award" category.

Back2New Community Upcycling

The Back2New initiative, developed and managed by West Limerick Resources (WLR) Leader Group, commenced in 2011. The initial concept was developed in conjunction with the SR and Limerick County Council (LCC). LCC had been operating CA sites since 2006 and found that significant quantities of furniture were being presented for recycling at the ACs. Many of the items deposited were good quality but outdated. The initial response was to set pieces aside to see if there was an interest from users in taking the furniture away. Relatively few items were picked up in this manner, and from reviewing the success of furniture upcycling projects elsewhere it was felt that "value" needed to be added to items in order to improve their popularity. An initial pilot project was undertaken for a six week period to test the market, which was followed by a longer term training project supported by the Tús Initiative (Tús is a community work placement scheme providing short-term working opportunities for unemployed people). Funding has also been secured from ESB to pilot an Upcycling project to convert cable reels into occasional furniture pieces. WLR is also investigating opportunities with St Vincent de Paul (SVP) to source and supply furniture to SVP clients.

The Community Reuse Network (CRN) is an umbrella body for community-based organisations who are engaged in REUSE activities. Funded by the EPA under the NWPP, CRN members are involved in both direct reuse and preparing for reuse upcycle activities. The members of the group work together to promote the reuse movement, to expand the organisation and to share experiences. The group is researching and developing a unified brand for the reuse sector in Ireland. It is anticipated that this brand will operate in a similar style to a quality mark, with the intention of elevating the profile of the reuse sector and addressing some of the misconceptions relating to upcycled and reused goods. The growth of the organisation through innovative projects such as this will help to strengthen the collective voice of the upcycle movement.

In summary, being more efficient with our resources offers the means to achieve a balance between allowing current generations to prosper and develop and safeguarding the future for generations to come. Increasing activities such as upcycling and preparing for reuse can help Ireland's transition to

a resource efficient circular economy by preventing unnecessary and inefficient consumption of material.

Policy

The recent publication *Action Plans for Jobs 2014* by the Government supports the reuse sector (which incorporates preparing for reuse and upcycling) in Ireland, which is implementing a direct action calling for "*job creation through the greater use of waste as a resource*". This specific job creation action is part of the transition towards a greener, healthier and more sustainable economy which mirrors the underlying strategy of the regional waste plan. The local authorities recognise the value vibrant reuse, repair, upcycling and preparing for reuse activities can add to communities and the economy. The development of these enterprises will be supported and encouraged by the local authorities over the plan period. From an environmental perspective the reuse of materials to prevent them becoming waste in the first place is significant, with many positive impacts on the environment. It reduces the quantity of waste to be managed and thereby reduces the associated environmental impacts with recovery and disposal of wastes.

Policy:

C1. Establish reuse, repair, and preparing for reuse activities and networks to recirculate and extend the lifespan of items.

8.3 NATIONAL PROGRAMMES

The National Waste Prevention Programme (NWPP) was established in 2004. In Ireland commitment to an NWPP was originally made in the Government policy document "*Preventing & Recycling Waste – Delivering Change"* published in 2002. A National Waste Prevention Committee, appointed by the Minister for the DECLG, oversees the strategic development and implementation of the programme. It is chaired by the EPA and comprises a wide range of stakeholders from industry, commerce, agriculture, local authorities, NGOs and Government Departments.

The overall objective of the NWPP is to establish an ambitious programme that delivers substantive results on waste prevention and minimisation across both hazardous and non-hazardous waste arisings. The programme has three main strands:

- Production and consumption behaviour change – Resource Efficiency;
- Statutory producer and holder responsibility obligations for specified materials and substances;
- Measurement of progress through waste statistics reporting.

8.3.1 Southern Region Engagement with NWPP

The local authorities and the regional office in the SR have engaged extensively with the NWPP under the Green Business Initiative and LAPN.

A Regional Industrial Waste Minimisation Officer has been employed by the region since 2003 with the remit of promoting waste minimisation across the region, with a particular focus on encouraging resource efficiency in SMEs and micro-industry.

In 2007 the former Limerick Clare Kerry Regional Waste Management Office (RWMO) recruited a Waste Prevention Officer to coordinate local authority waste prevention activities.

Each of the local authority EAOs also engages with the NWPP by participating in LAPN, Green Business and Green Your Festival initiatives as well as the Stop Food Waste programme.

8.3.2 Green Business Initiative

Established in 2007, *greenbusiness.ie* is the umbrella flagship project of the Green Business Initiative. It provides a free and confidential resource efficiency service for all types of SME in Ireland. The service is funded under the NWPP with the objective of delivering substantive resource efficiency improvements and cost savings, through waste prevention as well as reductions in water and energy consumption.

Typical engagement by a business with the Green Business Programme will result in a resource efficiency assessment being undertaken and a report produced providing recommendations for resource efficiency savings.

In 2013, 17 businesses across the SR availed of assistance from Green Business. Green Business also conducts an annual workshop programme and in 2012 six of these took place in the SR attended by over 150 delegates. These workshops provide businesses with an introduction to resource management through preventing waste, reducing energy and water consumption, reducing business costs and improving competiveness.

8.3.3 Green Hospitality Award

The Green Hospitality Programme comes under the Green Business umbrella and provides a step-by-step approach to environmental management within the hospitality and catering sectors, with awards given at silver, gold and platinum levels. It is recognised internationally, and has all major stakeholders' support within Ireland, including Fáilte Ireland, the Irish Hospitality Institute and the Irish Hotels Federation. Hotels in the SR that have achieved platinum status include Dromoland Castle, Co. Clare, Garryvoe, Co. Cork and the Moorings, Portmagee, Co. Kerry.

8.3.4 Green Healthcare Programme

The Green Healthcare Programme (GHCP), also under the Green Business umbrella, is a collaborative and cooperative set of activities by three main stakeholders: healthcare facilities, the EPA and Clean Technology Centre, which manages the initiative on behalf of the EPA

GHCP has grown from an initial pilot project in 2009. To date it has provided direct advice and assistance to 14 hospitals in the SR, which included:

- Detailed waste surveys;
- Follow-up reports;

- Recommendations;
- Customised advice.

The GHCP has developed proven methodologies to undertake food waste, clinical waste, recyclable waste and mixed residual waste characterisation analyses.

The programme also aims to allow hospitals themselves to become more resource efficient through benchmarks. Resources developed as part of GHCP include case studies (based on actual work done in Irish hospitals, to reduce costs and waste):

- **Best Practice Guides** (providing hospitals with valuable assistance in achieving best practice in waste reduction);
- **How To Guides** (giving step by step instruction to hospitals to reduce costs and become more resource efficient);
- **Factsheets** (offering valuable information on a range of waste-related topics in Irish hospitals).

In 2014 the HSE became a joint sponsor of this initiative alongside the EPA, ensuring that the immediate future of the project is secure.

8.3.5 Green Your Festival

In recent years there has been significant growth in the number of festivals and events staged locally, regionally and nationally. Some of this is driven by communities to boost the local economy or to offer more choice to local and international visitors as part of a tourism package. National initiatives such as *The Gathering 2013* and *National City of Culture 2014* have proved hugely successful. Festivals and events, while good for the local economy, generate significant quantities of waste. Most are organised and run by local committees on a part-time or voluntary basis. In 2010 the former Limerick/Clare/Kerry region developed a waste prevention guide for festival and event organisers as part of the LAPN programme. The guide proved to be exceptionally popular and the initiative to green festivals and events grew into a national programme supported by other local authorities participating in LAPN. Resources were further developed and are available on a supporting website: www.greenyourfestival.ie

In 2013 22 festivals in the SR registered on www.greenyourfestival.ie and undertook resource efficiency measures. Organisers are encouraged, with the support of their local authority, to develop benchmarks for annual improvement such as litres of water per visitor or kg of waste per visitor/exhibitor.

8.3.6 The Stop Food Waste Campaign

The Stop Food Waste (SFW) programme is also funded under the NWPP and has a remit to promote food waste prevention and home composting. This framework programme is managed by the Clean Technology Centre.

Since its inception in 2009, it has worked with householders, communities, schools, local authorities, Tidy Towns groups and businesses, providing comprehensive information about the food wasted and

how to prevent this through rethinking key behaviours such as how to shop, store food, cook and use leftovers.

Working in conjunction with other national programmes as well as with local community networks is a key principle of the programme. Its strongest link is with LAPN, but it has also demonstrated good applications with the Green Hospitality Award and Green Homes as well as directly with Green Festivals, Tidy Towns and Green Communities.

A key driver of involvement with the programme is that individuals or businesses engaging save money alongside preventing food waste.

Figure 8-6 Examples of Retail Food Waste from Audits Carried out by SFW/LAPN

8.3.7 Local Authority Prevention Network (LAPN)

The LAPN is a cooperative programme between the NWPP and local authorities in Ireland. LAPN initially aimed at building capacity among local authority staff to enable and promote waste prevention at a local and grassroots level.

LAPN followed on from the successful completion of the Local Authority Prevention Demonstration (LAPD) Programme (2006–2009), which encompassed a range of waste prevention projects around Ireland.

Now the network acts as a mechanism to engage with local authorities directly in implementing waste prevention and resource efficiency projects both within their own organisation's activities and throughout their functional areas.

The network is supported under the NWPP and financial grant aid is available from the EPA for participating local authorities, as well as promotional supports and other assistance.

The SR has been an active participant in LAPD/LAPN since its inception and has availed of funds to employ a full-time Waste Prevention Co-ordinator.

A total of 77 projects have been undertaken as part of the LAPN initiative by local authorities in the SR, with funding of just over €1.5m received from the EPA from 2006 to 2013.

Awareness of waste prevention in the Small and Medium Enterprises (SME) sector, the community in general and at household level has been greatly enhanced on foot of this region's involvement in LAPN. Local authorities within the region have also undertaken in-house resource efficiency initiatives as part of LAPN, which have also significantly improved and enhanced staff attitudes to waste prevention.

Training and up-skilling have been a significant component of the work of the LAPN, and now:

- Five local authority staff in the SR are proficient in waste auditing techniques;
- Seventeen local authority in the SR availed of food waste prevention training;
- Nine local authority staff availed of water conservation training;
- Eleven local authority staff undertook waste prevention FETAC Level 5 training as part of their engagement with LAPN.

Promotion of waste prevention is vital to its success, and local authorities across the SR have engaged in European Week for Waste prevention (EWWR) to promote LAPN locally & regionally. EWWR presents an opportunity to engage with communities specifically on waste prevention and to raise awareness of individual actions and influence behavioural change.

Figure 8-7 EWWR Activities 2010 & EWWR 2011

LAPN has been a results-driven project and each participating local authority in the SR has been obliged to ensure that funded projects have measurable outcomes. A number of significant key performance indicators (KPIs) have been developed as part of this work and these have proved very useful as transferable data between local authorities. SMEs in Cork County participated in a resource efficiciency training and mentoring programme between 2010 and 2013, funded by LAPN. This programme advanced to an ECO Merit certificate awards scheme in 2013.

Table 8-5: Example Indicators from LAPN Projects

Example Indicator	Measurement
Kg of waste per visitor to outdoor facility: e.g. Fota Wildlife Park	Kg/No of visitors
Sheets of paper per employee/student: Example UI, LCC	Reams of Paper/no. of students
Litres of water per patient bed night: e.g. Hospice	Cubic metres of water/patient bed night
Kg's of Food Waste per patient bed night: e.g. Nursing	Kg's of food waste/patient bed night

Example Indicator	Measurement
Home	
Cubic metres of water per swimmer e.g. public pools	m^3 of water/swimmer
kWh per operating hours	kWh/operating hours

Policy

The NWPP is an exemplar national waste prevention strategic programme and its cross-sectoral initiatives have raised awareness and changed behaviours of household, business and industry participants. The evaluation of the previous waste plans identified the need for the local authorities to continue to work with the NWPP and to better coordinate their activities to deliver more consistent and effective messaging. Over the plan period the local authorities in the region will seek to build on the relationship which many have with the NWPP and through the lead authority implement campaigns and activities regionally where appropriate. Having a strong partnership with the NWPP will lead to better integration of established and new national prevention programmes, leading to waste reduction gains and positive impacts on all environmental receptors.

Policy:

B3. Build and maintain a strong partnership with the National Waste Prevention Programme.

The national hazardous waste plan identifies the regional waste plans as the appropriate mechanism through which to implement hazardous wastes prevention activities targeting households and small businesses. The local authorities recognise the need for better synergies between the plans in areas of common interest. In addition to this plan there are other national programmes and producer responsibility schemes which are carrying out activities related to those of the regional waste plan. The local authorities will explore the opportunities to work with other stakeholders and authorities to extend the reach of waste prevention awareness and messaging.

Policy:

B4. Harmonise prevention activities in the region to link with the national hazardous management plan, producer responsibility operators and other related programmes (such as litter, sludge, water etc).

9 MANAGEMENT OF HOUSEHOLD WASTE

This chapter provides a comprehensive overview of the management of household waste in the SR. The data presented is for the most part on a regional basis, with the corresponding data for the local authorities tabulated in **Appendix C**.

Household waste generated in the SR is collected through a number of collections systems, which include:

- Kerbside collection systems;
- Civic amenity facilities;
- Bring banks;
- Residual waste directly to the landfill;
- Bulky waste collected by authorised collectors;
- Waste electrical and battery take-back schemes; and
- Pay-to-use (PTU) waste compactor units.

Table 9-1 details the wastes arising from the above sources, in the SR, over the period 2010–2012. The flow diagram presented in **Figure 9-1** shows that household waste consists of both managed and unmanaged household waste.

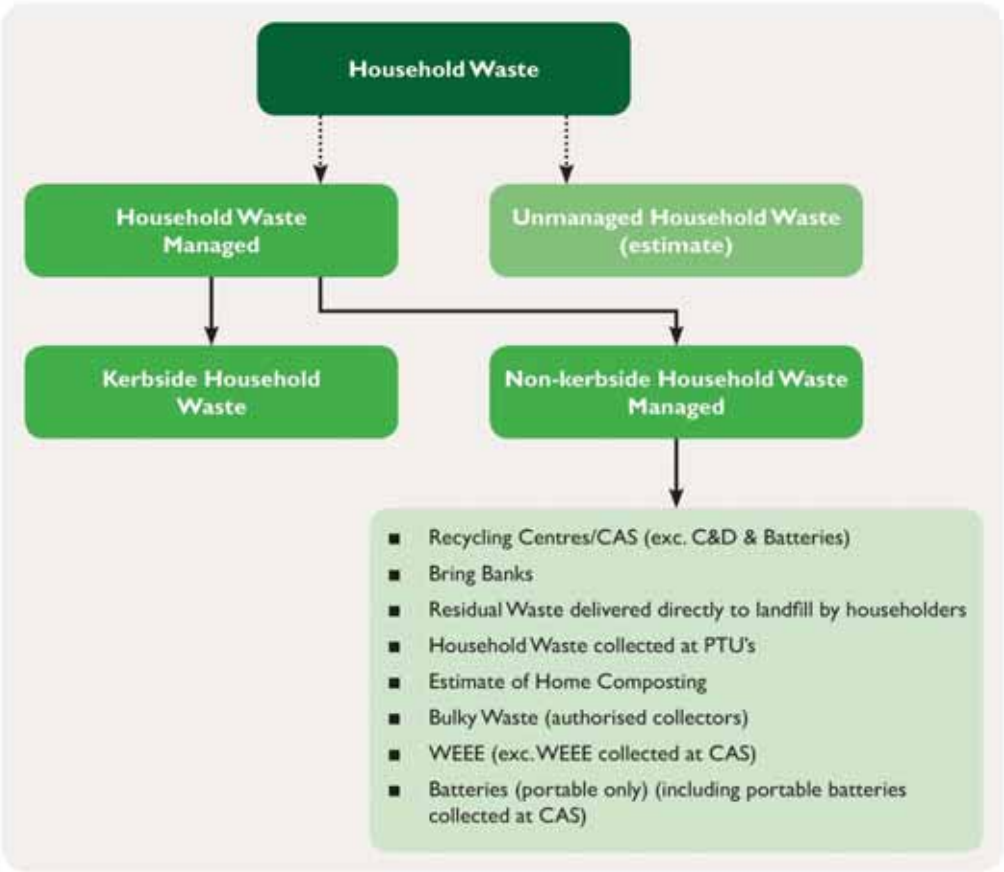


Figure 9-1 Household Waste Flow Diagram

The household waste managed (HWM) is the sum of the household waste collected at kerbside and the non-kerbside household waste. The kerbside household waste collected includes residual, mixed dry recyclables (MDR), organic and glass wastes, collected by mainly authorised private collectors and two LAs[45] within the SR. The non-kerbside household waste collected includes bulky household waste collected by authorised collectors, waste brought by householders directly to landfills, PTUs, bring banks and civic amenity facilities. It also includes WEEE and batteries brought to retailers and quantities collected at special specific collection days/events.

The unmanaged household waste is an estimate of the quantity of waste generated by households but not collected via one of the above collection systems. This is explored further in **Section 9.4**.

9.1 QUANTITY OF HOUSEHOLD WASTE

The HWM within the SR decreased by approximately 5.5% year-on-year during the period 2010–2012. This decrease is linked to declining personal consumption as the economy contracted over the period 2008 to 2012. **Table 9-1** details the HWM within the SR, for the period 2010–2012. In 2011 the percentage of HWM directed to recycling/recovery exceeded the percentage disposed, with only 37% of HWM disposed in 2012. The decrease in percentage disposed is linked to the increasing quantity of residual waste sent for export.

Table 9-1: Details of the HWM within the SR, 2010–2012.

Year	HWM (tonnes)	HWM / inhabitant (t/inhabitant)	% HWM directed to recycling /recovery	HWM - Directed to recovery per inhabitant (t/inhabitant)	% HWM disposed	HWM - disposed / inhabitant (t/inhabitant)
2010	507,642	0.329	48%	0.159	52%	0.17
2011	479,246	0.311	52%	0.161	48%	0.15
2012	455,115	0.295	63%	0.187	37%	0.108

Each year the EPA reports[46] on the national HWM per inhabitant along with the percentage recovered and disposed. **Table 9-2** compares the national figures with the SR figures.

Table 9-2: HWM in the SR Compared to the National Figure

Year	SR - HWM / inhabitant (t/inhabitant)	National - HWM / inhabitant (t/inhabitant)	SR- % HWM directed to recycling /recovery	National- % HWM directed to recovery	SR- % HWM disposed	National - % HWM disposed
2010	0.329	0.310	48%	41%	52%	59%
2011	0.311	0.307	52%	47%	48%	53%
2012	0.295	0.297	63%	57%	37%	43%

As is evident from **Table 9-2**, the HWM per inhabitant in the SR is similar to the national figure reported in each year. However, the percentage of HWM directed to recycling and recovery in the

[45]Kerry County Council, Kilkenny County Council.
[46] National Waste Report 2012 (EPA, 2014).

SR is higher than the national figure due to the increasing quantity of residual waste from the region sent for export.

The household residual waste collected at kerbside in the SR is brought directly to landfill, to a bulking station or to a mechanical treatment facility. The WCP Annual Environmental Report (AER) provides information on the local authority area where the waste was collected and the waste facility to which it was delivered. The eventual treatment of waste delivered to bulking stations within the SR is not available from the WCP AER dataset, as only the first destination of the waste is recorded (for waste collected from non-waste facilities). **Figure 9-2** shows that the greater part of household residual waste collected at the kerbside in the SR in 2012 was delivered directly to bulking stations (72%), with the balance delivered to mechanical treatment facilities (21%) and to landfill (6%). No residual household waste collected in the SR in 2012 was delivered directly to a thermal recovery facility; however, 18% of the residual household waste collected was sent indirectly to a thermal recovery facility.

For the 2012 data the EPA analysed the returns for bulking stations submitted as part of the *National Waste Report* 2012[47] and assigned the percentage of outgoing household residual waste from these stations by type of destination, on a national and regional basis. This analysis shows that most household residual waste delivered directly to bulking stations in the SR went for either disposal to landfill (62%) or thermal recovery (24%). The remaining 14% of the residual waste was brought to another waste facility (either a bulking station or a mechanical treatment facility) for further treatment. Waste was often moved between sites owned by the same company. This is presented in **Figure 9-2** with a comparision to the national picture.

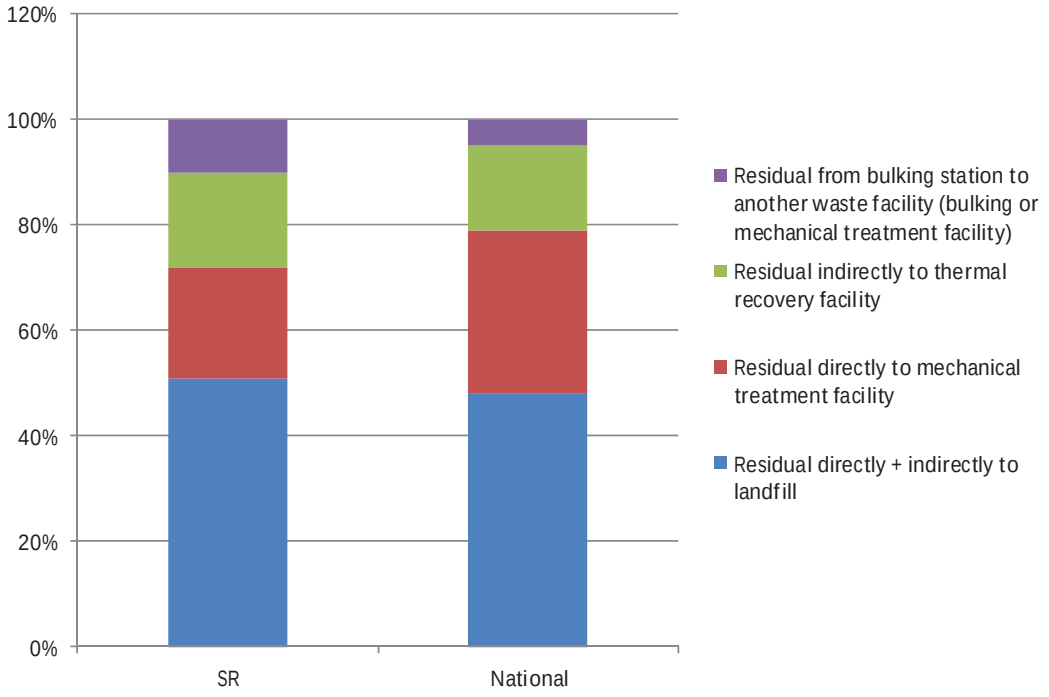


Figure 9-2 Treatment of Residual Household Waste in 2012

The analysis of destinations post bulking stations resulted in a much clearer picture of the treatment of household residual waste in the SR. The final treatment of household residual waste collected at the kerbside in 2012 in the SR is presented in **Figure 9-3** and can be broken down as follows:

- 51% sent for disposal to landfill (directly and indirectly);
- 39% sent for recovery/recycling (18% sent indirectly to thermal recovery and 21% sent directly to mechanical treatment destined for recovery/recycling); and
- 10% sent indirectly to another waste facility (either bulking station or mechanical treatment facility) and its final treatment was not analysed.

MDR waste collected at kerbside is brought to either a bulking station (prior to onward transport to a material recovery facility) or direct to a material recovery facility for sorting and baling prior to being recycled or recovered in Ireland or abroad. The latest data shows that Ireland exported 58%[47] of the total municipal waste recovered/recycled (of which a significant portion is household waste).

The source-segregated organic waste collected at kerbside is brought to either a bulking station (prior to onward transport to a composting/anaerobic digestion facility) or direct to a composting/anaerobic digestion facility for treatment in accordance with the animal by-products regulations. The recovery of this waste is primarily within the State.

The source-segregated glass collected at kerbside is brought to either a bulking station (prior to onward transport to a recycling facility) or direct to a recycling facility. The reprocessing of glass cullet into new glass containers at present occurs outside the State. Some crushed glass is sent to a quarry in Clare for backfilling under the local authority permitting system.

The non-kerbside household waste collected is mostly source segregated at bring banks, civic amenity facilities or specific collection points for the WEEE and batteries, and after collection is either sent directly to a recovery/recycling or disposal facility or sent to a bulking station prior to onward transport. Bulky waste[47] collected is generally brought to a mechanical treatment facility.

9.2 KERBSIDE HOUSEHOLD WASTE

Approximately 76% of the HWM in SR in 2012 was collected through the kerbside collectors. This percentage has been increasing year on year since 2010, from 75% in 2011 and 72% in 2010. This increase has occurred despite the decrease in the quantity of HWM during the same period. **Table 9-3** details the quantity of kerbside HWM collected within the SR between 2010 and 2012.

[47] It has been assumed that collected bulky waste consisted of 7.6% of mixed waste sent for disposal with the remaining 92.4% sent for recycling/recovery (*All Island Bulky Waste Reuse Best Practice Management Feasibility Study*, RX3, 2013).

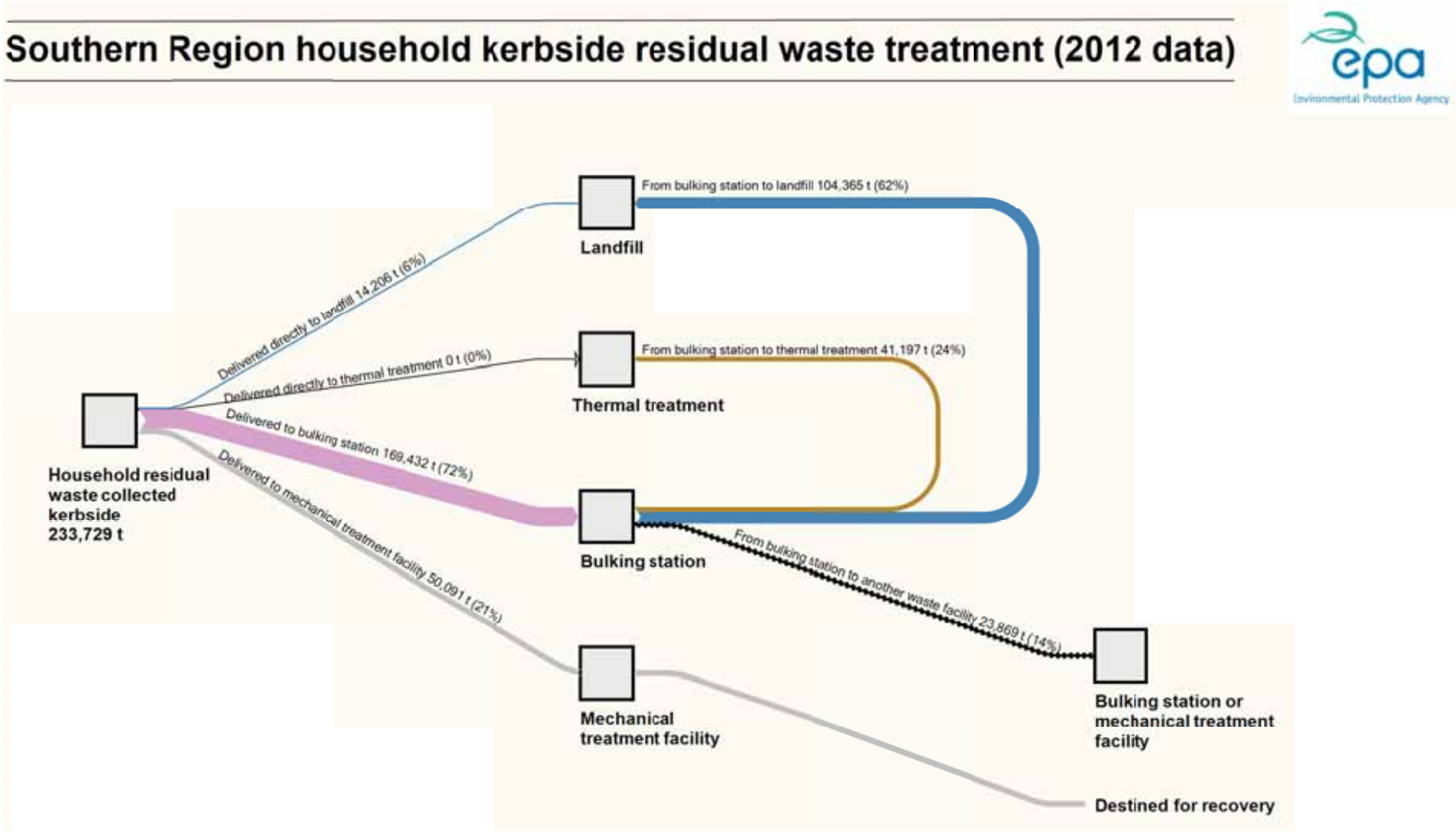
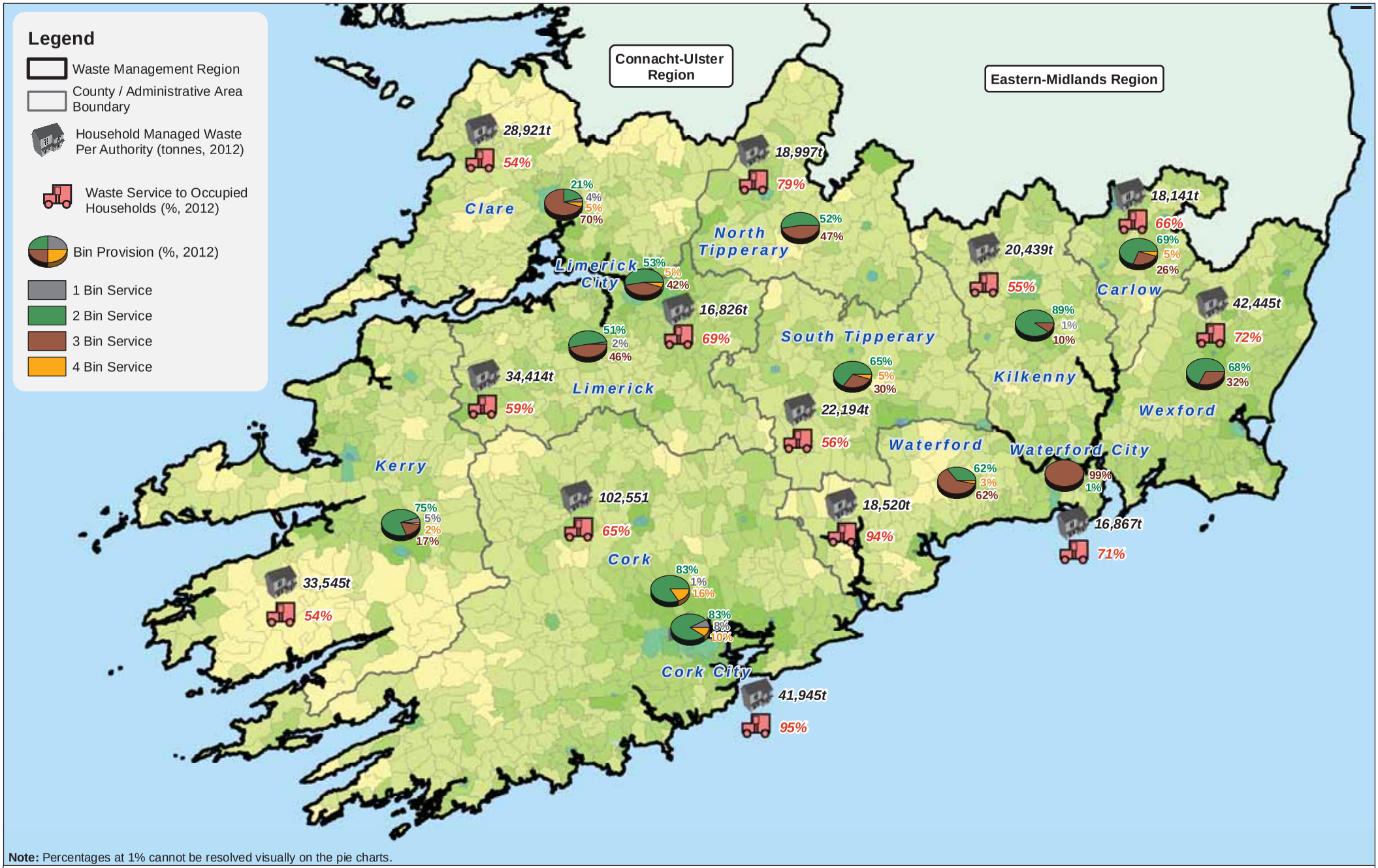


Figure 9-3 Treatment of Residual Household Waste



Note: Percentages at 1% cannot be resolved visually on the pie charts.

Figure 9-4 Waste Services in the Southern Region

Table 9-3: Details of the Kerbside HWM within the SR 2010-2012

Year	Total Kerbside HWM (tonnes)	Total Kerbside HWM / household served (tonnes / household)	Residual kerbside household waste collected / household served (tonnes / household)	Kerbside household waste collected destined for recycling *('Destination RECycling' (DREC)*) / household served (tonnes / household)
2010	364,027	0.96	0.67	0.29
2011	357,418	0.97	0.68	0.29
2012	345,151	0.93	0.64	0.29

The total kerbside HWM and residual kerbside household waste collected per household served, in the SR, decreased slightly in 2012 compared to the preceding two years. Despite this decrease the quantity of non-residual kerbside household waste collected per household served remained static during the period 2010–2012.

9.2.1 Collection Services

In recent years the household waste collection market has gone through a period of rapid transition, with many local authorities exiting the market, and collection is now primarily undertaken by private operators. At the time of publication of this plan the number of local authority collectors has reduced to two, namely Kerry County Council (formerly Killarney Town Council) and Kilkenny County Council (formerly Kilkenny Borough Council). According to the 2012 WCP AERs, less than 2% of householders with a waste collection service within the SR were serviced by a local authority.

The number of private active household waste collectors within the SR has also decreased in the past few years, from 49 (2011) to 42 (2012) to 37 (2013) (figures reported are for end of each calendar year). Despite the relatively large number of authorised household waste collectors within the SR at the end of 2012, 10 of these collectors were servicing over 90% of the householders on a kerbside collection service.

In 2012 approximately 67% of the permanent private households within the SR were signed up to a kerbside collection service. This percentage had remained largely unchanged in the period 2010–2012. **Figure 9-5** shows the percentage of households signed up to a kerbside collection service for the years 2010 –2012 for each local authority within the SR.

Figure 9-5 indicates a generally higher participation rate in urban areas, i.e. Cork City and Waterford City. However, the participation rate in Limerick City shows a decreasing participation rate over the period. This may be attributed to ongoing issues with collectors identifying Limerick City and County boundaries and/or the introduction of PTUs within the city environs.

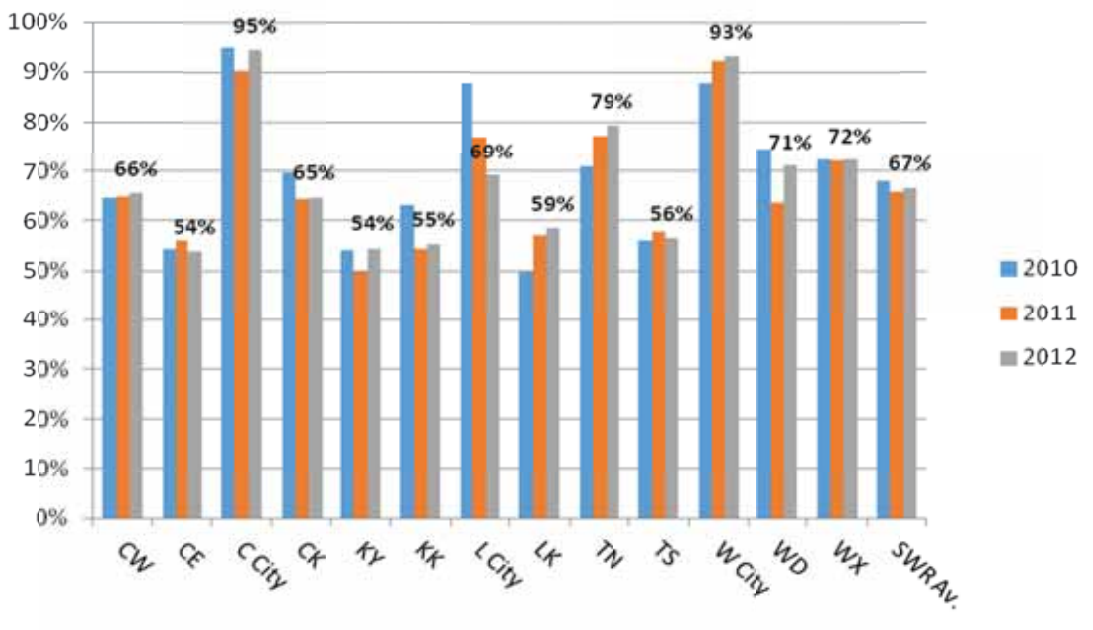


Figure 9-5 Percentage of Householders Signed up to a Kerbside Collection Service 2010–2012

The data in **Figure 9-5** shows a lower participation rate in local authority areas with significant rural areas; this may be due to householders in these areas bin sharing or driving to landfills/transfer stations or civic amenity facilities, particularly since the economic downturn. It should also be noted that not all households in the region have access to a collection service, particularly in the more peripheral areas of counties Kerry and Cork.

Figure 9-5 indicates that in 2012 approximately 33% of occupied houses within the SR were not signed up to a kerbside collection service. The overall percentage for the SR had remained largely unchanged since 2010; however, some local authority areas had shown greater variations as detailed above.

It should be noted that the percentage of households not participating in a kerbside collection service is likely to be an overestimation for a number of possible reasons:

- Many householders share a bin with relatives/neighbours and this is not recorded;
- Where a collector operates a tag-a-bin service it is difficult for them to accurately estimate the number of customers/households;
- Not all operators accurately report the number of apartments they service and figures reported are often an estimate (apartments accounted for 6% of occupied households in the SR in 2011);
- Householders instead of availing of a kerbside collection service dispose of their waste at landfills/transfer stations, civic amenity facilities or PTUs, particularly since the economic downturn.

Household waste collectors are required to provide all householders with a minimum two-bin collection service, i.e. MDR and residual waste bins, in accordance with their WCP. Collectors are also required to provide householders with organic waste bins in accordance with the EU (Household Food Waste and Bio-waste) Regulations 2013, in specified areas. Some household kerbside collectors provide a fourth bin to their customers for the collection of source-segregated glass.

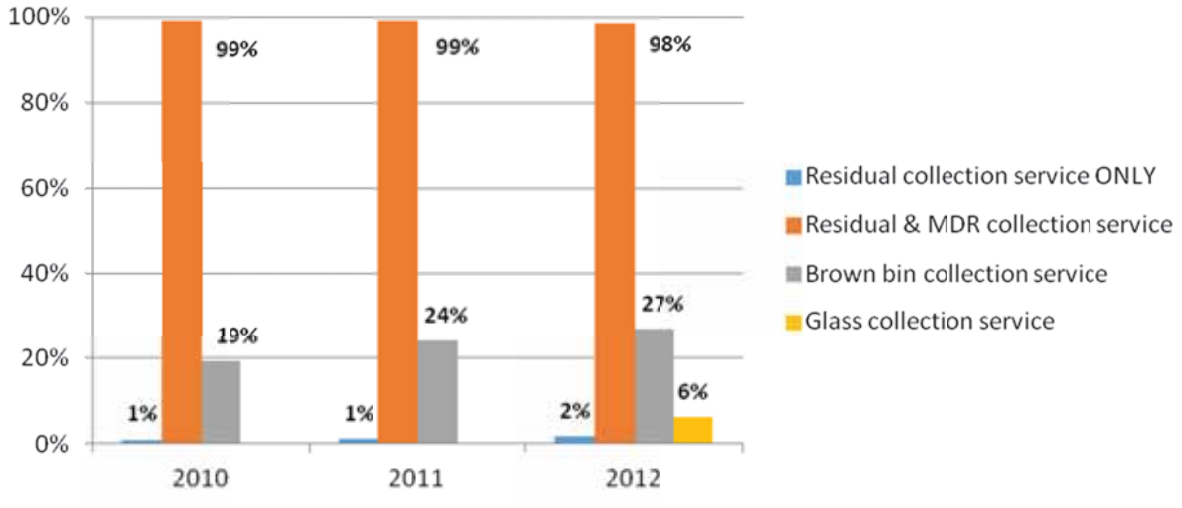


Figure 9-6 Household Waste Collection Service in SR

Figure 9-6 shows the household collections service type provided to householders on a collection service in the SR between 2010 and 2012. Further details of the household kerbside collection service are provided in the following sections.

9.2.2 Residual Waste Collection Services

Although household waste collectors are required to provide all householders with a minimum two-bin collection service, i.e. MDR and residual bins, in accordance with their WCP, **Figure 9-6** indicates that a small percentage of householders are offered a residual collection service only in SR. There was a slight increase in the percentage of householders in SR offered a residual collection service only in 2012 (1.61%) compared to 2010 (0.84%) and 2011 (0.95%). This increase may be due to the more accurate recording, by collectors, of apartments served. Apartment blocks are often only provided with residual bins due to the misuse of the MDR bin, when provided.

Table 9-4 details the quantity of residual household waste collected in SR between 2010 and 2012. Details of the residual household waste collected per household served are also provided.

Table 9-4: Residual Kerbside Household Waste Collected in SR 2010–2012

Year	Residual kerbside household waste collected (tonnes)	Residual kerbside household waste collected / household served (tonnes / household)
2010	255,743	0.67
2011	250,464	0.68
2012	238,255	0.64

The residual kerbside household waste collected in the SR decreased by 5% in 2012 compared to 2011. The residual waste collected per household served varies across the local authorities within the region.

9.2.3 Mixed Dry Recyclables (MDR) Waste Collection Service

Almost all householders on a kerbside collection service can avail of an MDR collection and typically the following dry recyclable materials are permitted to be accepted in the MDR bin:

- Newspapers, magazines, mail-shots and office paper;
- Cardboard (cereal boxes, washing powder boxes);
- Plastic bottles (drinks, shampoos);
- Tetrapaks; and
- Cans and tins (drinks cans, tinned food cans).

Figure 9-6 shows the percentages of households provided with a one-, two-, three- and four-bin collection service in the SR between 2010 and 2012. **Figure 9-5** illustrates the collection service per local authority area in 2012, which clearly indicates progress in the roll-out of the brown bin, with Waterford City having almost complete roll-out.

Table 9-5 details the quantity of MDR household waste collected in SR between 2010 and 2012. Details of the MDR household waste collected per household served are also provided.

Table 9-5: MDR Kerbside Household Waste Collected in SR 2010–2012

Year	MDR kerbside household waste collected (tonnes)	MDR kerbside household waste collected / household served (tonnes / household)
2010	92,457	0.244
2011	89,284	0.243
2012	87,750	0.235

The quantity of MDR household waste collected in SR decreased year on year between 2010 and 2012, reflecting the overall decline in household waste managed. A reduction in personal disposable income has resulted in householders spending less and generating less waste. This has impacted on segregated household waste quantities collected, including the tonnage of MDR.

9.2.4 Organic Waste

Since July 2013 household collectors must provide a minimum three-bin collection service, i.e. organic waste bin in addition to the MDR and residual bins, in specified areas. In accordance with the regulations brown bins will be rolled out to most towns and villages within the SR by July 2016. Further details of the regulations are provided in **Chapter 3**.

As evident from **Figure 9-7**, the percentage of householders provided with a brown bin collection service in the SR has shown a steady increase in 2010–2012, with 27% of householders on a collection service provided with a brown bin at the end of 2012. It is expected that this figure will increase over the coming years in response to regulatory timelines.

Figure 9-7 shows the percentage roll-out of the organic bin within the local authority areas in the SR between 2010 and 2012.

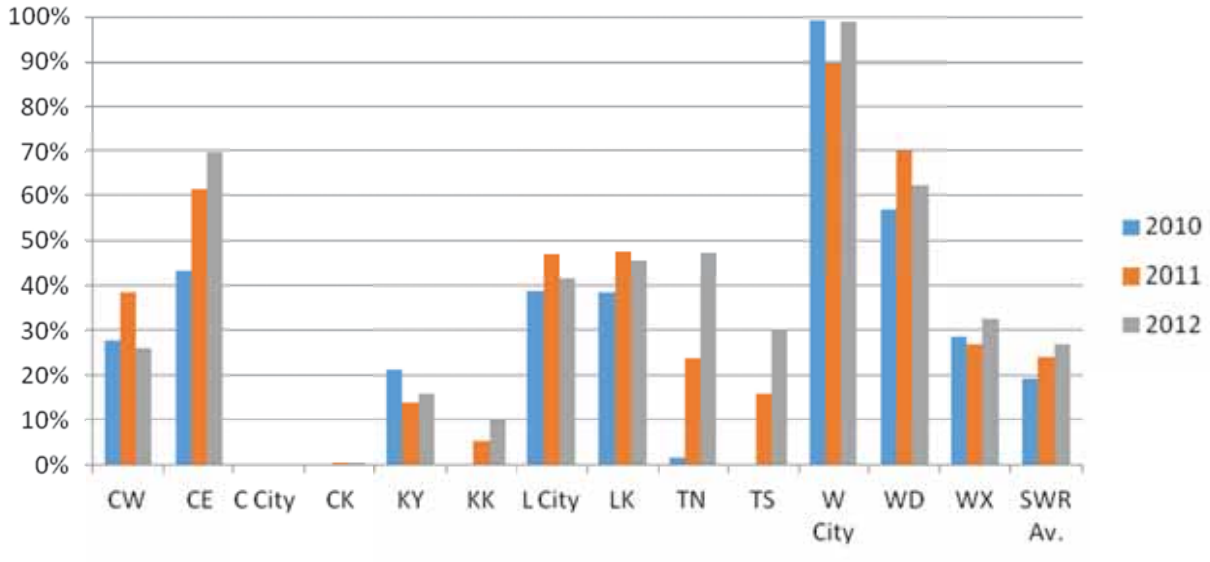


Figure 9-7 % Households with a Kerbside Organic Collection Service in SR 2010–2012

Figure 9-7 shows the progress in rolling out the organic bin in certain local authority areas in the region. Waterford City had almost 100% roll-out at the end of 2012, with the roll-out in Clare, Kilkenny and Tipperary increasing significantly in 2012. It also demonstrates that certain areas (Cork City and County) had very little or no roll-out of kerbside organic waste collection services at the end of 2012. However, since the introduction of the regulations there has been a significant increase in the roll-out of the kerbside organic waste collection services in these areas.

Table 9-6 details the quantity of organic household waste collected in SR between 2010 and 2012. There was no legal requirement for householders to segregate food waste until July 2013, but waste collectors in some of previous regions had WCPs with a requirement to provide households with a segregated collection of organic waste. Details of the organic household waste collected per household served are also provided.

Table 9-6: Organic Kerbside Household Waste Collected in SR 2010–2012

Year	Organic kerbside household waste collected (tonnes)	Organic kerbside household waste collected / household served (tonnes / household)
2010	12,031	0.032
2011	13,876	0.038
2012	15,047	0.040

The organic household waste collected in SR increased year on year between 2010 and 2012, corresponding to the increase in percentage of households provided with an organic bin in response to regulatory requirements.

The quantity of organic kerbside household waste collected per household served (**Table 9-6**) is calculated based on the number of households with an organic collection service at the end of the specific calendar year. As waste collection companies within the region are rolling out the organic bin on a phased basis over the year, in accordance with the household food waste regulations, the

quantity per household served is likely to be an underestimate as the number of households are increasing incrementally over the calendar year.

A written submission from a major household collector in the SR stated that they collected approximately 0.286 tonnes of organic waste per household served, so there is a considerable distance to go in terms of increased houshold brown bin collection to reach this quantity.

It should be noted that the quantity of organic kerbside household waste collected does not include the organic waste which is home composted or the organic waste which is not source segregated and remains in the residual bin.

9.2.5 Glass

Some household kerbside collectors provide a fourth bin to their customers for the collection of source-segregated glass. This service is generally being offered in the larger urban areas, with a number of local authority areas within the SR having no source-segregated glass collection service available. In 2012 household waste collectors were required to report the number of households provided with a separate glass collection service. **Figure 9-8** shows the percentage of householders with a source-segregated glass collection service in the SR in 2012.

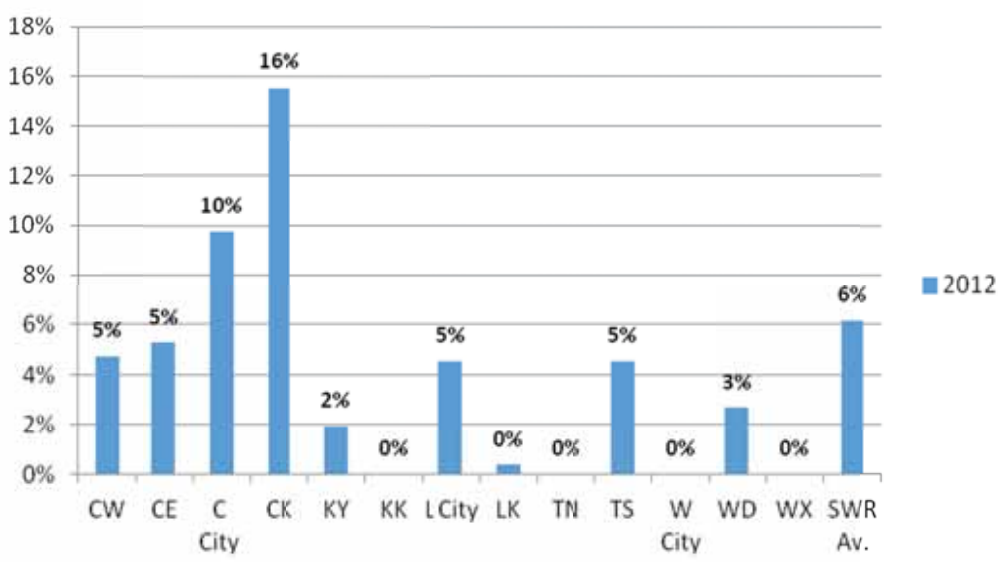


Figure 9-8 Percentage of Householders with a Segregated Glass Collection Service in 2012

At the end of 2012 6% of households with a collection service in the region were provided with a source-segregated glass collection service. The availability of this service varies across the local authorities within the region. As evident from **Figure 9-8**, the percentage of households with this service ranged from 0% in a number of local authority areas up to 15.6% in County Cork.

Table 9-7 details the quantity of source-segregated glass collected through kerbside collections in the SR between 2010 and 2012. Details of the source-segregated glass collected per household served are also provided.

Table 9-7: Kerbside Household Glass Collected in SR 2010–2012

Year	Kerbside household glass collected (tonnes)	Kerbside household glass collected / household served (tonnes / household)
2010	3,796	0.010
2011	3,793	0.010
2012	4,100	0.011

Policy

The kerbside collection service in the region captures the highest volume of residual and recyclable waste from householders. Over the plan period the local authorities in the region will aim through regulatory measures to maintain and develop the existing systems so that the highest number of households possible are part of a reliable and cost-effective three-bin system. Local authorities will work with householders, residents and collectors to ensure consistent compliance with the regulations in place for managing household waste. This approach will have environmental and social benefits for the region.

Policy:

F1. Enhance the enforcement of regulations related to household waste to ensure householders, including apartment residents, and owners are managing waste in accordance with legislation and waste collectors are in compliance with regulatory requirements and collection permit conditions.

9.3 NON-KERBSIDE HOUSEHOLD WASTE

Approximately 24% of the HWM in SR in 2012 was not collected at kerbside; this 24% can be split as follows, with 6% from bulky household waste collections and 18% which was otherwise brought for treatment (bring banks, civic amenity facilities, estimate brought to PTU compactors, directly to landfill, to retailers/collection days in the case of WEEE and portable batteries). **Table 9-8** details the quantity of non-kerbside HWM collected within the SR for 2010–2011.

Table 9-8: Details of the Non-Kerbside HWM within the SR 2010–2012

Year	Non-Kerbside Household Waste Managed (tonnes)	Non-Kerbside Household Waste Managed / inhabitant (tonnes / inhabitant)
2010	143,615	0.09
2011	121,828	0.08
2012	109,964	0.07

The non-kerbside HWM collected within the SR has decreased year on year from 2010, i.e. by 15% in 2011 and by 10% in 2012. This decrease is primarily due to a significant drop in the quantity of residual waste delivered directly to landfills within the SR due to the closure of a number of these

(refer to Chapter 12). The reduction in the quantity of waste collected at bring banks and civic amenity facilities has also contributed to a reduction in the quantity of non-kerbside HWM collected, particularly between 2011 and 2012, when 12% less waste was collected.

9.3.1 Civic Amenity Facilities

Civic amenity facilities are an important element of the regional waste infrastructure, providing an outlet for householders to drop off different types of materials. These materials are generally sent off-site for recycling, recovery or disposal treatments depending on the nature of the wastes.

Civic amenity facilities are distinct from bring banks in that they are generally located within purpose built sites, are manned by permanent full-time staff, from either the local authority or a private contractor, have restricted opening hours, and accept an extensive range of materials, including hazardous materials at a number of sites.

The civic amenity facilities, in the SR, are operated and managed by local authorities, by private operators on behalf of local authorities or by private operators. Some of these facilities are described as recycling centres or in some cases as transfer stations. While the DECLG has funded the capital cost of local authority civic amenity facilities in the past, there is currently no funding available for the development of new facilities. The private sector has developed some new civic amenity facilities in the region. The DECLG continues to contribute towards the operational cost of the facilities based on the tonnage of waste accepted.

Table 9-9 details the total number of civic amenity facilities in the SR and the waste quantities collected for the years 2010–2012. Excluding the WEEE and batteries collected, the tonnage of household waste collected at civic amenity facilities accounted for approximately 10% of the HWM in 2012 and this has contributed significantly to the household recycling rate in years.

Table 9-9: Details of the Civic Amenity Facilities in the SR 2010–2012

Year	Number of civic amenity facilities	Number of civic amenity facilities per 50,000 inhabitants	Waste collected (t)	Waste collected (t) per inhabitant
2010	45	1.46	60,646	0.039
2011	48	1.56	56,145	0.036
2012	50	1.62	50,220	0.033

In 2012 there were 50 civic amenity facilities in operation in the SR, which equates to an average of 1.6 facilities per 50,000 inhabitants. However, the number of facilities per 50,000 inhabitants varies considerably across the region. The total number of facilities had dropped slightly to 49 active facilities in June 2014.

Despite the increase in the number of civic amenity facilities within the region during the period 2010–2012, the quantity of waste collected decreased year on year. The reduction in the quantity of residual waste collected at the civic amenity facilities is the main contributing factor. There was also a significant reduction in paper, card and metal recyclables presented.

9.3.2 Bring Banks

Bring banks are unmanned, fixed receptacles used for the collection of non-hazardous, dry recyclables such as segregated glass (clear, brown and green) and ferrous and non-ferrous metals. These are classified as "recovery" facilities. Bring banks have been established with capital funding from DECLG, with Repak providing funding for the bottle banks. For the most part the bottle banks are self-financing in terms of operational costs, with the costs offset by income from textile banks and the Repak rebate for recycling materials. Textile banks have been set up by charities or private ventures alongside the bring banks.

Table 9-10 gives the number of bring banks and the quantity of waste collected at bring banks in the SR for the years 2010–2012.

Table 9-10: Details of the Bring Banks in the SR 2010-2012

Year	Number of bring banks	Number of bring banks per 50,000 inhabitants	Waste collected (tonnes)	Waste collected per inhabitant (tonnes / inhabitant)
2010	808	26.21	28,418	0.018
2011	797	25.85	28,661	0.019
2012	770	25.04	25,262	0.016

The total number of bring banks within the SR decreased year on year. The reduction in the number of sites can be attributed to factors such as increased availability of alternative outlets including the extended kerbside collection services (addition of kerbside glass collection in certain areas) and the decisions taken to remove bring banks due to illegal dumping, public complaints or anti-social behaviour.

Despite a drop in the number of bring banks and a 12% reduction in the quantity of waste collected at bring sites in 2012 compared to 2011, the waste collected in 2012 accounted for approximately 5.6% of the HWM in the SR, thereby contributing significantly to the overall household recycling rate.

9.3.3 Pay-to-Use (PTU) Waste Compactors

PTU waste compactor units entered the household collection market recently, providing an outlet for the disposal of household residual waste, and are primarily located on garage forecourts. There are currently approximately 36 PTUs in the SR, with the largest number of them located in Co. Wexford. It is estimated that approximately 2,212 tonnes of household residual waste was collected from the PTUs located in the SR in 2012.

The DECLG has indicated that the future activity of PTUs in the household market will be regulated in line with all other household service providers in the collection market. This move is part of a series of regulatory measures being introduced to improve the operation of the household waste collection market. PTU operators will be required to comply with the new mandatory obligations, which will include maintaining a customer register, implementation of the pay-by-weight (per kilogram) system of charging and provision of separate compartment units for residual, recyclables

and, where applicable, organic wastes. PTUs will continue to have a role in household waste collection in certain areas.

9.3.4 Non-Kerbside Organic Waste

In addition to the collection of household source-segregated organic waste at the kerbside, this waste type is collected at a number of civic amenity facilities within the region. **Table 9-11** details the total quantities of organic waste (food and green waste) collected at civic amenity facilities in the SR in years 2010–2012.

Table 9-11: Quantity of Household Organic Waste Collected At CA Sites 2010–2012.

Year	Quantity (tonnes) – Green and food waste
2010	4,542
2011	4,500
2012	4,066

The organic waste collected at civic amenity facilities consists mainly of green waste (food waste accounted for less than 1% of total organic waste collected in 2012) and accounts for approximately 8% of the total waste collected at civic amenity facilities. The quantity collected decreased year on year between 2010 and 2012, with a 10% decrease in 2012 compared to 2011.

9.3.5 Bulky Waste

"Bulky waste" is a term used to describe items that are generally too large to be accommodated in a standard 240 litre wheeled bin, i.e. furniture, large garden waste, garage clear-outs, etc. This waste is generally collected by authorised waste collectors in skips and details of the quantities collected are reported annually by collectors. A number of the civic amenity facilities within the region also accept bulky waste materials.

In the region, some local authorities provide kerbside bulky waste collection services. Cork City Council organises collections of bulky goods in each of its six wards each year. The number of collections per year is dependent on resources available. Waterford City Council provides a bulky waste collection service to its citizens, on request, with the cost depending on the items to be collected.

Table 9-12 details the quantities of household bulky waste collected by authorised collectors and collected at civic amenity facilities, within the SR, for the years 2010–2012. These remained static in 2010–2012.

Table 9-12: Quantities of Household Bulky Waste Collected 2010–2012

Collection System	2010 (tonnes)	2011 (tonnes)	2012 (tonnes)
Household bulky waste collected at civic amenity facilities	1,258	3,099	2,870
Household bulky waste collected by authorised collectors	39,470	30,853	29,148
Total Household bulky waste collected	**40,728**	**33,952**	**32,288**

9.3.6 Household Waste Electrical and Electronic Equipment (WEEE)

WEEE includes hazardous and non-hazardous fractions. Hazardous WEEE includes items such as fridges and freezers and items such as cathode ray tubes. Ireland has a well-established regulatory system for the collection and management of household WEEE. Householders can bring their old and unwanted WEEE for deposit free of charge at:

- Retailer premises where similar item is being purchased;
- Retail premises with Electrical and Electronic Equipment (EEE) sales area greater than 400 m², where the WEEE item is small (less than 25 cm) and where a similar item is not being purchased;
- Civic amenity facilities; and
- Pre-organised one-off collection events.

Table 9-13 details the quantity of household WEEE collected through the compliance schemes (WEEE Ireland and ERP Ireland) in the SR for the period 2010–2012.[48]

Table 9-13: Quantity of Household WEEE Collected by the Compliance Schemes 2010–2012

	2010	2011	2012
Total household WEEE collected for recovery (tonnes)	13,173	11,674	11,317
Total household WEEE collected for recovery per inhabitant (kg)	8.55	7.57	7.34

Approximately 60–70% of the total WEEE collected in the SR is collected through the compliance schemes, with the remainder collected by private waste contractors. The quantity collected in the SR decreased slightly year on year in 2010–12, with a very marginal decrease (i.e. a 3% decrease) between 2011 and 2012. In 2012 7.34 kg of household WEEE was collected per inhabitant in the SR; this correlates favourably with the 2012 national figure of 7.5 kg per inhabitant reported by the EPA. Despite these decreases the quantity of WEEE collected per inhabitant far exceeds the target of 4 kg specified in the 2014 Regulations.[49] This target applies until 2015.

Table 9-14 details the WEEE compliance scheme collection points and the quantities of waste collected at each of the collection points from 2010 to 2012. The data shows that although the retail collection points account for the majority of the WEEE collection points in the region, over 50% of the total WEEE collected is collected at civic amenity facilities.

In addition to the fixed WEEE collection points there are a large number of one-off collection events held each year within the SR. These events are organised by the WEEE compliance scheme operators in conjunction with the relevant local authority and account for a significant proportion of the WEEE collected within the region each year, i.e. 7% in the years 2010–2012.

[48] This data does not include an estimate of WEEE segregated from skips and similar sources so it cannot be compared to NWR data, which does include an estimate of these.
[49] European Union (Waste Electrical and Electronic Equipment) Regulations 2014 (S.I. No. 149).

Table 9-14: Quantity of WEEE collected at Compliance Scheme Collection Points

	2010	2011	2012
Number of retailer collection points	226	205	199
Quantity of household WEEE collected at retailers (t)	5,195	4,610	4,531
Number of civic amenity facility collection points	59	41	41
Quantity of household WEEE collected at CA sites (t)	**7,103**	**6,280**	**6,031**
Number of one-off collection days	50	49	67
Quantity of household WEEE collected at one off collection events (t)	**875**	**784**	**756**

9.3.7 Batteries

Since September 2008, all shops that sell batteries must take back similar waste battery types for free, regardless of whether the customer purchases anything in their store. Batteries can also be deposited at agreed collection points such as schools, public buildings and civic amenity facilities. Batteries are collected by the compliance scheme operators, namely WEEE Ireland and ERP Ireland.

Table 9-15 details the quantity of portable and non-portable batteries collected in the SR. The total quantity of batteries collected increased significantly in 2011 compared to 2010, with a slight drop in 2012.[50] The quantity of portable batteries collected for recovery per inhabitant showed a similar trend. The significant increase in 2011 reflects the compliance scheme operator's efforts in meeting the EU Batteries Directive interim minimum collection target of 25% of portable batteries placed on the market, by September 2012. In 2011/2012 there was a particular focus on school battery competitions, general public campaigns, production of new battery receptacles and placement of them at public buildings, civic amenity sites, retailers and businesses.

Although Ireland has met the 25% collection target it is at risk of failing to meet the 45% collection target by September 2016.[46]

Table 9-15: Quantity of Waste Batteries Collected in the SR 2010–2012

	2010	2011	2012
Portable batteries collected (tonnes)	82	149	143
Portable batteries collected per inhabitant (grams)	53	96	93
Non-portable batteries collected (tonnes)	2,330	5,154	4,527

9.3.8 Household Hazardous Waste

Common household hazardous wastes include the following:

- WEEE including hazardous WEEE;
- Batteries including hazardous batteries;
- Paints, thinners, wood preservatives & adhesives;
- Aerosol cans;

[50] Nationally 140 tonnes of portable lead acid batteries has been collected by the conpliance scheme; this cannot be broken down by region and hence is not included in portable battery tonnage for SR.

- Out-of-date medicines;
- Fluorescent tubes, lamps and light bulbs; and
- Waste mineral oils.

With the exception of out-of-date medicines, most of the civic amenity facilities within the SR accept the above household hazardous wastes. These may be subject to some charges, apart from the WEEE and batteries, which must be accepted free of charge.

Table 9-16 details the total quantities of household hazardous waste collected at civic amenity facilities, in the SR, in 2010–2012.

Table 9-16: Household hazardous waste collected at civic amenity facilities (tonnes) 2010–2012

Year	Batteries [51]	Waste mineral oils & filters	Paint & varnish	WEEE	Household hazardous waste	Other[52]	Total (excl batteries)
2010	182	113	217	7,099	23	29	**7,481**
2011	120	137	390	6,250	13	108	**6,898**
2012	Not available	121	294	6,030	7	84	**6,537**

The quantity of household hazardous waste collected at civic amenity facilities decreased slightly year on year between 2010 and 2012; nevertheless it accounts for approximately 13% of the total waste collected at these facilities each year, with WEEE by far the largest component. The disposal/recovery of the household hazardous waste, other than WEEE, is a significant cost element of the civic amenity facilities' operational costs.

Out-of-date medicines are not accepted at civic amenity facilities; however, the 'Dispose of Unused Medicines Properly' (DUMP) campaign, which has been organised by a number of the HSE areas within the SR with the community pharmacists and supported by local authorities, allows members of the public to return unused or out-of-date medicines to participating pharmacies free of charge for specific periods each year. The campaign serves to prevent accidental poisoning, overdose, inappropriate sharing of medicines and inappropriate disposal of medicines. However, due to financial restrictions the DUMP campaign has not been run annually in all HSE areas within the region.

9.4 UNMANAGED HOUSEHOLD WASTE

The figure for unmanaged household waste is an estimate of the quantity of waste generated by households but not captured via one of the kerbside or non-kerbside collection systems. The EPA's calculation method was used to estimate the quantity of unmanaged household waste presented in this plan. Details of this calculation are provided in **Appendix M** of the EPA's report.[46]

[51] 80% of which (in t) are lead acid.
[52] Other = tyres, aerosols, gas cylinders, books, miscellaneous recyclables, etc.

Table 9-17: Estimate of Unmanaged Household Waste 2010–2012

Year	Unmanaged Household Waste (estimate) (tonnes)	Unmanaged Household Waste (estimate) / inhabitant (tonnes / inhabitant)
2012	83,020	0.05

Table 9-17 details the estimated quantity of unmanaged household waste generated in the region for 2012. The 2012 figure is an accurate estimation and the quantity reported, over 83,000 tonnes, accounts for approximately 15% of the household waste generated.

It is hoped that the accuracy of the estimated quantity of unmanaged household waste generated will improve when results from the newly incorporated green module in the Central Statistics Office's Quarterly National Household Survey (QNHS) become available. The green module will provide information on the waste management options availed of by households.

Policy

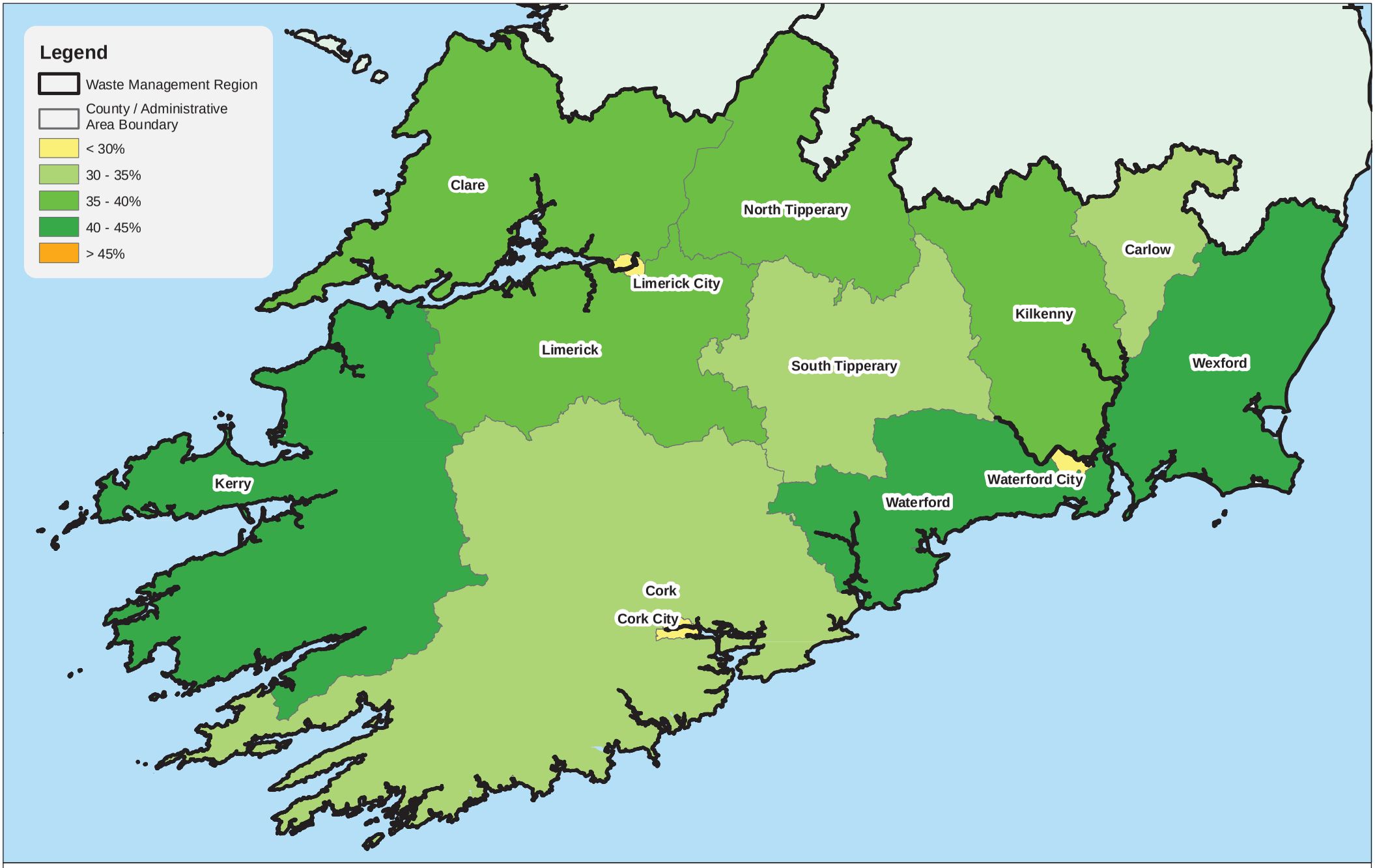
Unmanaged waste remains a problem in the region which the local authorities intend to tackle over the plan period. Unmanaged waste leads to backyard burning and illegal waste activities. The extent of these polluting activities in the region is unknown but the potential is significant considering the numbers of household currently not on a collection service. The potential for these pollution activities is greater in areas with higher percentages of one-off housing: details of one-off housing in the SR are presented in **Figure 9-9**. The environmental consequences of unmanaged waste were documented in the evaluation reports, with backyard burning leading to uncontrolled emissions to the air, impacting on local air quality and the climate, while discharges from illegal dumping can impact on receiving waters and the landscape. The consequences and costs of these acts to local authorities and Irish society need to be addressed, and over the plan the local authorities will implement progressive actions.

Policy:

G4. Implement a co-ordinated approach to address unmanaged waste and the potential impact to the environment and human health.

9.5 COLLECTION CHARGES

In relation to the charging mechanism for household customers, the waste collection permits require the collector to implement a 'pay-by-use' charging system, i.e. pay-by-weight, pay-by-lift or pay-by-tag. A number of household waste collectors within the region utilise microchip technology to identify and weigh the bins.



Regional Waste Plans, SEA and AA

File Ref: MDR0998Arc0062F01

Figure 9-10 One-off Housing as a Share of All Households Built Since 2006 by County

RPS

The following are examples of typical charging mechanisms used by household waste collectors within the SR:

- The customer is charged a standard six-monthly service fee and subsequently charged per lift each time the bin is emptied. The charge per bin depends on the type of bin, i.e. the residual bin incurs the highest charge;
- The customer is charged according to weight of their residual bin, i.e. different lift bands (assessed on the customer's previous billing period) or actual weight of residual bin (price/kg) or a specific weight allowance with excess weight charged per kg. Dry recyclable and organic bins are collected for free;
- The customer is charged a standard six-monthly fee which includes a number of tags that are placed on the residual bin each time it is presented for collection. Unused tags can be redeemed as part of the next six-monthly fees. Dry recyclable and organic bins are collected for free; or
- Flat rate charging where the customer is charged a set fee for a defined period, with no pay-by-use conditions.

It should be noted that in recent times the pay-by-use condition has proved very difficult to enforce, with a number of collectors operating a flat rate charging mechanism. A survey of the household waste collectors within the region in February 2014 indicated that 56% of those surveyed offered only a flat rate charging mechanism. The remaining 44% surveyed offered a pay-by-use charging mechanism, with half of these offering a pay-by-weight system: these provide limited incentives to the householder to reduce their waste. The average yearly household charge within the SR is approximately €300 where a 240 litre residual bin is provided.

The DECLG is currently preparing a package of legislative measures related to the household waste collection market. One of the proposed changes will be the mandatory implementation of the pay-by-weight (per kilogram) system of charging for household waste collection. This will result in significant changes to the current collection charges mechanisms, ensuring a level playing field for all operators and full implementation of the polluter pays principle.

There are no charges to householders for the use of bring banks, and charges at civic amenity facilities and landfills vary depending on the waste types presented. In most sites within the region segregated recyclables are accepted free of charge or for a nominal fee. Residual waste is accepted at some recycling centres and is generally charged on the basis of volume (by bag or speficic rates for cars, vans, trailers, etc.). A number of the recycling centres also accept bulky waste items and the charge generally depends on the item being disposed.