PART 3 IMPLEMENTATION

15 WASTE PROJECTIONS

Waste projections are critical tools in waste management planning for a number of reasons. They form the basis for decisions on the type of future waste management infrastructure which may be required, and provide an understanding of what has to be achieved when considering targets and how they are to be met. Forecasting highlights the importance of, and need for, greater waste minimisation. Finally, the ability to estimate future waste quantities enables a variety of potential outcomes to be assessed depending on the estimated growth rates.

15.1 RECENT TRENDS IN WASTE GENERATION

Recent trends in waste generation show that Ireland is on schedule to meet many of its EU obligations across a broad range of waste legislation.

MSW generation in Ireland peaked during 2003–2007 with the economic boom and then decreased annually from 2008-2012. The decline is linked to a decrease in personal consumption as result of the economic recession in Ireland, despite an increase in population over the same period. Ireland's MSW recovery rate increased from 36.5% in 2007 to 56% in 2012.

Household waste collection rates have a major effect on municipal waste generation rates. In 2013, approximately 72% of occupied Irish households availed of a kerbside collection service, with lower rates in rural areas and higher rates in urban. Households which did not sign up to a collection service most often chose not to; it was not because a service was unavailable to them. However, such behaviour is not an indication of improper waste management, as some households choose to share bins or dispose of waste in authorised facilities, e.g. civic amenity sites.

More households are being offered a third bin for food and organic waste and there has been a corresponding increase in the quantity of segregated household waste being collected.

The amount of household waste managed per person in Ireland has reduced from a high of 420 kg per person in 2007 to 304 kg per person in 2011. Much of the decrease can be attributed to a decline in personal consumption rates; however, it is also an effect of waste prevention programmes and campaigns carried out by local authorities aimed at changing waste generation behaviours.

The quantity of commercial waste managed nationally dropped 2% from 2011 to 2012. There was a small increase in the recovery rate and significant decrease (~10%) in commercial waste landfilled. The amount of packaging waste being managed per inhabitant decreased from 240 kg in 2007 to 177 kg in 2012. Nationally 7.5 kg of WEEE was collected in 2012 per person, unchanged since 2011, but down from the 2008 high of 9.0 kg. Collection rates met the EU target of 4 kg per inhabitant.

15.2 FACTORS INFLUENCING HISTORICAL WASTE GROWTH

In preparing these waste projections for the Connacht Ulster Region it is prudent to examine the projections generated in previous plans and identify suitable techniques or trends to apply to the new forecasts.

15.2.1 Household Waste

The Connacht Region based its household projections on both the population growth projections from the Regional Planning Guidelines and the population and labour force projections produced by the Central Statistics Office (CSO). A mean of these two sets of projections was used. The North East Region selected two of the four projection scenarios from the Regional Planning Guidelines to obtain a single set of household projections providing a lower and upper band of growth, and a mean of these two sets of projections was used. The Connacht and the North East Regions projected household waste similarly for the period 2004–2011 at 3.3% and 3.4% per annum.

County Donegal presented an estimated annual growth rate of 1.5% for municipal waste graphically (no data) over the life of the Plan. No breakdown was provided for household, commercial/industrial and construction and demolition waste.

The projections estimated are reflective of the growth period experienced at the time of Plan preparation. In the previous years from 1996 to 2002 the Connacht Region experienced a population growth of 7.2% and a household waste growth of 2% per annum. The North East Region had a population growth of 12.7% and a household waste growth of 5.8% per annum over the previous five years. In Donegal the population also grew by 5.8%

Data available from the EPA shows that between 2003 and 2011, household waste increased by 5.4% nationally (NWR data for the years from 2003 to 2008 is for household waste arisings and for the years from 2009 to 2011 is household waste managed).

Table 15-1 shows the arisings reported in 2003, the base year in the previous plans, beside projections for 2010. The table also shows the recorded arisings reported in 2010.

Table 15-1: Household Waste Arisings and Projections 2003 to 2010

Household	2003 Arisings[61]	2004 Arisings[61]	2010 Projections Arisings	2010 Reported Arisings[62]	% Difference projected over reported
Connacht	-	174,951	209,785	248,696	–16%
North East	161,350	-	204,945	185,188	+11%
Donegal	-	46,416	50,753	60,461	-16%

The projection for household waste arisings in the North East Region was 11% greater than actual arisings in 2010. Thus, less waste was generated than projected. However, the projections for household waste arisings in the Connacht and Donegal Regions were 16% less than the actual arisings in 2010. For these Regions more waste was generated than projected.

There are clear differences between the 2010 figures and those forecast but no consistent pattern emerges from one set of projections to the next. The spread between over- and under-projections reflects the variability in the methods used to generate the forecasts. Factors which could have influenced (apparent) waste growth in the period may include:

[61] Source: second generation regional waste management plans prepared by local authorities in the CUR.
[62] Evaluation Reports, 2012 on 2005–2010 Waste Management Plans.

- A rapid contraction of the Irish economy that started in 2008 which depressed GNP and personal spending. Waste generation rates, which are coupled to these, fell accordingly;
- Discrepancies in the quality and reporting of data between 2003 and 2010;
- Demographic changes which occurred during the period; and
- The degree to which waste prevention measures inhibited waste production.

15.2.2 Commercial Waste

The Connacht and the North East Regions used the same approach for commercial/industrial waste and construction and demolition waste projections, using Gross Domestic Product (GDP) estimates. These regions projected commercial/Industrial waste similarly for the period 2004–2011 at 2.5% per annum. County Donegal presented an estimated annual growth rate of 1.5% for municipal waste with no breakdown provided for household and commercial/industrial.

Data now available from the EPA shows that from 2003 to 2011, commercial waste (managed) fell by 16% nationally. Construction and demolition waste fell by over 10% per annum between 2004 and 2011, equating to 72% when compounded over the period.

Table 15-2 shows the managed quantities of commercial waste reported in the previous waste management plans. Also shown are projections made for 2010 in those plans along with actual arisings reported for 2010 in the relevant evaluation reports on the relevant plans.

Table 15-2: Commercial Waste Arisings and Projections 2003–2010

Commercial	2003 Managed[61]	2004 Managed	2010 Projections[61]	2010 Reported Managed[62]	% Difference projected over reported
Connacht		173,695	201,990	192,463	+5%
North East	97,165	-	114,236	191,795	–40%
Donegal		30,084	32,895	22,684	+45%

Connacht and North East Regions recorded an increase of 11% and 97% while Donegal showed a decrease of 25% from the base year data. During this period the EPA reported a national decrease by 16% between 2003 and 2011. This apparent increase in commercial and industrial waste managed in the Connacht and North East Regions could be explained by the fact that the base commercial and industrial managed data, which formed the basis for the projections, was of poor quality, as a significant quantity of material was not weighed and estimates were applied. By 2010, most or all waste generated was weighed and recorded.

The projections for commercial waste managed in the Connacht and Donegal Regions were 5% and 45% greater than the actual waste managed in 2010. Therefore for these regions less waste was managed than projected. Some conclusions can be drawn from the commercial projections made.

- The 2003 commercial and industrial data, which formed the basis for the projections, was poor quality, and a lot of waste entering facilities was not weighed; rather estimates were applied. By 2010, most or all waste generated was weighed and recorded. This could explain the apparent increase in commercial and industrial arisings in some regions. Projections made in 2014 will have the benefit of much better data; and

- The application in 2004 of a factor to reflect waste prevention effects seems to have been reasonable although the value to be assigned will be a judgement rather than being designed from research and available data. The scale of this factor was overshadowed in the final results by macroeconomic changes.

15.2.3 Conclusions

It is essential when generating waste forecasts that the initial base data is of good quality. The waste data that was available in 2003/2004 was somewhat inaccurate due to use of estimated figures of the amount of waste managed and uncollected. The methodology for calculating these fractions of household waste arisings has improved in recent years. Furthermore, the availability of actual data, not estimates, has increased in more recent years. This will improve the reliability of the projections made using this data.

Further, the previous plans relied on the accuracy of the economic data used. This data did not foresee the significant economic growth that was followed by a rapid contraction which started in 2007. Finally, the methodologies used in the various 2004 regional projections differed from each other, unlike the 2014 plans, where a similar methodology is applied across the three regions.

15.3 FACTORS INFLUENCING WASTE GROWTH

The preparation of robust projections is required to guide policy actions to achieve statutory targets and develop treatment capacity infrastructure. There are different approaches to generating waste forecasts and, depending on the selection made, the outcomes can vary quite significantly. A review of national and international reports on the key drivers and approaches to projections has been undertaken to help guide the projections for this plan.

In Ireland, in deriving waste projections the Economic and Social Research Institute (ESRI) and the EPA have used population projections to forecast household waste growth and economic factors for commercial waste growth. However, in recent years the latest data shows that household waste nationally has dropped even though the population in the State continues to grow and economic activity is a stronger driver for household waste growth. **Figure 15-1**,[63] sourced from the EPA's NWR, 2011, "*shows that there was a substantial drop in municipal waste generation between 2007 and 2011, although the rate of decrease is not as sharp as 2009. This decrease while reflecting the decrease in personal consumption, has taken place despite increasing population over the same period*."

The ESRI was commissioned by the EPA STRIVE research programme to design and build a Sustainable Development Model for Ireland (ISus) that forecasts national environmental emissions and resource use up to 2030, having regard to economic and social developments. The ISus model is driven by the ERSI's HERMES model, which projects economic production and consumption per sector. The model was used by the EPA to generate municipal waste forecasts with data reviewed each year and published in the annual national waste report. The model is no longer funded and it is unclear if it will have a continued use as a forecasting tool.

[63] National Waste Report 2012, EPA (2014).

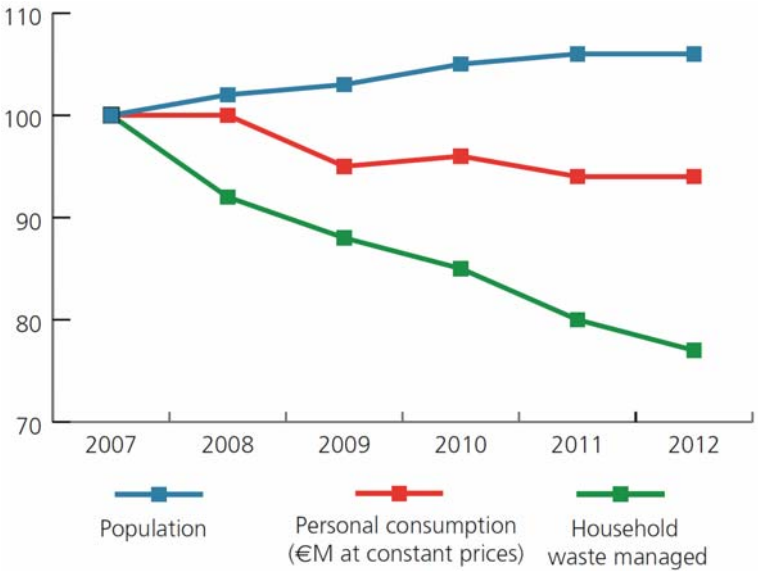

Figure 15-1 Household Waste Managed with Population and Personal Consumption Indices, 2007–2012

The European Commission Guidance's Note entitled *Preparing a Waste Management Plan – A Methodological Guidance Note, 2012* notes that the following parameters can influence waste generation (although the degree of influence is not described):

- Population growth;
- Changes in the economic situation (growth/recession);
- Changes in the demand for, and nature of, consumer goods;
- Changes in manufacturing methods;
- New waste treatment methods; and
- The effects of policy changes (prevention, minimisation, reuse, recycling).

WRAP's report entitled *Decoupling of Waste and Economic Indicators*, 2012 provides an overview of the many drivers that can have positive or negative effects on household waste arisings illustrated in **Figure 15-2**.

Regression analysis was undertaken by WRAP, 2012 investigating factors affecting generation of household waste across the UK. The results suggest the drivers include household size, with smaller households generating more waste per capita, increased household expenditure on snack and takeaways which increase waste arisings, and landfill tax, which has the effect of slightly reducing household waste arisings.

Figure 15-2 illustrates some of these drivers are associated with significant elements of uncertainty. It is not possible to predict future waste generation with absolute certainty and without ambiguity. However there is a need to develop (and review) forecasts which act as a reliable basis for securing the necessary treatment capacity for the waste management system.

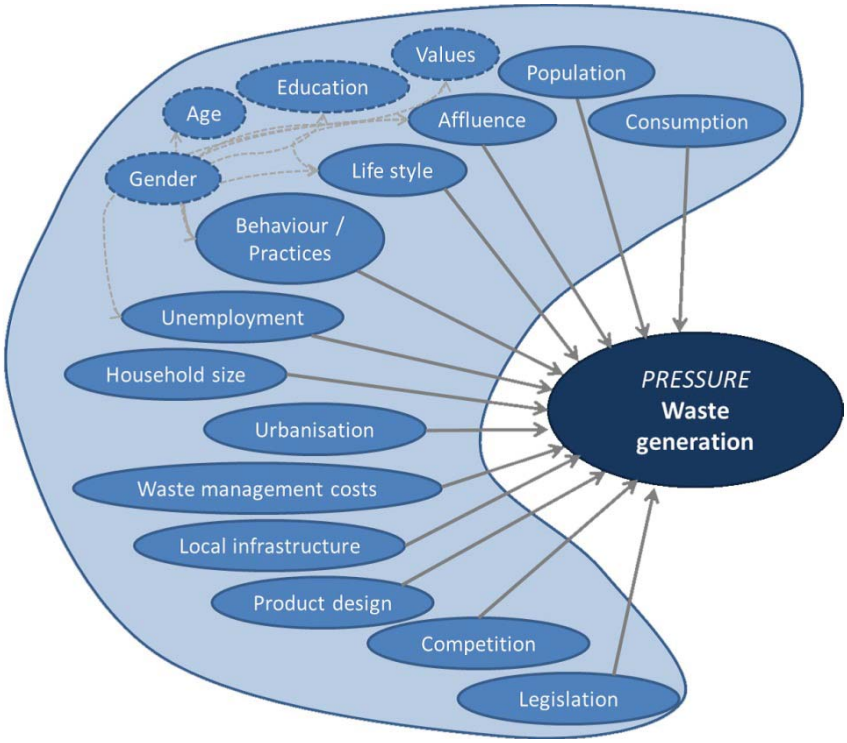

Figure 15-2 Overview of Drivers of Change in Waste Arisings[64]

It is essential that data quality is continually monitored and tracked over the plan period and continually improved upon. Flexibility should be built into waste management plans so as to deal with the possibility that projections may not be perfectly accurate (DEFRA 2005).

15.4 APPROACH TO PROJECTIONS

DEFRA[65] made the following observation on the development of forecasts, which is also relevant to the Irish waste system; *"Waste is unlikely to grow at a steady rate. The conventional approach to forecasting in this way reflects our limited understanding of exactly how the many underlying factors influence waste growth. It is not statistically robust to make forward projections for twenty years or so, on the basis of even ten years' data."*

The statement confirms the difficulty in preparing accurate forecasts due to the many influencing factors. Short-term predictions are likely to be more accurate than long-term ones. Assessing previous reported waste data and the relationship between key drivers over the evaluation period is an important first step and can provide valuable insights for informing new projections. The longer the time period for which data is available, the better, provided the data is reliable and of good quality.

An example of how household waste generation should be calculated is provided in the European Commission Guidance Note 2012. This suggests using the number of inhabitants multiplied by the waste generated by inhabitant. A low and high value is proposed for both variables to generate a low and high range for the resulting waste generation figure.

[64] Decoupling of Waste and Economic Indicators, WRAP 2012.
[65] DEFRA Information Sheet 8, Waste forecasting, 2005.

The European Environment Agency in its report *Baseline Projections of Selected Waste Streams: Development of a Methodology*, *1999* notes that *"Waste production is influenced both by how we efficiently use resources in production and the quantity of goods we produce and consume. The importance of quantity means that in general it is possible to demonstrate a link between Gross Domestic Product (GDP) and waste generation"* and that for municipal waste a strong link between economic activity and waste generation can be demonstrated. The report goes on to say: *"However, assuming a close correlation between the generated amounts of municipal waste/household waste and the overall national income (GDP) will not be the right approach. This is primarily due to the specific origin of the household waste, but also to the fact that fluctuations in national income will not necessarily affect the basic consumption (for example, a decrease in the growth of national income may well be neutral on the consumption that generates household waste, but have a negative impact on savings)."*

A more reasonable methodology is given in line with the approach adopted by Coopers and Lybrand (1996) and National Institute of Public Health and the Environment (RIVM) in the Netherlands, where the generation of municipal waste can be explained by the share of the national income spent on private consumption. The European Environment Agency seek to identify the various items of consumption that most likely generate municipal waste/household waste, and assumes that the quantity of municipal waste/household waste changes proportionally to the consumption of these goods. The goods of particular importance are food and beverage items, clothing, furniture and household equipment. In the NWR 2009, the EPA stated that the drop in municipal waste generation in Ireland in 2009 mirrored the fall in GNP (Gross National Product) and a significant fall in personal consumption despite a population increase. Therefore it can be said that household waste generation reflects personal consumption patterns.

DEFRA in 2013 based its commercial/industrial waste projections for 2020 in line with economic growth but instead of GDP it used GVA (Gross Value Added), which measures the total economic outputs of a sector net of the economic inputs it uses. It is similar to GDP but can be used to measure growth in individual sectors rather than the economy as a whole.

CIWM in its report entitled *Commercial and Industrial Waste in the UK and Republic of Ireland*, 2013 applies a methodology based on projected changes in the labour force up to 2035 for forecasting commercial and industrial waste in the Republic of Ireland. Baseline data of waste tonnage per employee have been calculated for the different sector divisions.

15.4.1 Waste Projections in Ireland

The June 2012 ESRI Report Environment Review summarises that MSW generation is projected to increase by roughly 0.9 million tonnes over the next 20 years, with more than half being generated by the services sector. An important driver for this growth is the assumption that the population will increase to 5 million within 15 years or so. The EPA predicted a similar outcome in the NWR 2011, forecasting that municipal waste generation will grow by 830,000 tonnes within the next 15 years. The expectation from the ESRI is that a growing population and expanding, recovering economy could lead to greater pressure on the environment from increased waste generation.

The ESRI states that *"projecting the destination of waste streams (e.g. landfill, recycle etc.) is considerably more difficult than projecting waste generation and subject to greater uncertainty …"* For example, the scale of the export of SRF/RDF material from Ireland to waste-to-energy recovery facilities in Europe was unforeseen when making projections about the possible destinations for

waste streams, and highlights the difficulty in predicting where waste will flow in a small accessible globalised economy like Ireland.

According to the ESRI, reliance on landfill is projected to decrease significantly below current levels, with recovery and recycling activities expected to dominate. It anticipates that incineration and other treatment technologies (including composting, refuse-derived fuel manufacture etc.) will play a key role in achieving a number of waste management plan policy targets. The ESRI also notes that its *"figures suggest that, while pre-collection activity (e.g. segregation waste for recycling) is important, increasingly greater capacity will be needed in post-collection treatment of the residual bin."*

The ESRI projects that the volume of biowaste will increase by an average of 28,000 tonnes per annum to 2030. *"In 2008, 36 per cent of biowaste originated from the food and beverage sector, less than one third from the residential sector and just above one-third from the services sector."* The focus of Irish policy on three-bin collection systems has largely been to increase the number of households who have a brown bin. However, the ESRI analysis indicates that how the brown bins are being used and how much BMW material is actually being diverted from the residual bin in households with a three-bin service is of equal importance.

The opinion of the ESRI is that having waste management plans that focus on environmental outcomes rather than treatment technologies is key for development and investment in the sector, especially in light of the current difficult trading environment.

15.4.2 Conclusions

The following concluding remarks have been drawn from the review of reports as outlined in the previous sections:

- There are many drivers that that can have positive or negative effects on household waste arisings;
- Short-term predictions are likely to be more accurate than long-term ones;
- Sensitivity analysis (high and low growth) around the best estimate figures should be incorporated in waste projections;
- For municipal waste a strong link between economic activity and waste generation can be demonstrated;
- Private consumption has been shown in studies to be a strong influencing driver for municipal waste growth;
- Reduction measures can be applied to the underlying growth rate to take account of prevention initiatives being undertaken; and
- The ESRI estimates that by 2030 municipal waste generation will be 33 per cent higher than current 2010. In the case of households it forecasts that waste generation will be 24 per cent higher than current levels.

15.5 MUNICIPAL WASTE PROJECTIONS

This section sets out projected arisings for household, commercial and municipal waste in the CUR. These projections were generated using the waste, economic and demographic data that was available at the time and combined these with reasonable assumptions.

15.5.1 Household Waste Projections

The projections for household waste arisings were calculated using two different methods – a population-based scenario (which included a prevention factor) and a consumption-based scenario. The population-based forecast was made by multiplying the following two factors:

1. Connacht Ulster regional population projections (high) each year to 2021; and
2. A factor linking household waste arisings generated per person from 2003 to 2012 to population.

The resulting projections show an initial jump in the data and this was adjusted and brought in line with current trends in household waste per capita to reduce this artificial increase. An alternative scenario using population projections from the DECLG produced negligible differences and was not considered further.

The consumption forecast was made by multiplying the following two factors:

1. Recorded household waste arisings in 2012; and
2. Projected consumption each year to 2020.

Further variant calculations considered combinations of projected growth in the number of households, averaged historic waste arisings per household and projected consumption rates. These calculations were not considered to be sufficiently robust and were discounted. The projections developed are presented in **Table 15-3**.

Table 15-3: Household Waste Arisings to 2021

	2013	2015	2017	2019	2021
Consumption Scenario	248,907	253,371	266,182	282,388	297,253
Population Scenario	253,063	257,775	260,691	264,278	267,489

15.5.2 Commercial Waste Projections

Due to commercial waste data being unavailable on a regional basis, a basic method of estimating commercial waste for the region was applied. The national commercial waste figure reported by the EPA was apportioned to each region based on the reported level of collection by operators of this stream. The projection for commercial waste arisings was made by multiplying the following factors:

- Estimated national (recovery scenario) GNP to 2021; and
- Factor linking national commercial waste arisings (2003–2012) to GNP;

Similar to the household waste projections, the initial jump in projections was adjusted in line with current trends for this stream. The methodology also considered, but eventually excluded from final projections, 5% increases or 5% decreases in regional population of employees reporting that they live in the region. An alternative projection scenario was considered using national "people at work" data and projected labour force figures. Following consultation with the CSO it was decided that this scenario was unreliable due to the different methods used to determine employment at labour force data. The projections developed are presented in **Table 15-4**.

Table 15-4: Commercial Waste Arisings to 2021

	2013	2015	2017	2019	2021
GNP scenario	179,270	196,690	208,830	220,688	232,720

15.5.3 Municipal Waste Projections

The municipal waste projections for the region have been compiled using the household and commercial waste forecasts and are presented in **Table 15-5.** This data does not include street cleaning or cleansing wastes which are typically reported as part of the municipal waste stream. These quantities tend to be consistent from year to year. It is forecast that by 2021 the region will generate between 500,000 and 530,000 tonnes of municipal waste.

Table 15-5: Municipal Waste Arisings to 2021

	2013	2015	2017	2019	2021
High Range (Consumption & GNP Scenarios)	428,177	450,061	475,012	503,076	529,973
Low Range (Population & GNP Scenarios)	432,333	454,465	469,521	484,967	500,029

15.6 IMPACT OF PROJECTED WASTE GROWTH

While considerable effort has been made in developing the waste projection scenarios presented in this plan, the numbers are only as reliable as the data used to develop them, and the projections are subject to the same errors as those which may be present in the source data. Factors such as GNP are difficult to forecast accurately and the further into the future the projections are made, the more unreliable the data will be.

Furthermore, forecasts may be strongly influenced by unforeseen external factors. Human-mediated factors strongly affected the global economy in 2001 and 2007, while a tsunami and volcanic eruption had regional economic effects in 2004 and in 2010 respectively. Any external factors that impact on waste arisings in Ireland will need to be considered as part of the forecasts if they occur during the period of this plan.

For these reasons, it is prudent to consider the projections in the context of the time at which they were prepared (mid-2014) and to expect that waste arisings may fall somewhere within the wide range of values shown. Of course there is also the possibility of significant external factors occurring over the period of the plan that would affect arisings. The annual review and revision of projections conducted during the plan period will indicate which scenario has proved to be the most accurate.

Considering these observations, it is expected that municipal (i.e. combined household and commercial) waste arisings in the Connacht Ulster Region will rise 2–3% per annum over the period. The higher of these rates of increase especially presents a challenge to the Connacht Ulster Region to ensure that adequate collection and treatment capacity is developed to allow the Connacht Ulster Region is to achieve targets. Furthermore, the need to progressively treat more of this material in Ireland means that treatment capacity provision needs to increase at rates above those shown, making the targets still more challenging.

16 MARKET ANALYSIS AND INFRASTRUCTURE PLANNING

This chapter provides a comprehensive review of the treatment capacity market in the CUR and considers national capacity levels for particular treatment methods. The data used in the market analysis was compiled by the local authorities and the EPA and was the best available information at the time. Authorisation and intake data was sourced for all facilities in the market analysis where available. Lists of the facilities authorised by local authorities and the EPA are given in **Appendices D** and **E** along with capacity authorised and intake data for each facility. The findings of the market analysis have been used to shape the policies in this chapter, which are for the most part designed to provide clear development signals to operators in the waste market.

16.1 LOCAL AUTHORITY WASTE AUTHORISATIONS

Chapter 12 provided details on pre-treatment and recovery infrastructure in place in the Connacht Ulster Region. Currently there are 217 facilities authorised by local authorities in the region (94 CoR and 123 WFP) to accept and process at least 4 million tonnes of waste.

16.1.1 Market Capacity & Utilisation in the Region (by Group)

As outlined in **Chapter 12,** there are similarities between many classes of waste activities authorised by WFPS and CoRs. Similar classes of activities have been grouped together to enable effective analysis of the treatment capacity market, including an examination of the treatment methods available in the region.

Table 16-1 presents these groups, which cover the 25 classes of activity as included in the Regulation. It also includes the total authorised capacity by group, and the intake data reported in 2012 which is based on annual returns form each facility.

The grouping of facilities into one of the activity groups was difficult for certain authorisations, specifically those containing multiple classes of activity with each potentially assigned a different capacity threshold. To resolve this, the available data for each facility was reviewed together with other background information on the facility. Based on this assessment the facility was assigned to the group considered to best represent the main activity at the site. This approach was taken to enable a thorough market analysis to be completed. The assumptions made were necessary and practical and ultimately did not alter the findings of the capacity analysis.

Figure 16-1 graphs the data from **Table 16-1** and includes an estimate of the rate of utilisation for each group of activity based on the reported quantities of waste accepted at facilities in 2012.

The data also shows that 82% of the total authorised tonnage “on paper” was not used in 2012. The two largest groups account for some 91% of authorised capacity –

- Group 1 (mechanical pre-treatment activities) accounts for some 2 million tonnes or 51% of authorisations; and
- Group 4 (land improvement activities) account for some 1.6 million tonnes or 40% of authorisations.

The authorised tonnages per group vary, reflecting the nature of the activities and quantity of waste which can be accepted. High-volume activities include processing of MSW and C&D wastes (Group 1) and also land improvement activities (Group 4) while low-volume activities include the management of materials such as refrigerants (Group 7) and temporary storage activities (Group 8).

Table 16-1: Details of Authorised Facilities by Waste Treatment Activity

Group and Description	WFP Classes[66] (No of Facilities)	COR Classes[67] (No of Facilities)	Total authorised tonnage	Tonnes received 2012	Tonnes received 2012 (% of available capacity)
G1 - Store/transfer of waste incl. MSW	1,7,10 (53)	1,7,10 (17)	2,054,596	95,721	5%
G2 - Metals and ELVs	4,12 (46)	- (10)*	190,515	74,400	41%
G2a – Other waste vehicles	2 (3)	3 (0)	68,000	22	0.02%
G3 - WEEE, Batteries	3,9 (0)	4 (1)	Not specified	0	-
G4 - Land improvement	5,6 (8)	5,6,9 (48)	1,634,705	519,237	32%
G5 - Biological	8 (4)	11,12 (2)	41,050	12,110	30%
G6 - Organic landspread	-	13 (0)	No facilities registered in the region		
G7 - Non-haz & Refrigerant Wastes	11 (9)	14 (0)	60,000	6,254	10%
G8 - Temp. storage	-	2 (16)	15,854	611	4%
Total	**12 classes**	**13 classes**	**4,064,720**	**708,355**	**17%**

*Some ATFs authorised with CoR although no classes exist.

Group 1 activities represent the largest treatment capacity available in the region. This grouping has the largest number of facilities (70 of a total of 217) and primarily includes mechanical pre-treatment for inert and municipal wastes. The percentage of tonnage used for this grouping is low relative to the capacity authorised. However, the capacity authorised for a facility does not necessarily represent the current operational or available capacity of a facility. The issuing of future authorisations by local authorities must take account of the existing scale of supply of authorised and available capacity as well as needs of the market.

[66] Under Part 1 of Third Schedule, Waste Management (Facility Permit and Registration) Regulations, S.I. No. 821 of 2007 (as amended).

[67] Under Part 2 of Third Schedule, Waste Management (Facility Permit and Registration) Regulations, S.I. No. 821 of 2007 (as amended).

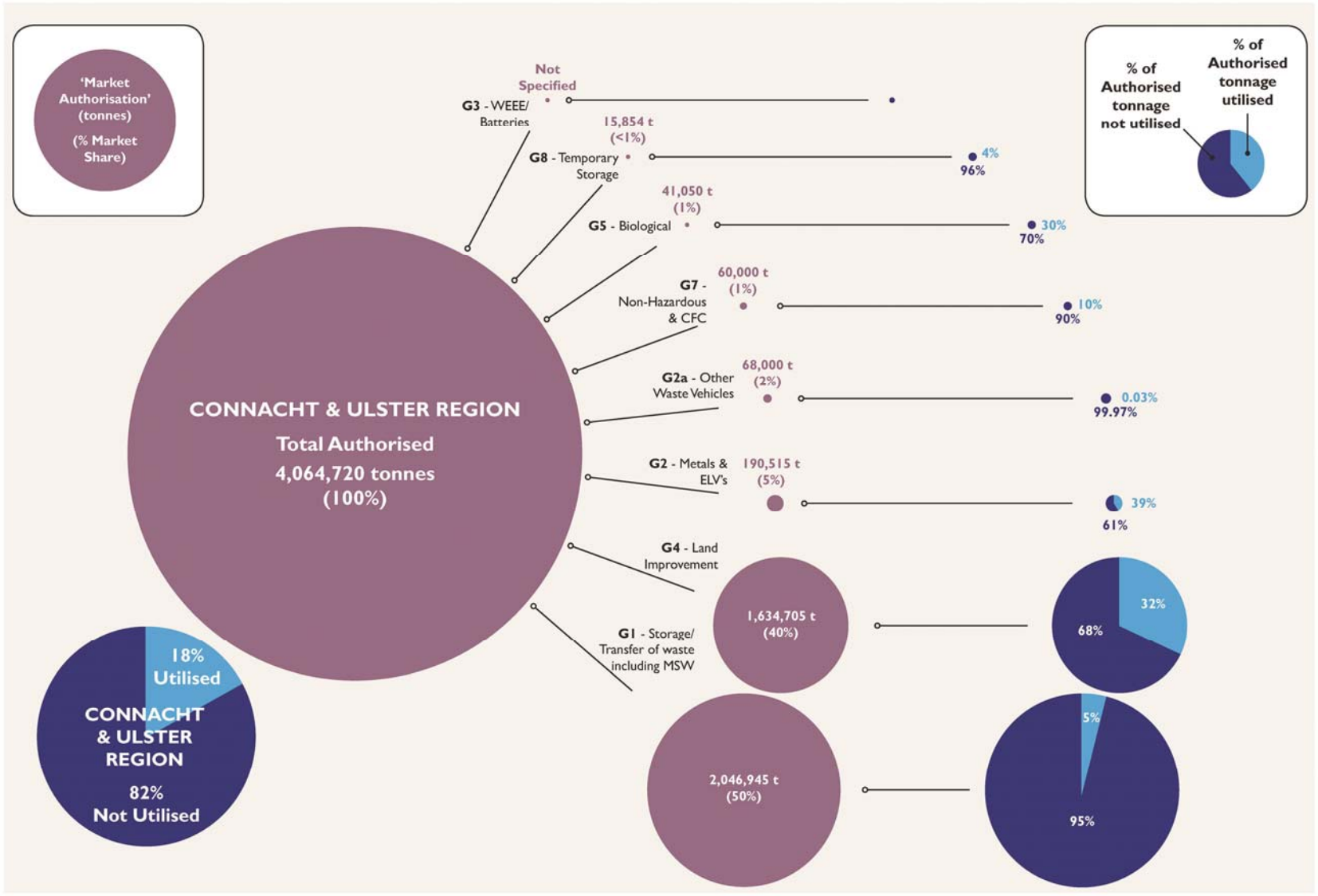

Figure 16-1 Authorisation and Utilisation of Active Treatment Capacities (Grouped)

Group 2, which includes activities handling metal and ELVs, has the highest rate of utilisation. In this group authorisations issued by the local authorities are in many instances specified not in tonnage terms but in terms of number of vehicles. In this grouping 25 facilities were not allocated any authorisation so there is an underestimation of available capacity.

Group 2a relates to vehicles that are not ELVs and there are three authorisations in the region; however, two of the three facilities commenced operations at the end of 2012, reflecting the scale of intake waste.

The authorisation for Group 4 (land improvement activities) is difficult to present as an annual available tonnage as authorisations for this group are often issued as a single quantity over the lifespan of the site (as opposed to an annual quota). To address this, an annual authorised tonnage was estimated taking account of the total authorisation issued for the site. The 1.6 million tonnes is best described as the available market capacity. The overall rate of utilisation for this group is low, largely due to low levels of activity across the State in the construction and building sector. There are signs of recovery in the construction market and this trend is expected to continue on a steady basis. This will likely lead to higher demand for outlets which can recover soil and stone materials. Future planning and authorisation of backfilling sites must take account of the location of existing capacities and the scale of available capacity across the region to ensure there is adequate, appropriate and balanced supply.

There is only one authorisation active under Group 3 in the region, in Galway County Council, although no data was available.

Group 5 covers facilities authorised to biologically treat biowaste, agri-sludges and other organic materials. There are six facilities in the region and the rate of utilisation in 2012 was recorded at 30%. This is considered to be under-estimating the rate of utilisation as two of the five facilities did not submit an AER for 2012. A shortage of capacity particularly for the treatment of biowaste would be a concern given the need to divert increasing quantities of biowaste from the residual waste stream.

No facilities are registered in the region under Group 6.

Group 7 is made up of facilities that store non-hazardous and refrigerant wastes and are low level activities in the region.

Group 8 in the region is made up of COR facilities only and the activities cover the storage of farm plastics. This is again a low-level activity.

16.1.2 Market Capacity Analysis and Findings

Further analysis on the treatment capacity and rate of utilisation by group has been carried out to identify any consistent trends. On paper the region appears to have an adequate supply or, for specific groups, an over-supply of authorised capacity for many treatment activities. However, the capacity authorised by the authorities for a facility does not necessarily represent the operational or available capacity on the ground and this apparent gap needs to be taken into account. The 217 facilities recorded an intake of just over 708,000 tonnes of waste in 2012, which represents a regional capacity utilisation rate of 17% of the authorised “on-paper” capacity.

Table 16-2 presents on a group basis the number of facilities and their capacities categorised according to the rate of usage at each site relative to the authorised capacity. The available intake data for each facility was used to decide on the categorisation.

Table 16-2: Rate of Usage of Authorised Tonnage in Each Grouping

Group and Description	Authorised Capacity (No. of Facilities) (tonnes)	No AER submitted in 2012 (tonnes)	No Authorisation Specified (tonnes)	Zero Intake 2012 (tonnes)	<50% capacity (tonnes)	>50% capacity (tonnes)
G1 – Store/transfer of waste incl. MSW	(70) 2,054,596	(7%) 165,000	0% (0t)	45% 1,054,976	37% 794,345	11% 40,275
G2 – Metals and ELVs	(56) 190,515	**37%** 35,490	23% (0t)	16% 13,080	13% 67,140	11% 74,805
G2a – Other waste vehicles	(3) 68,000	0%	0% (0t)	67% 18,000	33% 50,000	0%
G3 – WEEE, Batteries	Not specified	–	–	–	–	–
G4 – Land improvement	(56) 1,634,705	2% 25,000	0% (0t)	41% 680,375	33% 454,980	34% 474,350
G5 – Biological	(6) 41,050	**33%** 10,050	0% (0t)	0%	50% 21,000	17% 10,000
G7 – Non-haz & CFC	(9) 60,000	**22%** 15,000	0% (0t)	22% 7,500	44% 30,000	11% 7,500
G8 – Temp. storage	(16) 15,854	6% 1,000	0% (0t)	13% 1,854	81% 13,000	0%
Total	**4,064,720**	**251,540**	**0**	**1,775,785**	**1,430,465**	**606,930**

Table 16-2 shows there is significant capacity authorised in the region that is not currently built or available at the level authorised. The proportion of authorised but unused/under-used capacity may be due to a number of factors, such as:

- Temporary closure of treatment facilities or openings delayed in response to poor market conditions;
- Low levels of economic activity in particular sectors of the wider economy impacting on waste generation and the volume accepted at waste treatment facilities;
- Developers seeking and securing authorisations and not following through with the development due to changing market conditions, changes in business strategy or financial factors for individual companies;

- Built or available capacity at facilities being lower than the authorisation issued for the operation;
- Local authorities authorising capacity beyond the operational capability of the facility; and
- Under-reporting of waste intake as a result of facilities not submitting an AER or intake data, or reporting poor-quality data.

Analysing the intake data further, it is noted that a significant number of facilities reported zero intake for 2012 or failed to return an AER. The data shows the highest percentages for non-compliance with no AER being submitted include Group 2 (Metals and ELVs), Group 5 (Biological) and Group 7. With this in mind, the utilisation rates of the group activities are likely to be under-estimating activity at facilities in the region. The degree of underestimation is not clear, however, and the local authorities do not expect the missing data to significantly change the overall market findings.

16.2 MARKET ANALYSIS FOR EPA AUTHORISATIONS

The waste activities authorised by the EPA include waste disposal and recovery activities such as landfills, transfer stations, materials recovery facilities, mechanical treatment facilities, thermal recovery facilities and hazardous waste disposal facilities.

The EPA also issues CoRs to local authorities for smaller scale waste activities as listed in the Third Schedule Part II of the Waste Management (Facility Permit Registration) Regulations, S.I. 821 of 2007. These are primarily bring facilities (CASs and bring banks). These activities have not been included in the capacity analysis as the waste accepted at these sites is handled by other waste facilities along the waste management handling and treatment chain.

16.2.1 Overview of Waste Licensed Facilities in the Region

The EPA has supplied data to the local authorities relating to licensed waste activities in the region. There are 31 facilities in the region which hold a waste licence although not all of these facilities are currently active. The status of the waste licences and applications was categorised by the EPA and further reviewed by the local authorities.

The status of the 31 licences reported in the region is shown in **Table 16-3**. In total these licensed facilities have a gross authorised capacity tonnage of 1.8 million tonnes (although it is unlikely that 58% will become active). A facility can be licensed for multiple waste treatment activities, with distinct treatment methods often being controlled by separate capacity thresholds. The local authorities have attempted to take this into account when analysing the capacity data.

The data in the table shows the scale of licensed capacity in the region but indicates that only 42% is currently active. Twenty-five facilities were active in 2012 but since that time a further 14 landfills have closed in the region and so have been included in the closed category (including one inert landfill). In addition the five inactive sites all refer to landfills while many old landfill sites have reached their capacity and are now closed. In total 1 million tonnes of licensed capacity is categorised as inactive or as closed. There is one authorised facility that has not commenced, which also relates to a proposed landfill site in County Donegal which was refused planning by An Bord Pleanála. The inactive and closed facilities are unlikely to be active in the near future and have not been further considered as part of the market analysis.

Table 16-3: Status and Tonnage of All Current Waste Licence Activities and Applications

Activity Status	On-Going	Pending		Unlikely		Totals
	Active	Authorised But Not Commenced	Application Stage	Inactive	Closed	All Facilities
Number of facilities	11	1	-	5	14	31
Authorised tonnage	758,780	25,500	-	228,500	785,570	1,798,350
% of the total	42%	2%		56%		100%

The 11 active facilities have a combined licensed capacity of 758,780 tonnes in the region. Waste licences granted by the EPA typically specify the principal class of waste activity that is undertaken at the facility in question. These activities are set out in the Waste Management Act 1996, with disposal activities (D-codes) in the Third Schedule and recovery activities (R-codes) in the Fourth Schedule. Both the Third and Fourth Schedules also contain pre-treatment disposal and recovery activities.

The principal classes of activity at the active waste licence facilities in the region are outlined in **Table 16-4**. On paper, pre-treatment facilities make up the highest portion of active facilities (77%) in the region. The table also includes an indication of which tier on the hierarchy the facilities belong to. This classification has been determined by reviewing the facilities, and the local knowledge of these facilities, as opposed to relying on the consented recovery or disposal codes of the licence, which can be misleading.

Table 16-4: Summary of Active Facilities and Treatment Capacities

Principal Class of Activity (Waste Treatment Code[68])	Facility No.	Authorised Total Waste (tonnes)	Authorised MSW (tonnes)	Treatment by Hierarchy
D1/D5	2	84,100	60,500	Disposal
D13*	4	274,690	104,490	Pre-Treatment
D14*	1	95,000	22,500	Pre-Treatment
D15*	1	166,000	73,000	Pre-Treatment / Recycling
R5	1	90,000	N/A	Other Recovery
R12*	2	48,990	31,000	Pre-Treatment
Totals	**11**	**758,780**	**291,490**	

*Pre-treatment.

[68] For a full list of the waste recovery and disposal codes refer to the explanatory document hosted by the EPA http://www.epa.ie/pubs/forms/wreport/nwr/EPA_explanation_of_Recovery_and_Disposal_Codes.pdf

The capacity information provides a comprehensive overview of the treatment market in the region showing active capacity and some of the key findings are outlined:

- Capacities covered by pre-treatment codes make up over 584,680 tonnes in the region or 77% of the active market capacity;
- Landfill capacities are over 84,100 tonnes or 11% of the active market capacity. The situation with landfill has changed significantly since 2012, with six facilities actively accepting MSW in 2012. At the time of writing there were a total of two landfills accepting MSW in operation in the region; and
- Treatments defined by code R5 are primarily soil recovery sites and one such facility exists in the region, which is a quarry site that accounts for 12% of the total market capacity at 90,000 tonnes.

For the active facilities, utilisation data was available for waste materials recovered at the sites and wastes transported out of each facility. This information was provided from different EPA data registers[69] and is presented in **Table 16-5.** Analysing the rate of utilisation at the active facilities provides further insights into the type of treatments which are prevalent in the region.

Table 16-5: Waste Handled at Active Waste Licensed Facilities 2012

Treatment Code[68] in EPA Licence	Number facilities	Authorised Total Waste (tonnes)	Authorised MSW (tonnes)	Waste sent offsite[68] 2012 (tonnes)	MSW sent offsite[68] 2012 (tonnes)	Landfilled (tonnes)	Recovered onsite (tonnes)
D1/D5	2	84,100	60,500	136,442	59,284	53,799	-
D13*	4	274,690	104,490	86,305	80,508	-	-
D14*	1	95,000	22,500	No AER	No AER	-	-
D15*	1	166,000	73,000	75,503***	73,752**	-	1,045***
R5	1	90,000	N/A	N/A	N/A	-	37,289
R12*	2	48,990	31,000	26,953**	24,374**	-	-
Totals	**11**	**758,780**	**291,490**	**325,203**	**237,918**	**53,799**	**38,334**

*Pre-treatment Codes.
**One of the two facilities intake data is for 2013 as 2012 was unavailable.
***2013 intake data.

Galway City Council's Carrowbrowne facility (Closed Landfill) was accepting organic waste for composting in 2012. However, since 2013 composting operations have ceased at this site and it hasn't been included in the table. Barna Waste is primarily operating under treatment code D15 but commenced composting in 2013 and was awarded an animal by-products approval from Department of Agriculture, Food and Marine in December 2013. Barna Waste is authorised to accept 20,000–40,000 tonnes of biological waste and 1,045 tonnes was recovered on site in 2013. The one soil recovery facility in the region recovered 37,289 tonnes (soil and stones) on site in 2012.

[69] Data from EPA Pollutant Release and Transfer Register, which provides the total quantity of wastes sent off-site from waste licensed facilities, and National Waste Report Registers.

The EPA NWR 2012 shows that the two landfill facilities that are currently active in the Connacht Ulster Region landfilled 53,799 tonnes of MSW in 2012.

Of the eight facilities authorised for the pre-treatment of waste in the region, intake data is available for seven, with a 39% utilisation rate.

16.3 MARKET ANALYSIS CONCLUSIONS

An extensive review and analysis of local authority and EPA authorisations of waste facilities in the region has been undertaken. The authorisations issued by the regulatory bodies differ in scale, complexity, and their potential risk to the environment. This extends to the different approaches taken by authorities in consenting waste activities and capacities. The regulations in place which describe the type of activities requiring authorisation add a further layer of complexity to the situation.

The design of the current regulatory and authorisation system makes it difficult to combine local authority and EPA authorised capacities to allow a seamless analysis of the market. Each authorisation market has been examined on its own merits with the analysis structured to allow an overview of the overall market to be formulated. This section draws conclusions from the findings of each analysis and aims to provide clear signals regarding the planning and development of future waste treatment facilities. The following points set out the critical findings:

- The Connacht Ulster Region has just under 5 million tonnes of active treatment capacity. The active capacity is available for treatment of all waste streams, and waste being accepted at these facilities is not necessarily generated within the region. Nevertheless the authorised treatment capacity in the region is significant, in terms of tonnage, in its own right; however, when considered with treatment capacity in the other regions it suggests that the supply of particular waste treatments is not adequate for some streams (e.g. recovery of MSW and biowaste) while other treatment capacity appears to be in plentiful supply (e.g. land improvement recovery of C&D wastes);
- The geography of the region and the supply of balanced waste treatment capacity requires improved coordination between local authorities and the EPA to ensure the region is adequately serviced by various treatment methods and that regional imbalances are avoided where possible. There is need to consider remote parts of certain counties and areas with low population density and how these are being serviced. The selection of appropriate sites for any proposed waste activity is essential so that potential impacts on communities and environmental receptors are avoided where possible.
- The compilation of authorised treatment capacity and the rate of utilisation on paper is a useful exercise, describing for the first time a sense of the scale of the treatment market in the region. However, the difference between authorised and available capacity is not necessarily a true reflection of the vitality of the market as available operational capacity is often lower than the authorised capacity as issued;
- The high number of active local authority authorised facilities which are not submitting an annual environment report needs to be addressed in order to keep market data up to date;
- The difference in capacity authorisations at facilities and available operational capacity is significant and needs to be addressed and attempts made to reconcile these in the future. The total authorised tonnage allocated by a local authority to a facility is determined by either the legislative maximum for the relevant class of activity or by the tonnage sought by the developer. Many tonnages authorised appear to have been allocated according to

maximum tonnage allowable for that class under the regulations. This approach needs to be reconsidered as the rates of utilisation indicate that many facilities are not handling the authorised amount. This misrepresents the actual treatment capacity required as well as adding substantially to the overall market capacity on paper. This approach not only sets a precedent but may restrict the development of future facilities in a market that appears to be adequately supplied or even over-supplied;

- All authorisations should have an overall authorised capacity specified in tonnage terms. A capacity breakdown (by waste stream) should also be provided for those facilities allocated two or more classes of activity. It would be preferable if in future the authorised capacity was more closely aligned to the planned or built operational capacity. The phasing of capacity increases, which are conditional on specific site developments, is an approach used by the EPA and will be considered by local authorities in the future as appropriate; and
- The complexity of the authorisation system is making analysis of the treatment market complicated and difficult. This is compounded by the lack of direct association with the waste hierarchy. This connection needs to be introduced into future consents issued by local authorities and the EPA as the principles of the hierarchy remain fundamental to the plan and infrastructure development. The hierarchy provides a clear order to waste treatments and is a principal policy tool for the sector.

Policy

The analysis undertaken as part of the plan has revealed inconsistencies in the manner in which local authorities in the region are issuing Waste Facility Permits and Certificates of Registration. This includes the allocation of treatment capacity being authorised for proposed activities. During the plan period the local authorities will work together to bring greater consistency to the issuing of authorisations including standardising documents. The approach will mirror the system in place for the issuing of collection permits and formulating permit conditions. A greater level of consistency will ensure that all operators in the market are treated equally and will facilitate more effective enforcement of the sector. Delivering on this policy will have a positive long-term impact on the environment and society.

Policy:

F4. Improve the consistency of local authority waste authorisations and conditions issued to waste collectors and facility operators.

16.4 POLICIES

Taking on board the findings of the market analysis and conclusions, the following policy recommendations have been made in relation to the future development of waste infrastructure in the region. They are targeted at the lead authorities, local authorities and operators in the waste market and are designed in accordance with the tiers of the waste hierarchy.

The local authorities in the region will ensure that any project and associated works, individually or in combination with other plans or projects, are subject to Appropriate Assessment Screening (AAS) to ensure there are no likely significant effects on the integrity (defined by the structure and

function) of any European site(s) and that the requirements of Article 6(3) and 6(4) of the EU Habitats Directive are fully satisfied.

Where a project is likely to have a significant effect on a European site or there is uncertainty with regard to effects, it shall be subject to AAS. The project will proceed only after it has been determined that it will not adversely affect the integrity of the site or where, in the absence of alternative solutions, the plan/project is deemed imperative for reasons of overriding public interest, all in accordance with the provisions of Articles 6(3) and 6(4) of the EU Habitats Directive.

16.4.1 Pre-Treatment Infrastructure

The European Commission has provided guidelines[70] and explanatory descriptions of key definitions and articles in the WFD. A pre-treatment activity is defined as "*the processing of waste which still results in a waste which subsequently undergoes other waste recovery or disposal treatment*".

Pre-treatment activities include operations like "dismantling, sorting, crushing, compacting, palletising, drying, shredding, conditioning, repackaging, separating, blending or mixing if the material or substance resulting from such operations is still waste". These activities do not sit on any particular rung of the waste hierarchy and instead can be regarded as "precursors" to specific types of treatment.

Pre-treatment activities are not restricted to particular waste streams and the operations listed cover activities in the region which handle and pre-treat many different types of wastes.

- Municipal wastes (household and non-household);
- Commercial waste (non-municipal);
- Packaging wastes;
- Construction and demolition wastes;
- Skip wastes, bulky wastes including metals;
- Industrial wastes;
- End-of-life vehicles;
- Waste electrical and electronic wastes;
- Waste batteries; and
- Hazardous wastes.

Pre-treatment capacity is prevalent in the region and accounts for over 2.6 million tonnes of the 4.7 million tonnes of authorised capacity. Pre-treatment facilities represents 55% of the authorised treatment capacity with rates of utilisations at existing facilities appearing to indicate an adequate supply (or potential supply) remaining at existing sites. As noted previously in this chapter, the available treatment capacity at pre-treatment facilities may be less than the treatment capacity authorised by the local authorities and the EPA.

The local authorities, mindful of the quantity of authorised pre-treatment capacity in the region, recognise the need for better co-ordination between the lead authority, local authorities in the region and the EPA.

[70] European Commission, Guidance on the interpretation of key provisions of Directive 2008/98/EC on waste.

Consent for the greater part of the existing infrastructure was granted when landfill was the primary means by which residual wastes were treated. Excluding landfills, much of the authorised waste capacity in the region is effectively pre-treatment, bulking of waste, possibly with some degree of mechanical treatment, in advance of transferring off-site for final treatment elsewhere.

Setting aside the need for pre-treatment activities to prepare waste for further treatment, in Ireland or abroad, there is a need to take stock of existing authorised and available capacities. Decisions on future facilities need to be made in full knowledge of the existing market and will focus on the quality of pre-treatment activities being proposed. The underlying strategic approach of the plan aims to improve the quality of waste along the entire treatment supply chain. Pre-treatment capacities are typically the first destination for wastes and are vital in extracting and generating high quality outputs for onward treatment.

Policies:

E1. Future authorisations by the local authorities, the EPA and An Bord Pleanála of pre-treatment capacity in the region must take account of the authorised and available capacity in the market while being satisfied the type of processing activity being proposed meets the requirements of policy E2.

E2. The future authorisation of pre-treatment activities by local authorities over the plan period will be contingent on the operator demonstrating that the treatment is necessary and the proposed activities will improve the quality and add value to the output materials generated at the site.

Consideration of pre-treatment authorised and available capacity at existing sites in the region prior to authorisation of future pre-treatment activities may have a positive effect on the environment in terms of potentially reducing the scale of development of new greenfield sites.

16.4.2 Public Civic Amenities and Bring Centres

The network of local authority civic amenity facilities and bring banks is a valuable part of the collection infrastructure in the region and helps to serve the growing population. In 2012 over 33,127[71] tonnes of waste was collected using this infrastructure.

Bring banks can be difficult to retain in particular locations due to issues such are noise, illegal dumping and vandalism. To address this the local authorities intend to prepare and include specific conditions requiring the provision of such bring facilities with planning permissions for relevant developments. Developers of new residential and commercial developments may have conditions included in their planning permissions that require them to install bring facilities as part of the development infrastructure.

Civic amenity facilities are important pieces of infrastructure for the collection of non-hazardous and hazardous wastes. In the NHWMP the EPA has identified the potential for these facilities to accept

[71] National Waste Report 2012, EPA (2014).

hazardous waste from small businesses and local authorities will consider whether this is possible. The collection of hazardous farm waste at local marts has been piloted recently by the EPA, together with other stakeholders, including local authorities. The local authorities will continue to support these collection events during the plan period.

Policies:

E3a. The local authorities in the region will maintain and develop their existing networks of bring infrastructure (e.g. civic amenity facilities, bring banks) to facilitate the recycling and recovery of hazardous and non-hazardous municipal wastes.

E3b. The Plan supports the development by the private sector of public bring infrastructure (e.g. civic amenity facilities, bring banks) subject to appropriate statutory approvals and in line with appropriate environmental protection criteria.

E4. The local authorities may include as a condition of planning that developers of commercial and large-scale residential developments provide bring facilities to serve occupants and residents.

E5. Local authorities will explore the possibility of accepting hazardous waste at existing civic amenity facilities from small businesses, which is similar in nature to household hazardous wastes currently received. A charge may be introduced for such a service.

E6. The local authorities may require waste developers seeking a waste facility permit to develop a Class 10 waste treatment activity, as defined by the Third Schedule: Part I of the Waste Management (Facility Permit and Registration) Regulations 2007 (as amended), to provide bring facilities for the acceptance of non-hazardous wastes from members of the public and businesses.

E7. The local authorities in the region will continue to work with the EPA and other key stakeholders to support the collection of hazardous farm waste from designated bring centres e.g. marts.

16.4.3 Disposal

There has been a significant shift away from landfill in the region (and nationally) with the number of active facilities accepting non-hazardous municipal waste falling to two (March 2015). The plan is clear in its intention to follow European and national policy and continue to move waste away from landfill. The local authorities in the region support this policy ambition and are proposing to revise collection permit conditions to eliminate the direct disposal of unprocessed[72] residual waste to landfills (see policy action A.1.1 in **Section 19.2**).

[72] Unprocessed residual waste means residual municipal waste collected at kerbside or deposited at landfill/CA sites/transfer stations that has not undergone appropriate treatment through physical, biological, chemical or thermal processes including sorting.

The local authorities anticipate that there will be an ongoing need for landfill capacity during the plan period for processed residual wastes. There is also a need to maintain a contingency supply, in response to potential situations which pose a risk to the health and well-being of citizens, livestock and the environment.

In addition there is a need for capacity to address the treatment of hazardous wastes which cannot be recycled or recovered. The EPA has identified[73] the need for up to 277,000 tonnes of disposal capacity for hazardous waste materials over the period 2014–2019. This is a national capacity need and the EPA recognises the value of developing existing landfill sites, including those which are currently closed or uncommenced, for the disposal of certain hazardous wastes, i.e. asbestos.

A number of local authority owned landfills in the region closed during the period of the last plans in advance of their lifetime capacity being reached. Significant investment has been made in developing these sites and substantial infrastructure has been put in place at each site to provide access, landscaping and management of environmental emissions. Many sites also have connections to the electricity grid, which are valuable assets.

The local authorities in the region are keen to explore the potential to develop alternative activities at closed landfill sites which optimise the land use and provide a revenue supply to the authority to help with on-going management costs at local authority waste facilities.

Finally, in accordance with an intergovernmental agreement in 2008, the repatriation of waste, which originated in Ireland but which was illegally disposed of in Northern Ireland, in the early 2000s is now under way. A co-operative agreement provides a template for dealing with this historical issue, which was endorsed by Ministers from both jurisdictions and by the EU Commission. Under the agreement, the costs of disposing of the waste will be met by the Irish Government together with 80% of the costs of removing the waste from Northern Ireland.

In April 2012, Dublin City Council's NTFSO established a Framework Agreement for licensed waste disposal facilities in the Republic of Ireland in order to provide a service for the disposal of waste excavated from sites in Northern Ireland. Its duration is four years, and eight landfills are on the framework located within the three regional waste areas.

Currently, however, only four landfills on the framework remain open; three are located in the Eastern-Midlands Region and the fourth site is in the Connacht Ulster Region. There are seven sites remaining in Northern Ireland with an estimated 120,000 tonnes of mixed municipal waste to be repatriated for disposal over the next few years.

Due to security issues, on-site segregation of waste is not possible – other than the removal of tyres, metals and batteries. All waste repatriated must go for disposal. The work is progressing at a rate of two to three sites per year and is wholly dependent on funding from DECLG.

Work is due to commence at some of the larger sites and is expected to take longer than previous operations. If a replacement framework is required, NTFSO as the Competent Authority will be responsible for its establishment. The waste plan supports the repatriation of this waste to landfills in the region.

[73] National Hazardous Waste Management Plan, 2014 –2020, EPA (2014).

Policies:

E8. The waste plan supports the development of disposal capacity for the treatment of hazardous and non-hazardous wastes at existing landfill facilities in the region subject to the appropriate statutory approvals being granted in line with the appropriate environmental protection criteria.

E9a. The on-going availability of disposal facilities for non-hazardous municipal residual wastes in the region will be required during the plan period. The local authorities consider there is no need to provide additional disposal facilities for residual wastes over and above the existing authorised (i.e. operational, inactive or uncommenced) facilities in place.

E9b. The waste plan supports the need for on-going disposal capacity to be developed for on-site generated non-hazardous/hazardous industrial waste over the plan period.

E10. The waste plan recognises the need for on-going disposal capacity to be available in response to events which pose a risk to the environment and/or health of humans & livestock. The local authorities of each region will monitor available contingency capacity annually.

E11. The plan supports the consideration of appropriate alternative future land uses at authorised inactive landfills (un-commenced; permanently-closed; or temporarily-closed) - subject to amendments of existing approvals being put in place. Any development proposals shall be subject to Appropriate Assessment Screening in accordance with the requirements of the EU Habitats Directive to ensure protection and preservation of the Natura 2000 Network.

Potential activities include:

- Waste treatment activities including pre-treatment, thermal recovery, biological treatment, reprocessing or preparing for re-use;
- On-site temporary storage of waste and materials;
- Co-location of utility services such as wind farms or other energy generating activities;
- Development of public and recreational amenities;
- Co-locating recycling / reuse waste enterprises on site; and
- Resource mining;
- Contingency capacity for crisis events such as risks to the environment and to the health of humans and livestock

E12. The waste plan supports the repatriation of residual waste illegally disposed in Northern Ireland to licensed disposal facilities appointed to a framework set up on behalf of the State by the National Trans Frontier Shipment Office.

It is recommended that prior to policy E11 being implemented a feasibility study or similar study is undertaken of the closed or uncommenced landfills in the region to determine what activities may

or may not be appropriate for consideration at each site based on site and surrounding sensitivities. It is acknowledged that the policy specifically refers to consideration of the Natura 2000 network and this is considered positive. The feasibility study should also consider environmental sensitivities under the wider environmental scope of SEA.

For policy E12, it is recommended the NTFSO liaise with the relevant authorities in Northern Ireland to ensure there is a management plan in place to prevent the spread of invasive alien species associated with the repatriation of waste. The requirement for Appropriate Assessment screening would also apply to repatriation projects.

16.4.4 Recovery – Backfilling

Backfilling activities (of inert waste), which meet the recovery definition and are in compliance with Articles 4 and 13 of the WFD, sit on the other recovery tier of the waste hierarchy. Local authorities in the region authorise such activities through the award of WFPs and CoRs. Similarly the EPA authorises significant backfilling of inert waste at large sites such as old quarries for restoration purposes.

Backfilling activities make up a significant treatment capacity in the region at present. Local authority and EPA authorised sites have a combined capacity of over 1.6 million tonnes. Local authority authorised sites generally have a shorter lifespan than EPA licensed sites and operations can often cease at these sites within the life of the permit, i.e. five years. EPA authorisations cover more substantial operations with a longer lifetime capacity. Utilisation of active local authority capacity at backfilling/land improvement sites was 32% in 2012. This relatively low level of utilisation reflects the depressed activity in the construction sector in Ireland and as a result supply of capacity exceeding current demand. Activity in the sector is expected to increase over the plan period as economic recovery continues to build nationally.

Policies:

E13. Future authorisations by the local authorities, the EPA and An Bord Pleanála must take account of the scale and availability of existing back filling capacity.

E14. The local authorities will co-ordinate the future authorisations of backfilling sites in the region to ensure balanced development serves local and regional needs with a preference for large restoration sites ahead of smaller scale sites with shorter life spans. All proposed sites for backfilling activities must comply with environmental protection criteria set out in the plan.

In the face of increased demand for backfilling authorisations there is a need for better coordination between local authorities in the region. This is to ensure that facilities are planned and developed at suitable sites and do not present a risk to European designated sites and existing biodiversity and habitats. It is recommended that the lead authority liaise with relevant stakeholders (including the EPA and the DAHG) to ensure appropriate measures are in place for the control and spread of invasive alien species at backfilling sites in the region where necessary.

16.4.5 Recovery – Thermal Recovery

Thermal recovery activities,[74] where the principal use of the waste is as a fuel to generate energy, sit on the other recovery tier of the waste hierarchy. The authorisation of these activities is the remit of the EPA. These facilities typically operate on a national market basis, accepting waste from all parts of Ireland.

The CUR does not contain any active thermal recovery activities for the treatment of municipal type wastes and at present the EMR is the only region in the country to have this type of treatment available. Thermal capacity is currently under construction at a cement kiln in the CUR (Q3 2014). **Table 16-8** provides a summary of the MSW thermal recovery capacity, both active and pending. In the State there are six facilities fully authorised (i.e. with planning permission and waste authorisation granted[75]) to accept 1,227,875 tonnes of MSW. Three of the six facilities are currently active. The intake levels at active facilities are high, with the existing waste-to-energy facility operating at capacity. The tonnage accepted at the cement kilns is growing.

The cement kilns accept solid recovered fuel (SRF) and refuse-derived fuel (RDF) type wastes, which are generated from municipal and construction sources, as well as other wastes such as meat and bone meal, chipped tyres and high calorific fuels. These alternative fuels replace the use of fossil fuels in the cement production process. The extent of this replacement depends on the quality of the SRF/RDF (and the moisture and chlorine content of the materials); the cement kilns are working with producers of SRF in the waste industry to agree specifications for product quality to facilitate increased rates of fossil fuel replacement. As outlined in **Table 16-8**, approximately 140,000 tonnes of SRF was used in 2013, and it is estimated that this will rise to 150,000 tonnes in 2015. It is anticipated that this could rise even further with additional capacity currently under construction.

The existing capacity is viewed by the local authorities as addressing national needs with respect to the recovery of residual municipal wastes and other waste streams (as described). Ireland's policy is to become self-sufficient in relation to the recovery of municipal waste and progress is being made in this area. The State is exporting a significant quantity of residual waste, which is poor use of a valuable resource from a self-sufficiency perspective. Over the lifetime of this plan it is expected that the capacity active in the market will increase substantially.

The need for future treatment capacity requires careful consideration and must take into account predicted waste growth, growing recycling rates, future targets, the continued move away from landfill and the conversion of pending capacity into active treatment. The development of future thermal recovery facilities will be viewed as national facilities addressing the needs of the State and will not be defined by regional markets alone. A coordinated and consultative approach is required for such authorisation between the regions and national authorities, i.e. the EPA and An Bord Pleanála.

The spatial distribution of facilities nationally is potentially imbalanced with all active and pending facilities located in one region. Despite the strong road network linking regional urban centres to the capital, there is a need to consider the spatial distribution of thermal recovery capacity in the State when authorising future facilities.

[74] Such as incineration (waste-to-energy), co-incineration (cement kilns), pyrolysis and gasification.
[75] Only facilities which have planning permission and a licence from the EPA have been considered in this table, as the timeframe involved in obtaining consent for these types of facilities is considerable.

A national thermal recovery capacity need of 300,000 tonnes is proposed (refer to policy E15a) over and above the active and pending capacity totals in **Table 16-8.** Thermal recovery activities, where the principal use of the waste is as a fuel to generate energy, sit on the other recovery tier of the waste hierarchy. The authorisation of these activities is the remit of the EPA. These facilities typically operate on a national market basis, accepting waste from all parts of Ireland.

Table 16-8: Active and Pending Capacity for the Thermal Recovery of MSW

Thermal Recovery Activity (Number of facilities)	Active (Tonnes)	Pending (Tonnes)	Total (Tonnes)	Intake (2013)
Waste-to-Energy (2)	220,000[76] (1)	600,000[77] (1)	820,000	206,000
Cement Kilns (3)	215,000 (2)	127,875 (1)	342,875	140,000[78]
Pyrolysis (1)	-	65,000 (1)	65,000	-
Total (6)	**435,000**	**792,875**	**1,227,875**	**346,000**

This need has been determined by analysing future projections to 2020 and to 2030 and making realistic assumptions. By 2020 municipal waste generated in Ireland is forecast to grow to between 3.0 and 3.2 million tonnes. The lower forecast was selected for the purpose of determining the capacity need as it takes account of the proposed prevention target as set out in the plan. A growth factor of 2.5% has been applied for the period 2020 to 2030 with an arisings figure of 3.9 million tonnes estimated by the final year (2030). It has been assumed that Ireland will achieve its 50% municipal recycling rate target by 2020, from the current national recycling rate of 40%, with linear incremental growth over the plan period. Increases to the rate of recycling at the same rate are projected to 2030, with a rate in excess of 60% ultimately being reached. It is assumed that landfill is being phased out over the period, with the level of future activity related to the development and utilisation at thermal recovery facilities and other factors such as the landfill levy price. There is contingency built into the projections, with lower level quantities of uncollected waste used in the projections than reported in the plan. In summary, the capacity need is considered balanced and in keeping with the overall strategic approach of the plan.

In the recent National Hazardous Waste Management Plan, the EPA confirmed that there remains a need to develop thermal recovery infrastructure for the treatment of hazardous wastes in Ireland. The latest data shows that almost 60,000 tonnes of hazardous waste was sent for incineration[79] abroad. The EPA have authorised the treatment of up to 50,000 tonnes of hazardous waste in the Southern Region but this facility is yet to become active and has no planning approval. The current licence for this facility expires in November 2015.

[76] The active capacity refers to the Indaver Waste-to-Energy facility.
[77] The pending capacity refers to an authorised but unbuilt capacity. Only capacity with planning permission and EPA licences has been included.
[78] This figure relates to SRF which is not exclusively from municipal sources.
[79] 39,612 tonnes was sent for incineration without energy recovery (D10) and 20,464 tonnes was sent for incineration with energy recovery (R1).

Similarly there is a need for thermal recovery capacity for the treatment of industrial process wastes including sludges. These wastes are typically treated at the location of generation by producers or manufacturers. Other industrial process wastes which are sent off site are co-combusted with other residual wastes at thermal facilities or are exported.

Policies:

E15a. The waste plan supports the development of up to 300,000 tonnes of additional thermal recovery capacity for the treatment of non-hazardous wastes nationally to ensure there is adequate active and competitive treatment in the market and the State's self sufficiency requirements for the recovery of municipal waste are met. This capacity is a national treatment need and is not specific to the region. The extent of capacity determined reflects the predicted needs of the residual waste market to 2030 at the time of preparing the waste plan. Authorisations above this threshold will only be granted if the applicant justifies and verifies the need for the capacity, and the authorities are satisfied it complies with national and regional waste policies and does not pose a risk to future recycling targets. All proposed sites for thermal recovery must comply with the environmental protection criteria set out in the plan.

E15b. The waste plan supports the need for thermal recovery capacity to be developed specifically for the on-site treatment of industrial process wastes and where justifiable the treatment of such wastes at merchant thermal recovery facilities.

E16. The waste plan supports the development of up to 50,000 tonnes of additional thermal recovery capacity for the treatment of hazardous wastes nationally to ensure that there is adequate active and competitive treatment in the market to facilitate self-sufficiency needs where it is technically, economically and environmentally feasible. The capacity is a national treatment need and is not specific to the region. All proposed sites for thermal recovery must comply with the environmental protection criteria set out in the plan.

Energy recovery is critical for operators developing thermal recovery waste facilities to ensure the sustainability and viability of their operations. The potential for investment and growth in this market is real and needs to be supported by the appropriate renewable energy pricing mechanisms. There needs to be greater recognition in energy policy of the contribution waste facilities are making, and will continue to make, to Ireland's renewable energy sector and its achievement of mandatory targets.

16.4.6 Recycling – Biological Treatment

Under the WFD, the recycling of waste is defined as "*any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes*" and "*includes the reprocessing of organic material*". Biological treatment is clearly an activity[80] which sits on the recycling tier of the hierarchy.

[80] It should be noted that biological treatment of organic fines is a recovery activity.

The capacity for biological treatment both in the region and nationally has grown during the period of the last plans. Nationally, 246,000 tonnes[81] of treatment capacity is authorised by the Department of Agriculture, Food and the Marine to treat food organics. In the region there is 40,000 tonnes of treatment capacity authorised to treat animal by-products between local authority and EPA sites.

The national quantity of municipal brown bin material being treated in 2012 was over 94,000 tonnes[82] and it is expected that this will continue to grow over the plan period, with a heightened focus on increasing the separate collection of food waste. Over 37,371 tonnes[107] of garden waste was treated nationally in 2012, primarily by composting. Biowaste materials tend to move shorter distances for treatment by comparison to residual wastes, which may be hauled across the country to treatment outlets.[83] Over the plan period it is expected that biowaste material generated will be principally treated within the region and the capacity need has been examined on the basis of serving regional needs. This approach will support the development of treatment facilities of varying scales.

The need for additional capacity in the region has been determined by examining the current levels of biological capacity in the region, specifically the capacity which is consented by the DAFM to accept animal by-products, and the increases in biowaste and organic waste that are expected to come into the market over the plan period. The increased penetration of segregated food waste collections from household and commercial customers is expected to increase the quantities of this stream collected. The rate of capture of the material is difficult to predict at this stage and will become clearer with the availability of new waste characterisation data expected in 2015.

Policies:

E17. The waste plan supports the development of at least 40,000 tonnes of additional biological treatment capacity in the region for the treatment of bio-wastes (food waste and green waste) primarily from the region to ensure there is adequate active and competitive treatment in the market. The development of such treatment facilities needs to comply with the relevant environmental protection criteria in the plan.

E18. The waste plan supports the development of biological treatment capacity in the region in particular anaerobic digestion; to primarily treat suitable agri-wastes and other organic wastes including industrial organic waste. The development of such treatment facilities needs to comply with the relevant environmental protection criteria in the plan.

It is expected that the food waste generated in each region will not be transported long distances but will rather be primarily treated in each region. The nature of the material, which is wet and odorous, can limit the distances such loads are transported although the current movement of

[81] Data valid as of October 2014.
[82] National Waste Report 2012, Appendix I, EPA (2014).
[83] It is noted that quantities of segregated biowaste are currently being exported to biological facilities Northern Ireland. The preferential pricing of energy generated from AD plants in Northern Ireland is helping to grow the industry and keep treatment gate fee costs competitive with facilities south of the border.

biowaste to Northern Ireland is noted. The treatment capacity proposed is to ensure there is sufficient capacity approved – in particular, facilities which have animal by-product approval–and there is a balanced distribution of capacity in the region.

Biological treatment facilities for the primary and co-treatment of agricultural waste, along with biowastes and other organic wastes, are also required in the region and the waste plan supports the development of such facilities. Managing waste from a growing agricultural sector is a challenge which needs to be addressed to support Ireland's growing agri-food sector.

16.4.7 Recycling – Material Reprocessing

The reprocessing of waste materials into products, materials or substances "*whether for the original or other purposes*" falls within the recycling definition. Ireland's reprocessing industry for secondary waste materials is limited, with the greater part of municipal recyclable wastes being exported. Similarly, significant quantities of hazardous waste are exported for reprocessing outside the State. In many cases the quantity of feedstock available in Ireland is not sufficient to make the development of indigenous recycling or reprocessing facilities economically viable.

There has been progress on the reprocessing of plastic wastes, with a recent report[84] estimating indigenous treatment capacity of 245,000 tonnes. Usage of this capacity was estimated to be at 30% in 2011. It is expected that usage will increase as export markets for lower quality plastic wastes are shrinking. Measures in the plan are designed to improve the quality of recyclables including plastic waste collected and processed for the market. Over the lifetime of the plan the local authorities in the region will support the development of indigenous secondary waste market reprocessing.

As described in **Section 3.2.3**, EoW criteria specify when certain waste ceases to be waste and obtains the status of a product (or a secondary raw material). According to the Waste Framework Directive[85] certain specified waste shall cease to be waste when it has undergone a recovery (including recycling) operation and complies with specific criteria to be developed in line with certain conditions. It is expected over the period of the plan that further EoW criteria will be published by the European Commission, which will provide opportunities for operators in the industry to reprocess waste into products or secondary materials. Developments in this area will be monitored by the regional waste office over the plan period.

Policies:

E19. The waste plan supports the development of indigenous reprocessing and recycling capacity for the treatment of non-hazardous and hazardous wastes where technically, economically and environmentally practicable. The relevant environmental protection criteria for the planning and development of such activities need to be applied.

[84] The Irish Recycled Plastic Waste Arisings Study – Update 2011.
[85] Articles 6(1) and (2).

16.4.8 Preparing for Reuse Activities

Preparing for reuse activities are defined under the WFD as "*checking, cleaning or repairing recovery operations by which products or component of products that have become waste are prepared so that they can be re-used with any other pre-processing*". Preparing for reuse is a higher order recovery solution recognised as providing more benefits than recycling or other recovery treatments.

It is important to clarify the distinction between reuse, part of the prevention tier, and preparing for reuse activities, which are different. In the case of the former activity the material in question has not been discarded and as such has not become a waste. Reuse is not classed as a waste activity so any enterprise reusing material is not regulated under waste regulation.

In accordance with Regulation 27 of the Waste Directive Regulations 2011, an economic operator is required to notify the EPA of any decision made to classify a material as a by-product and to explain the grounds for that decision. The EPA may make a determination that the notified material should in fact be classified as waste.

By developing preparing for reuse activities the local authorities will improve how waste materials are managed and such enterprises will be supported by the waste plan. The local authorities recognise that many of these operations are small scale, with a large number of start-ups commencing as sole traders. To encourage these activities, the local authorities will engage with the Department in reviewing the regulation and authorisation processes with the intention of adopting procedures which better reflect the scale of these activities.

Policies:

E20. The waste plan supports the development of repair and preparing for reuse enterprises in the region as part of the transition to a more resource focused management approach and will provide technical, regulatory and financial guidance to operators active on this tier of the hierarchy.

16.4.9 Facility Authorisations by Local Authorities

The market assessment and review of local authority permits and certificates of registration undertaken for the waste plan has brought into focus inconsistencies in the authorisations issued by authorities to facilities across the region. This needs addressing and the local authorities are committed to standardising the approach to facility authorisations across the region (refer to **Section 19.7**, policy action F.4.2).

In addition to the standardisation of templates, the allocation of treatment capacity quantities will be reviewed by the authorities with the intention of better aligning authorised and operational capacities. They will also examine the option of introducing a phased approach to authorisations to facilitate capacity increases, granted on the basis of actual need and progressive development works at the site. Local authorities will implement a coordinated and considered approach to the future

planning of treatment capacities in the region through better communication (between authorising bodies) and ongoing updates of regional capacity data.

Policies:

E21. The Local Authorities will review the approach to authorising waste treatment facilities requiring a waste facility permit or certificate of registration having regard to the need to achieve consistency of approach between planning approval and operational capacity.

16.4.10 Collection Infrastructure

Existing household waste collection infrastructure has been described in **Chapter 9** of the plan. The total quantity of household waste managed in 2012 in the region was 209,532 tonnes through a combination of existing collection systems. The quantity of household waste managed, collected at the kerbside, was 169,097 tonnes or 76% of the total. The overall percentage of households signed up to a kerbside collection service was 58% in 2012, an increase on the previous year but still significantly less than the average of the top three performing counties in the region, which stands at 80%. Approximately 8% of household waste managed in the region in 2012 was collected at civic amenity sites, bring centres, through producer responsibility initiatives or brought directly to landfill.

The quality of waste collected depends on the method by which the waste is collected. Segregation at source combined with kerbside collection is recognised as the best method currently employed in Ireland to ensure the presentation of high-quality material. It is recognised by the authorities that manual kerbside-sort collections are becoming more common, particularly in the UK, with multi-compartment vehicles and operatives facilitating the source-segregation of up to seven waste streams. The implementation by private operators of such systems in Ireland remains an option provided the obligations of all relevant regulations are met.

The quality of waste materials has a significant influence on the recycling or recovery potential of the waste. In the absence of source-segregated kerbside collection systems, authorised civic amenity facilities or bring centres provide the next best method of household waste collection.

Policies:

E22a. The plan supports the primacy of kerbside source segregated collection of household and commercial waste as the best method to ensure the quality of waste presented.

E22b. The plan also supports the use of authorised civic amenity facilities and bring centres as part of the integrated collection system.

With regard to the operation of seasonal or intermittent waste facilities at ports, marinas, caravan parks, holiday villages or similar situations, waste segregation should be facilitated by the operators of such facilities.

Policy:

E23. In the absence of kerbside source segregated collection services and where the proximity of the civic amenity facilities and bring centres is prohibitive the plan supports localised collection solutions such as community drop-off points or pay-to-use systems subject to compliance with the household waste collection regulations.

International Catering Waste (ICW) is food waste from international transport vehicles such as cruise ships, airlines, private or commercial yachts or boats, armed forces ships or submarines and ferries. Any operator engaged in the generation, handling, transport, processing, storing, or disposing of ICW must be authorised by the Department of Agriculture, Food and the Marine.

Policy:

E24. The plan supports the appropriate management of international catering waste under the Animal By-products Regulations (EC) No. 1069/2009.

The rates of industrial production and goods consumption have been increasing for 40 years, giving rise to the twin problems of rising waste volumes and the obligation to adopt quality-driven management practices. To limit the environmental consequences associated with greater waste production it was deemed necessary to transfer the financial responsibility for waste management to the producer (manufacturer or importer) through the application of the polluter pays principle. This gave rise to the concept of extended producer responsibility whereby manufacturers and importers of products bear a significant degree of responsibility for the environmental impacts of their products throughout the life cycle. There are a number of Producer Responsibility Initiatives (PRIs) in place in Ireland for specific waste streams. Producers with responsibilities under these initiatives often join a compliance scheme to meet their obligations. Compliance schemes operating at present include Repak, WEEE Ireland, ERP and the IFFPG, with specific arrangements in place for end-of-life vehicles, tyres and batteries.

A recently completed review of the PRI model in Ireland proposes a range of recommendations in relation to existing PRIs and the development of new schemes for specific waste streams.

Policy:

E25. The plan supports the improvement of existing PRIs and the development of new PRIs or similar industry/voluntary schemes for specific waste streams including but not limited to human and farm chemicals and medicines, paints, newspapers, magazines and bulky waste.

16.5 ENVIRONMENTAL PROTECTION CRITERIA

This section sets out overarching environmental protection criteria for waste related activities requiring consent[86]. The criteria are provided to assist project developers, operators and competent authorities in considering the environment early in the planning process. However, the criteria should not be taken as a strict interpretation of national or European legislation, policy, case law or guidance covering this area, but rather the first step in ensuring protection of the environment is integrated into project proposals.

The recently published Climate Action and Low Carbon Development Bill 2015 aims to transition Ireland to a low carbon, climate resilient and environmentally sustainable economy. If it is enacted the Government will be required to prepare a National Mitigation Plan which will specify the policy measures required to manage greenhouse gas emissions.

In addition to the mitigation requirements, the Bill requires the development of a National Adaptation Framework which will specify the strategy for the application of sectoral adaptation measures to reduce the vulnerability of the State to the negative effects of climate change. In terms of the waste sector, specific adaption measures are likely to include restrictions or modifications to facilities operating within or adjacent to areas of flood risk to eliminate the risk of leachate or contaminated run-off entering water courses. Similarly, for waste facilities located in coastal areas adaption measures for sea level rise may include specified engineering works to mitigate erosion and potential impacts on coastal waters and protected ecological areas. The National Adaptation Framework will be reviewed on a five year basis and should be used to identify existing sites that are vulnerable to climate change stresses as well as for the development of a policy to restrict the development of waste operations in areas of high vulnerability. The environmental criteria take account of potential impacts from climate on waste facilities.

It is strongly recommended that developers and operators consult with the regional waste office and the relevant planning and regulatory authorities prior to submitting an application for development consent. As a minimum, the criteria set out in this section must be applied in order to ensure the impact on communities, human health, ecology and the wider environment can be avoided where possible and minimised, managed and mitigated where necessary.

[86] Consent includes any licence, permission, permit, derogation, dispensation, approval or other such authorisation granted by or on behalf of a public authority, relating to any activity, plan or project that may affect a European Site, and includes the process of adoption by a public authority of its own land use plans or projects (from Habitats Regulations S.I. 477 of 2011).

Policy:

G3. Ensure there is a consistent approach to the protection of the environment and communities through the authorisation of locations for the treatment of wastes.

As noted elsewhere in this document, the waste plan does not identify specific technologies and/or locations for future waste-related activities. Rather, it has highlighted capacity need, and so guidance on proper siting of future waste-related activities (including expansion of existing facilities) is the most appropriate method at this stage in the planning hierarchy to address the potential for impact on the environment. This is particularly the case with regard to protection of European Sites designated for nature conservation, including Special Areas of Conservation and Special Protection Areas. These sites are afforded protection under the EU Habitats and Birds Directives and also under national legislation (European Communities (Birds and Natural Habitats) Regulations 2011 which complement relevant provisions of the Planning and Development Act, 2010).

The criteria are not intended to be an end point but rather a starting point for planning waste facilities. Subsequent plans and projects arising from the content of this plan will require further, more detailed consideration of the impact on the environment as a result of location or process/technology alternatives proposed to address the capacity needs identified in the plan.

The environmental protection criteria are consistent with the objectives pursued by the WFD, namely:

- The protection of public health and the environment;
- The establishment of an adequate network of appropriate installations;
- Disposal installations (taking into account the Best Available Technology (BAT) without involving excessive costs); and
- An adequate transport network so that waste can be disposed in one of the nearest installations.

For ease of reference, the environmental protection criteria are divided into (1) general environment and (2) European Sites (SPAs and SACs). In general future waste activities requiring consent need to consider the following:

General Environment

- Avoid, as far as possible, siting waste infrastructure or related infrastructure in areas protected for landscape and visual amenity, geological heritage and/or cultural heritage value. Where this is unavoidable, an impact assessment should be carried out by a suitably qualified practitioner and appropriate mitigation and/or alternatives must be provided.
- Avoid siting waste infrastructure or related infrastructure in proposed Natural Heritage Areas (pNHAs), Natural Heritage Areas (NHAs), Statutory Nature Reserves, Refuges for Fauna and Annex I Habitats occurring outside European designated sites;
- To prevent the spread of Invasive Alien Species (IAS), where waste material is transported from one location to another, an IAS survey of source and receptor sites will be conducted by a suitably qualified person. If IAS are found, preventative measures will be implemented to prevent the onward spread of the plant/animal material including: employment of good

site hygiene practices for the movement of materials into, out of and around the site; ensuring that imported soil is free of seeds and rhizomes of key invasive plant species; adherence to any national codes of practice relating to prevention of the spread of IAS (including both Ireland and Northern Ireland Codes of Practice).

- In order to protect habitats which, by virtue of their linear and continuous structure (e.g. rivers and their banks) or their contribution as stepping stones (e.g. ponds or small woods), are essential for the migration, dispersal and genetic exchange of wild species, these features will be protected as far as possible from loss or disruption through good site layout and design;
- Ensure a Sustainable Drainage System (SuDS) is applied to any development and that site-specific solutions to surface water drainage systems are developed, which meet the requirements of the Water Framework Directive and associated River Basin Management Plans;
- Avoid development of waste management infrastructure in flood risk areas. Reference should be made to the Planning System and Flood Risk Management for Planning Authorities (DECLG/OPW 2009) and the National Flood Hazard Mapping (OPW) while referring to the relevant Flood Risk Management Plan (FRMP);
- Ensure riparian buffer zones (minimum of 15 m) are created between all watercourses and any development to mitigate flood risk. The extent of these buffer zones shall be determined in consultation with a qualified ecologist and following a Flood Risk Assessment. Any hard landscaping proposals shall be located outside these buffer zones;
- To protect river habitats and water quality (including physical habitat and hydrological processes/regimes), ensure that no development, including clearance and storage of materials, takes place within a minimum distance of 15 m measured from each bank of any river, stream or watercourse;
- Avoid geologically unsuitable areas including karst where practicable, and areas susceptible to subsidence or landslides. Due consideration should be given to the primary water source of the area and the degree of surface water/groundwater interaction;
- If there is and airport within 13 km of the proposed waste facility the airport shall be consulted at an early stage of planning;
- Impact from a transport perspective will be assessed including road access, network, safety and traffic patterns to and from the proposed facility in accordance with road design guidelines and/or relevant LA guidelines in relation to roads; and
- There are existing, closed or uncommenced landfills which could be used for alternative waste activities as they are considered brownfield sites; also suitably zoned other brownfield sites could be used for alternative waste activities. Sites that offer the opportunities to integrate differing aspects of waste processing will be preferred choices. This will ensure maximum efficiency of waste processing.

The local authorities in the region recognise the importance of providing facility-specific guidelines and intend to develop and review such guidelines over the course of the plan, see policy action G.3.1 in **Section 19.7**.

European Sites

In preparation of the SEA and Natura Impact Report to accompany this plan, the potential to impact on these European Sites (and the wider environment) has been identified. The protection of such sites has been included in the form of environmental protection criteria which must be applied to waste-related activities required to implement the policies of the waste plan.

Policy:

G5. Ensure that the implementation of the regional waste management plan does not prevent achievement of the conservation objectives of sites afforded protection under the EU Habitats and Birds Directives.

Criteria to be considered:

- Avoid siting new waste infrastructure or related infrastructure in European Sites, including Special Protection Areas (SACs) and Special Protection Areas (SPAs);
- Undertake Appropriate Assessment Screening for all waste-related activities requiring development consent, e.g. new infrastructure, expansions and upgrades of existing infrastructure and activities, waste authorisation applications, licence reviews (CoR, WFP, and Licences).
- Where a significant effect on a European Site, either alone or in combination with other plans or projects, is identified, or where there is uncertainty with regard to effects, the competent authority will seek an NIS to inform an AA. In so doing, the implications for any European Site in light of the site's Conservation Objectives shall be considered.
- For upgrades, expansion, enlargements and reviews related to existing waste activities and infrastructure, the competent authority will seek an evidence base to show the existing operations are not negatively impacting on a European Site, alone or in combination with other plans and projects, with particular focus on avoiding the deterioration of natural habitats and the habitats of species as well as the disturbance of species for which the area has been designated.
- Avoid damage to features of the landscape which, by virtue of their linear and continuous structure or their function as stepping stones, are essential for the migration, dispersal or genetic exchange of wild species.

It is further noted that any risk of effects due to the lower tier Plans or projects arising from this strategy document will be avoided through an overarching environmental protection policy setting out the expectations and requirements for lower tier Plans and projects as regards European sites; this policy and related policy actions are included under **Section 19.8**.

Climate Change

The recently published Climate Action and Low Carbon Development Bill 2015 aims to transition Ireland to a low-carbon, climate-resilient and environmentally sustainable economy. If enacted the Government will be required to prepare a National Mitigation Plan which will specify the policy measures required to manage greenhouse gas emissions.

In addition to the mitigation requirements, the Bill requires the development of a National Adaptation Framework which will specify the strategy for the application of sectoral adaptation measures to reduce the vulnerability of the State to the negative effects of climate change. In terms of the waste sector, specific adaption measures are likely to include restrictions or modifications to facilities operating within or adjacent to areas of flood risk to eliminate the risk of leachate or contaminated run-off entering water courses. Similarly, for waste facilities located in coastal areas adaptation measures for sea level rise may include specified engineering works to mitigate erosion

and potential impacts on coastal waters and protected ecological areas. The National Adaptation Framework will be reviewed on a five year basis and should be used to identify existing sites that are vulnerable to climate change stresses as well as for the development of a policy to restrict the development of waste operations in areas of high vulnerability. The environmental criteria take account of potential impacts from climate on waste facilities.

17 ROLES AND RESPONSIBILITIES

This chapter sets out the roles and responsibilities of each of the stakeholders in the delivery of the plan. **Figure 17-1** illustrates the national organisational arrangements for the coordination of the implementation of the three regional waste management plans (RWMPs).

Figure 17-1 National Coordinating Structures

17.1 NATIONAL COORDINATING COMMITTEE FOR WASTE MANAGEMENT PLANNING

The National Coordination Committee for Waste Management Planning, (NCCWMP) coordinated the preparation of the three waste plans, namely Southern, Connacht-Ulster and Eastern & Midlands Regions. The coordinating committee consists of the DECLG, EPA, NWCPO, NTFSO and members from each of the three waste regions. Following the publication of the three RWMP's, the role of the NCCWMP will be to coordinate their implementation.

17.2 STAKEHOLDERS

Many stakeholders are involved in the effective implementation of the plan. **Figure 17-2** Illustrates the key stakeholders who have a significant role and associated responsibility for the delivery of policies and actions contained in the plan.

17.2.1 Lead Authority / Regional Waste Management Office

Arising from the reconfiguration of the Waste Regions and following a process facilitated by the County and City Managers' Association (CCMA), Mayo County Council was selected as the Lead Authority for the Connacht Ulster Waste Region.

connacht-ulster
waste region

As lead authority for the region, Mayo County Councils' responsibilities include the preparation of the RWMP, the coordination of the implementation of the plan and monitoring implementation of the new plan through preparation of annual reports.

To deliver and coordinate the implementation of the plan, Mayo County Council established a regional waste management office based at Aras An Chontae, Castlebar, County Mayo. The Office is

staffed by a Regional Waste Coordinator with technical and administrative support. It is anticipated that the Regional Waste Management Office will be a knowledge resource for all stakeholders with the capacity to promote higher order waste actions in the areas of prevention, reuse, resource efficiency and recycling.

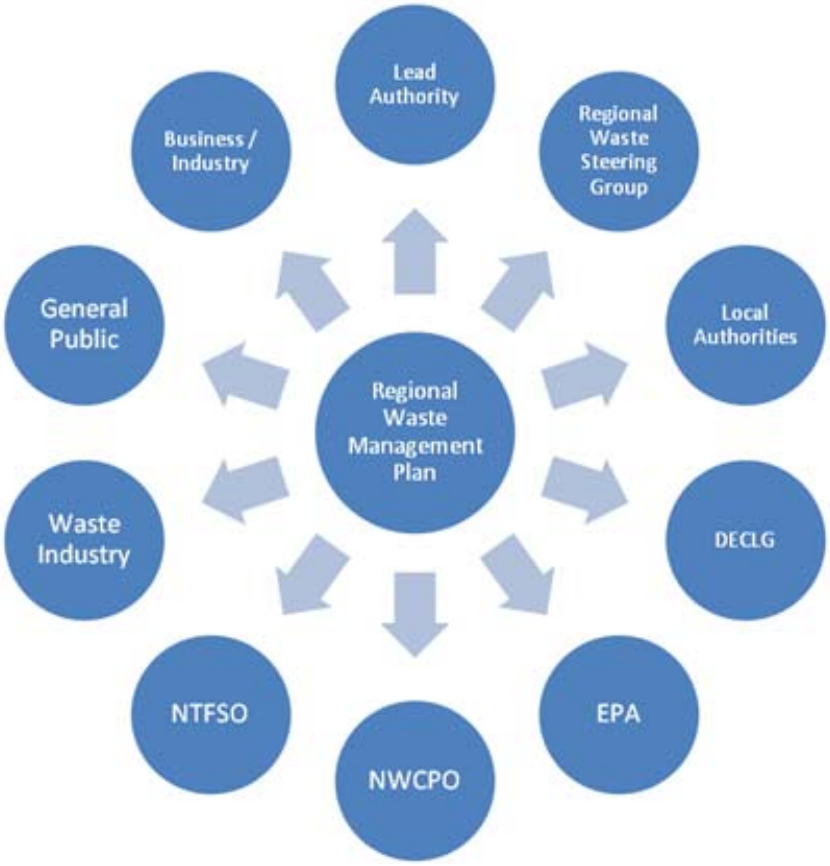

Figure 17-2 Key Stakeholders for Plan Delivery

The role of the lead authority (regional waste management office) includes the following:

- To facilitate and service the regional waste steering committee in the implementation of the objectives set out in the plan. To develop a prioritised programme of objectives, targets and key performance indicators to ensure that the aims of the plan are delivered;
- To assist, facilitate and coordinate the implementation of objectives, policies actions and targets of the plan;
- To prepare annual reports as required for the region reporting on performance under each of the policy headings contained in the plan;
- To maintain and establish task groups on specific issues when required;
- To prepare applications for grant assistance for regional projects: and
- To identify, coordinate and facilitate the training needs of the region to ensure effective implementation of the plan.

Policy

New management structures will be funded and established by the local authorities in the region to ensure the implementation of the waste plan. The nominated lead authority will act on behalf of the region, including representing the region on high-level groups and committees related to the waste plan. It is important that good channels of communication are maintained between the regions, Government, State agencies, and other national bodies on all waste matters over the duration of the Plan.

Policy:

D1. The lead authority on behalf of the region will participate in the national coordination committee for waste management planning and other national groups relevant to the implementation of the waste management plan.

The local authorities recognise the recent national review of the producer responsibility operators in Ireland and the extensive findings of that study. The potential to establish new schemes (mandatory or voluntary) was identified in the study, and over the course of the plan some of these schemes may be set up. The local authorities, through the lead authority, will be keen to participate in the establishment of any new schemes.

Policy:

H3. Co-operate and input into the setting up of new national producer responsibility schemes (statutory or voluntary) for waste streams to ensure the role of local authorities is clear and can be practically achieved.

Following the designation of Mayo County Council as the lead authority for the CUR, a regional waste steering committee was established consisting of one member from each of the nine local authorities in the region and chaired by the lead authority Chief Executive. The purpose of the committee is to make the strategic decisions necessary to achieve the objectives set out in the plan, and its role includes the following:

- To support the lead authority in the implementation of the objectives set out in the plan;
- To monitor and review the performance of each individual local authority in the region under each of the policy headings contained in the plan;
- To review and if appropriate approve, allocate and monitor the requisite budget for the lead authority / regional waste management office annually;
- To ensure that annual reports as required are delivered on time;
- To coordinate the activities of task groups such as enforcement & regulation; historic landfills; education/prevention/green business to support the delivery of plan objectives. All task groups operate according to agreed Terms of Reference; and
- To communicate with elected members.

Policy

The structures for the implementation of the waste plan will include maintaining a regional waste management office over the course of the plan. The structures will include working groups to tackle those areas of implementation which are being led by the local authorities. The new structure will seek to facilitate better knowledge exchange between the local authorities and capacity building on particular issues.

Policy:

D2. The Lead authority and local authorities will work together on the structures required to implement the waste plan, capacity building, training and knowledge share on delivering waste management activities.

17.2.2 New Lead Authority for Waste Enforcement

The policies and actions under strategic objective F (Enforcement & Regulation) will be reviewed with regard to responsibility in consultation with the new regional enforcement authority. This authority will be established following the conclusion of a review of waste enforcement governance in Ireland.

17.2.3 Local Authorities

The role of local authorities has changed significantly over the years with a very small minority of local authorities still engaged in the collection of household waste nationally and none in the Connacht Ulster Region. Local authorities still have an obligation, however, under Section 33 of the Waste Management Act 1996 to collect or to arrange for the collection of household waste within their functional areas. Local authorities continue to provide waste management infrastructure such as bring centres and civic amenity sites, and a limited number of authorities provide landfills for the disposal of residual waste.

Figure 17-3 Participating Local Authorities in the Region

The role of local authorities has evolved and the principal areas of activity are now regulatory, educational, and enforcement related. The role of local authorities includes the following.

Waste Planning

- Participation in the regional waste steering committee for the preparation and implementation of the plan;

- Planning and development of waste infrastructure either directly or indirectly as required by the plan;
- Ensuring through the planning process that appropriate waste systems are incorporated into all developments and that wastes arising from such developments are appropriately managed; and
- Application of the relevant environmental and planning legislation to waste projects which may have a significant impact on European sites in order to protect the environment/human health from the adverse impact of waste generated.

Waste Prevention

- Participation in the Local Authority Prevention Network (LAPN);
- Support business and in particular SMEs in the prevention of waste through specific projects;
- Prevent food waste by working with the STOP FOOD WASTE campaign;
- Work with events and festivals to prevent waste through "greenyourfestival.ie";
- Support communities through tidy towns waste prevention initiatives by providing guidance and awareness regarding best practice for prevention and minimisation;
- Support and encourage behavioural change throughout the community to promote resource efficiency;
- Implement green procurement;
- Segregate waste in-house and promote resource efficiency with all staff; and
- Act as resource efficiency exemplar in the business community;

Waste Regulation and Enforcement

The role of the local authority regarding enforcement and regulation is fully described in **Section 14.1.4.**

Waste Data Management

- Manage, validate and collate the WFP AER data;
- Validate the WCP AER data, in conjunction with the CUR
- Prepare annual reports for the EPA, i.e. RMCEI report and National Waste Report; and
- Input data regarding authorised sites on relevant databases.

Waste Infrastructure

- Facilitate the provision of waste management infrastructure as required by the plan;
- Promote sustainable waste management infrastructure/technology in keeping with the waste hierarchy and self-sufficiency principle; and
- Encourage and support the provision of waste infrastructure using partnership and social economy models;

17.2.4 Department of the Environment, Community and Local Government

The role of the Department of the Environment, Community and Local Government (DECLG) is to provide the policy and legislative framework within which the objectives, policies, actions and targets of the plan can be set. The most recent Government policy with regard to waste is set out in

A Resource Opportunity-Waste Management Policy in Ireland published in July 2012. The role of the DECLG also includes:

- Participate in the NCCWMP;
- Monitor, review and modify legislation as required over the period of the plan;
- Monitor existing compliance schemes and facilitate the development of new schemes as required;
- Advise and guide lead and local authorities with regard to the implementation of the plan;
- Support regional structures for the implementation of the plan;
- Support national, regional and local waste enforcement arrangements as agreed by the CCMA and the regions; and
- Support the operation of local waste infrastructure as operated by individual local authorities.

17.2.5 Environmental Protection Agency

The EPA has a wide range of statutory duties and powers under the Environmental Protection Act 1992 as amended. Responsibilities of the EPA in relation to waste management include:

- Formulation of National Waste Prevention Plan (NWPP) and operation of LAPN;
- Formulation of the National Hazardous Waste Management Plan;
- Collation, analysis and reporting of national waste statistics;
- Licensing of large waste management facilities;
- Waste enforcement functions (refer to Section 14.1.2 for further details);
- Promotion of environmental best practice and circular economy developments;
- Auditing and reporting on the performance of local authorities in respect of their waste management responsibilities; and
- Assistance to local authorities in respect of enforcement.

17.2.6 National Waste Collection Permit Office

The NWCPO was established in the Offaly County Council in 2012 and it significantly streamlined the collection permitting system from 10 issuing authorities into a single entity.

The NWCPO now processes the WCP application and reviews applications for all 31 local authorities . It also manages the WCP AER data, maintains the WCP register and associated IT system and websites revokes WCPs as appropriate, and provides data reports to relevant stakeholders when required, However, the enforcement of the WCPs and the verification of AER data are generally the responsibility of the local authority where the permit holder resides, with some consideration given to the area where most collection activity is undertaken.

Responsibilities of the NWCPO in relation to waste management include participation in the NCCWMP and working with the regional office and local authorities to develop standard mandatory and local discretionary conditions.

17.2.7 National Transfrontier Shipment Office

The National Transfrontier Shipment Office (NTFSO) is the national competent authority for administering and enforcing the Waste Management (Shipment of Waste) Regulations 2007 (S.I. No 419 of 2007) and Regulation EC 1013/2006 of the European Parliament. The Regulations empower the NTFSO to supervise and monitor the shipment of waste and prevent illegal shipments for the protection of the environment and human health.

The role of the NFTSO regarding enforcement and regulation is fully described in **Section 14.1.3.** Responsibilities of the NTFSO in relation to waste management include:

- Ensuring all waste exports and movements of hazard wastes within the state are carried out imports are carried out in accordance with the regulations;
- Maintaining all necessary documentation;
- Liaising with the CUR Waste Management Office and local authorities in relation to any issues arising from the export of waste; and
- Participating in the NCCWMP.

17.2.8 Waste Industry

The waste market in Ireland is atypical when compared to other EU Member States particularly in relation to household waste collection which has become a service performed almost exclusively by the private sector. Waste management infrastructure is largely owned and operated by the private sector, with many facility owners also involved in waste collection.

The recent national waste policy document *A Resource Opportunity-Waste Management Policy in Ireland* has concluded that the current system of competition in the market will be preserved but that the regulatory regime will be strengthened significantly. The waste industry, will therefore, have a very significant role to play in the achievement of the objectives policies actions and targets contained in the plan. The role of the waste industry includes the following:

- Cooperate with the designated lead authorities and local authorities to implement the objectives, policies, actions and targets contained in the plan;
- Provide sustainable waste management infrastructure/technology in keeping with the waste hierarchy and the principle of self-sufficiency;
- Comply with waste collection permit conditions as prescribed by the (NWCPO);
- Comply with permit/licence conditions as prescribed by local authorities/EPA;
- Comply with Transfrontier Shipment rules and the regulations governing the movement of hazardous wastes;
- Cooperate with PRI schemes and the DECELG to meet a wide range of EU Directive targets;
- Promote high standards of health and safety in the industry;
- Communicate with the public to encourage better waste management behaviours and better recycling;
- Participate in relevant forums and consultations with the EPA, government department and the local authorities; and
- Share expertise in the form of authorising and participating in waste sector workshops, seminars and conferences.

17.2.9 General Public/Communities

Each member of the public, as a waste producer, has a duty to handle waste responsibly and ensure that any waste produced does not cause environmental damage. Additional roles and responsibilities of the general public include:

- Aim to reduce the amount of waste being generated in the home through waste prevention for example buying products with less packaging, reducing food waste;
- Participate in kerbside waste collection schemes where available;
- Segregate recyclable waste for collection or take it to recycling centres or bring banks;
- Segregate organic waste for composting or for collection where the service is provided;
- Do not bury or burn waste;
- Ensure that waste is presented for collection in the manner required by the collector and in accordance with the relevant bye-laws; and
- Ensure that all waste collectors used have a valid waste collection permit.

17.2.10 Business and Industry

The business and industrial sectors contribute significantly to the overall amount of waste produced in Ireland. As waste producers these sectors must take responsibility for the segregation, handling and ultimate treatment of waste produced on their premises and, in accordance with particular producer responsibility regulations, for waste generated as a result of certain products and materials placed on the market. The role and responsibilities of business and industry include:

- Implementing best waste management practices in the workplace with an emphasis on waste prevention and resource efficiency;
- Segregation of waste produced into appropriate waste streams;
- Adhere to and comply with Producer Responsibility Initiatives and associated compliance schemes;
- Promote waste awareness and resource efficiency best practices among employees;
- Implement green procurement policies;
- Implement where appropriate Environmental Management Systems; and
- Ensure that all waste collectors have valid Waste Collection Permits;

Policy

Business and industry need to ensure the efficient use of finite material resources. They have a duty to apply the general principle of producer responsibility through efficient planning of process, product or services, optimisation of product packaging, and implementation of good practices such as cleaner production. As well as the environmental benefit, these positive activities can also mean cost savings which will help to secure the future of any enterprise and its associated employment.

Policy:

C5. Work with and through business support agencies and the National Waste Prevention Programme to encourage business and industry to implement resource efficiency principles including the use of clean technologies and preventing waste at source.

The local authorities in the region recognise the important contribution stakeholders in the waste and resource sector have to make towards the successful implementation of the waste plan. The local authorities aim to establish a mutually cooperative approach with all relevant parties to deliver the policies and actions in the plan.

Policy:

D3. Foster links and activities with relevant stakeholders including businesses and Industry Groups, NGOs and other relevant networks (including cross-border networks) to extend the reach of the plan.

18 FINANCE AND INVESTMENT

This chapter sets out the current and projected local authority finances for waste-related activities over the course of the plan.

18.1 APPROACH AND METHODOLOGY

The approach adopted in carrying out this financial analysis is similar to that defined for Cost Benefit Appraisals by the Departments of Finance (DoF) and Public Expenditure and Reform (DPER). In summary, this requires the setting out of the incomes, expenditures and investments required under the plan; the derivation of the costs and benefits thereof; and comparison with at least one counterfactual to determine if the plan is more beneficial than alternative approaches.

The counterfactuals may include a "do nothing" option, a "do the minimum" option or an alternative approach to achieving the objectives of the plan. The preferred option is the one showing the greatest amount of net benefits. In reality, "doing nothing" is rarely a practical option. In the case of waste management activities being carried out by local authorities, it would not be practical to ask the various councils across Ireland to cease all waste management activities immediately. In addition, "no change" is not an option, as existing operations and activities will not remain as they are at present. For example, a landfill site may be filled within a year or two, and then a decision may be made as to whether a new cell will be developed or the site closed. Closure normally requires capping to be carried out and this is followed by a period of aftercare that can extend to as much as 50 years.

For this financial appraisal, it was decided that the counterfactual would be defined as "what the current plans and likely future activities of the relevant councils are; assuming that no new plan is put in place." This approach should allow interested parties to see the full extent of the changes required by the plan, to assess the incremental expenditures and/or incomes resulting from the plan and to evaluate these in the light of the additional benefits and costs, if any, that will be generated.

The first stage in the analysis was to develop the counterfactual scenario while the key elements of the new plans were being drawn up. To do this, and to use the most up-to-date information, we used the Adopted Budget 2014 as published by the various councils as the basis for the counterfactual. The budgets documents published by local authorities give both an estimated outturn for 2013 and the budget for 2014. As the budgets are reported in a standard format, it would be expected that there would be a consistency across the councils. However, this is not entirely the case, as will be discussed later in this section.

To determine income, we relied on the material provided for the Environmental Services Division in table B of the Statutory Tables included in the budget. For expenditure, we relied on Table F of the Statutory Tables. While Table F does show income, it shows the source of the income and not the activity from which the income is generated; hence our preference for the data as presented in table B.

Combining the expenditures and incomes of all the relevant councils, and making the appropriate adjustments for inter-authority transfers, allowed us to generate a Regional estimate of net expenditure and income. The focus of the analysis is on the "current" budget, not the "capital" budget. This is because it is widespread practice that capital expenditure is ultimately provided for

in the current budget. In general, loans are drawn down by councils to fund substantial capital expenditure, such as on a new landfill cell. In subsequent years, the current account will include an expenditure item that represents the repayments of that loan in any particular year. Thus, capital expenditure is effectively shown in the current account. Other items that could be described as capital expenditure though they are generally relatively small amounts, such as provision of Litter Bins, are also shown in the current account.

There is one aspect of local authority accounting that cannot be accommodated in this approach, and that is that a number of councils categorise activities that could be defined as "waste management" under other headings. For example, some councils budget for certain street cleaning expenditure as roads upkeep expenditure under the roads division budgets, while some include street cleaning in local authority housing estates under estate management activities, which are under the Housing Division. It is not possible to identify all such categorisations without a detailed review of all potentially relevant transactions. However, our enquiries suggest that any understatement of waste management expenditure that might occur is limited.

In any event, the purpose of the counterfactual is to provide a basis for evaluating the incremental costs and benefits of the proposed plan and as long as the underlying assumptions in the plan and the counterfactual are the same, the comparison between the plan and the counterfactual will remain valid.

18.2 COUNTERFACTUAL SCENARIO

A summary of the financial projection for the counterfactual scenario for the CUR is shown in **Table 18-1**.

The nine councils in the Connacht Ulster Region are Cavan County Council; Donegal County Council; Galway City Council; Galway County Council; Leitrim County Council; Mayo County Council; Monaghan County Council; Roscommon County Council; and Sligo County Council. Total expenditure on waste-related activities by these nine councils was budgeted to be €26.37 million in 2014. Budgets for 2015 have been adopted by the Councils since the plan was drafted. The new budgets do not have any impact on the financial conclusions provided later in this chapter.

In the absence of any new waste plans, expenditure is expected to remain broadly at this level in real terms (i.e. not allowing for inflation). In addition, it is not expected that there will be any significant changes to the profile of the expenditure.

18.2.1 Landfill Operation and Aftercare

The financial profile of a landfill closure is typically as follows:

- When a landfill is closed, there is an immediate loss of the gate fees; hence the revenue generated ceases;
- Operations associated with the deposit of waste cease also. However, certain operations expenditures remain such as gas monitoring; pipe work; leachate collection, transport and treatment; security; insurance; EPA licensing; testing and sampling work;

Table 18-1 Counterfactual Scenario Financial Projections (Units = € millions)

	2013 Outturn € m	2014 Budget € m	2015 Proj. € m	2016 Proj. € m	2017 Proj. € m	2018 Proj. € m	2019 Proj. € m	2020 Proj. € m	2021 Proj. € m
Landfill Operation and Aftercare	11.91	10.07	10.07	10.07	10.07	10.07	10.07	10.07	10.07
Recovery and Recycling	3.65	3.55	3.55	3.55	3.55	3.55	3.55	3.55	3.55
Waste to Energy	0	0	0	0	0	0	0	0	0
Waste Collection	4.39	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Litter Management	4.31	4.28	4.28	4.28	4.28	4.28	4.28	4.28	4.28
Street Cleaning	3.30	3.47	3.47	3.47	3.47	3.47	3.47	3.47	3.47
Waste Regulation	3.20	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15
Waste Management Plan	0.75	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Total Expenditure	**31.52**	**26.37**	**26.37**	**26.37**	**26.37**	**26.37**	**26.37**	**26.37**	**26.37**
Direct Income	**11.48**	**8.58**	**8.58**	**8.58**	**8.58**	**8.58**	**8.58**	**8.58**	**8.58**
Funding from other sources	**20.05**	**17.79**	**17.79**	**17.79**	**17.79**	**17.79**	**17.79**	**17.79**	**17.79**

Notes: The headings used in **Table 18-1** are those of the Statutory Local Authority Budget Tables.

Direct income comprises user charges, specific grants, litter fines and any other income received from waste management services

Funding from other sources is the amounts needed from income such as commercial rates and local property tax.

- Expenditure is then undertaken for capping and closure of the landfill. These expenditures can vary, depending on a range of factors unique to individual landfill sites;
- Capping and closure expenditure will cease when the work is completed, but this may take more than a year to complete. There may be further occasional work of this nature as subsidence occurs;
- Operations expenditure should also reduce in time as, for example, leachate and gas emissions reduce;
- There will be some revenue generation if the emitted gases are used to power an electrical generator. However, as gas emissions reduce this revenue stream will also reduce;
- Eventually, the landfill will become relatively inert, though on-going monitoring and aftercare will continue for many years, potentially as many as 50.

The status of local authority landfill sites in the region is as follows:

- Cavan County Council maintains four closed licensed landfill sites situated at Corranure, Belturbet, Bailieborough and Ballyjamesduff. All four sites require continuous environmental monitoring to comply with the licence issued by the Environmental Protection Agency. At Corranure gas is collected through a network of pipes and burnt in a gas turbine which produces electricity that is exported to the national grid. Permanent capping works were completed in 2013. Throughout the county there are a further 14 unlicensed landfill sites which are kept under review. No provision for any change in expenditure on the four licensed sites or any expenditure on legacy sites is made in the counterfactual scenario.
- Donegal County has no operational landfill sites. Some five local authority sites have been closed over the past 20 years, with the last, Ballynacarrick outside Ballintra, closing in 2012. No provision for any change in expenditure on maintenance of these sites or any expenditure on legacy sites is made in the counterfactual scenario.
- Galway City Council makes a budget provision for ongoing aftercare costs of the remediated landfill at Carrowbrowne and the need to ensure compliance with licensing requirements. The landfill has been closed for a number of years and the site now provides composting facilities, which are accounted for under recycling and Recovery. No change is made in projected expenditure on landfill maintenance.
- Galway County Council has made no substantive budget provision for landfill maintenance in its 2014 budget. There is a landfill in the county, the East Galway Landfill, also known as Connacht Regional Residual Landfill. As a result of the liquidation of the company operating the facility in May 2013, the Council is assisting the EPA to manage the site as part of the EPAs intervention under the Environmental Liability Regulations. A tender for day-to-day management of the site was issued in February 2014. No provision has been made for any expenditure or income associated with the operation of the site or the through flows of the landfill levy. It is assumed that all associated incomes and expenditures will be in balance.
- Leitrim County Council provides for maintenance of a closed landfill at Mohill. No change in current expenditure levels is foreseen.
- Mayo County Council is licensed by the EPA to operate two landfills. One, in Rathroeen, is developing additional cells, while the other, Derrinumera, is currently not accepting waste. In addition, there are five closed landfill sites in Mayo (which all were closed by 1996) and on which further evaluations and work are dependent on funding being available from the Department of the Environment, Community and Local Government. No provision is made for any such work being carried out.

- Monaghan County Council operates a landfill site at Scotch Corner. At current acceptance rates, the site is expected to remain in operation for the duration of the Plan, and thus no change is provided for.
- Roscommon County Council's budget provides for the cost of maintaining Ballaghaderreen and Roscommon Landfills following their closure. Most of the reduction in landfill operations expenditure in the region between 2013 and 2014 was a result of the final repayments being made for a landfill loan in respect of the Ballaghaderreen Landfill. No further change is provided for. No provision is made for expenditure on legacy landfill sites.
- Sligo County Council has no provision for landfill operations or aftercare expenditure.
- In the counterfactual for the Connacht Ulster Region, the reduction in landfill operations and aftercare expenditure from €11.91 million in 2013 to €10.07 million in 2014 shown in **Table 18-1** is almost completely due to the ending of loan repayments by Roscommon County Council.

There is a significant level of unknowns in respect of future landfill activities, particularly the availability of finance to fund work on legacy landfill sites. There is also a substantial likelihood that the East Galway Landfill, also known as Connacht Regional Residual Landfill, will recommence operations in the future. We have taken the view that the landfill levy income and expenditure is a contra item. Therefore the overall funding requirement will not be affected by this potential development.

Income from landfill operations in the region is 45% of total expenditure, including overhead and service support costs. This includes some income from activities such as electricity generation, but is mostly due to gate fees at the two operational landfills.

18.2.2 Recovery and Recycling

In the absence of a new regional waste plan, expenditure in this area of activity is expected to remain at current levels in future years. There are currently no plans to augment the existing infrastructure of civic amenity centres, bring sites or bottle banks. Occasional and seasonal expenditures, such as Christmas tree recycling and WEEE promotional events, are generally included under this expenditure heading. Many of these activities are not revenue generating, but form part of awareness and promotional expenditure.

In respect of income generation, gate fees and DECLG grants provide some 41% of the operating costs of the recycling infrastructure. There is some income from pension deductions, but in the main, direct income in recovery and recycling operations does not cover the related expenditures

18.2.3 Thermal Recovery (Waste to Energy)

There is no expenditure under waste to energy in the Connacht Ulster Region and for the purpose of the counterfactual scenario, it has been assumed that there will be no expenditure in this area in future years.

18.2.4 Waste Collection

None of the councils in the Connacht Ulster Region provide any waste collection services at this time. Of the €0.89 million expenditure budgeted in 2014, some 66% relates to a composting facility. Other expenditures relate to awareness programmes, participation in pilot projects, bad debt provisions associated with former waste collection operations and some assistance to former waiver holders. For the purpose of the counterfactual scenario at this time, it has been assumed that expenditure in this area will remain at current levels in future years. Income from waste collection is negligible.

18.2.5 Litter Management

Litter management comprises the Litter Warden Service, litter initiatives, awareness programmes and central overhead cost attribution. The Litter Warden Service accounts for €1.04 million of the total expenditure on litter management of €4.28 million; litter initiatives and awareness programmes expenditure is €1.67 million; while service support costs are €1.57 million. Of the total expenditure of €4.28 million, 34% is accounted for by the two Galway Councils, which includes the most significant urban centre in the region.

Litter management activities include:

- Enforcement of Litter Pollution Acts & Bye-Laws by the Litter Warden Service;
- Litter Pollution and Litter Quantification Surveys carried out as part of National Litter Pollution Monitoring System;
- Litter awareness campaigns, including dog litter and graffiti;
- Competitions;
- Graffiti and chewing gum removed from public areas as well as paper and packaging waste; and
- Preparation of new bye-laws, such as for the storage, presentation and collection of waste.

For the purpose of the counterfactual scenario, it has been assumed that expenditure in this area will not change. Income under this heading is, in the main, confined to litter fines and pension deductions.

18.2.6 Street Cleaning

Street cleaning in the Connacht Ulster Region accounts for expenditure of €3.47 million, or 13% of the Connacht Ulster Region 2014 budget. Of this amount, €3.16 million, or 91%, is accounted for by the two Galway Councils.

Street cleaning activities include:

- Street and road sweeping, both by specialist vehicles and in some cases by street cleaning personnel;
- Cleaning of illegal dumping;
- Maintenance of urban centres, villages and housing estates;
- Clean-ups, on a repayable basis, after sporting and other events;

- Emptying of litter bins and disposal of waste;
- Repair/replacement of damaged litter bins;
- Monitoring and recording effectiveness of the street cleaning activities;
- Overhead costs such as depots and machinery yards; and
- Street washing.

Given Galway's status as the regional capital, litter management and street cleaning services are provided on a seven-day basis. These services are resource-intensive. Many local clean-ups and environmental initiatives continue to be carried out and the budgets include provision to support these groups. In addition to the Tidy Towns programme, significant and valuable work is undertaken through the Pride of Place initiatives in Galway. For the purpose of the counterfactual scenario at this time, it has been assumed that expenditure in this area will continue at current levels. Budgeted street cleaning income in the region is €0.07 million for 2014.

18.2.7 Waste Regulation, Monitoring and Enforcement

Waste regulation and monitoring activities cover the permitting of waste operators, waste recovery facilities and other waste facilities such as transfer stations and the monitoring and control of waste movement and producer responsibility obligations, such as Packaging, WEEE, Batteries and Accumulators and End-of-Life Vehicles. The Waste Enforcement Units within the councils seek to ensure compliance with Waste Management Regulations. For the purpose of the counterfactual scenario at this time, it has been assumed that expenditure in this area will remain at current levels. Income is generated by authorisation fees i.e. WFP and CoR application and review fees and enforcement visits.

18.2.8 Waste Management Plan

This covers the preparation and subsequent implementation of the regional waste management plan. For the purpose of the counterfactual scenario at this time, it has been assumed that expenditure in this area will remain at the same level in future years with the management and running of the regional waste office an ongoing cost over the planned period. Income is generally from inter-authority contributions.

18.2.9 Counterfactual Scenario – Summary

In summary, for the counterfactual scenario, it is not envisaged that there will be any change in local authority waste management activities in the foreseeable future. Given the relative stability of income-generating sources, no change in income is projected.

The regional funding requirement is shown in **Table 18-2**. In the counterfactual scenario, it is envisaged that expenditure will remain in the order of €26.37 million per annum for the period of the Plan. Income from user charges, specific grants,[87] pension deductions, etc. will remain at €8.58 million.

[87] In this discussion, "specific grants" refer to grants that are provided for, and must be used for, specific purposes.

The funding requirement will remain at current levels, i.e. in the order of €17.79 million. This funding is provided from the councils' general income, such as commercial rates and the Local Property Tax.

Table 18-2: Funding Requirement Summary

	2014 Budget €million	2020 Projected €million	2021 Projected €million
Total Expenditure	26.37	26.37	26.37
Income from User Charges, Specific Grants, etc.	8.58	8.58	8.58
Funding required from other sources	17.79	17.79	17.79

Note: Specific grants refer to grants that are provided for, and must be used for, specific purposes. Other sources of income, e.g. commercial rates and local property tax, provide the "funding required from other sources".

18.3 COUNTERFACTUAL ANALYSIS

The counterfactual scenario shows the expenditure profile of the local authorities in the Connacht Ulster Region for 2014 to be as in **Table 18-3** below**.** No change from this profile is expected over the period to 2021.

Table 18-3: Expenditure Profile by Activity – Current and Projected

	2014 Budget €mn	2014 Budget	2020 Proj € mn	2020 Proj
Landfill Operation and Aftercare	10.07	38%	10.07	38%
Recovery and Recycling	3.55	13%	3.55	13%
Waste to Energy	0	0%	0.00	0%
Waste Collection	0.89	3%	0.89	3%
Litter Management	4.28	16%	4.28	16%
Street Cleaning	3.47	13%	3.47	13%
Waste Regulation	3.15	12%	3.15	12%
Waste Management Plan	0.96	4%	0.96	4%
Total	**26.37**	**100%**	**26.37**	**100%**

The largest single item of expenditure is Landfill Operations and Aftercare, which accounted for €10.07 million in 2014. This is 38% of the total expenditure for the region. This reflects the operations in two working landfill sites as well as the aftercare expenditures associated with a number of closed sites.

Litter Management, Recovery and Recycling, Waste Regulation and Enforcement and Street Cleaning are the next highest, in that order. However, if Street Cleaning and Litter Management are added together, given the similar nature of these activities, the combined expenditure comes to €7.74 million or 29% of the region's expenditure. This is a substantial commitment, for which there is no potential for cost recovery through user charges. Essentially, street cleaning and litter management

are activities that must be funded by general income such as commercial rates or the Local Property Tax. Income generation from litter fines is negligible.

In **Figure 18-1** the expenditure items as shown in the statutory tables have been grouped into categories to show the underlying nature of the expenditure more accurately. These groupings are as follows:

- Landfill and waste collection. This is in effect the entire waste collection and disposal activities. None of the regional councils is involved in waste collection at this stage, but there are some small legacy costs being incurred. There are just two operational landfill sites, hence much of the landfill costs is also legacy costs.
- Recovery, recycling and waste-to-energy. Waste-to-energy is classed as recovery, and there is no expenditure under this heading in the Connacht Ulster Region.
- Litter and Street Cleaning, given the close relationship between these two activities;
- Regulation, Monitoring and Enforcement.

The allocation of expenditure across these activities is shown in **Figure 18-1**.

Figure 18-1 Expenditure, Income and Funding Requirement by Activity Group (2014)

It can be seen that street cleaning, litter, waste collection and disposal activities, when combined, account for 71% of total budgeted expenditure in 2014. At present, as reflected in this counterfactual scenario, this proportion is expected to remain at the same level over the duration of this plan. Activities that are at a higher level in the waste hierarchy, such as recovery, recycling and waste regulation and enforcement, account for 29% of local authority expenditure.

While local authorities were key players in the early stages of the development of the existing waste management infrastructure in Ireland, the current expenditure profile in effect reflects the legacy of past local authority activities, particularly given the length of time required for landfill aftercare.

Landfill and litter-related expenditure will remain a very large proportion of expenditure in the region.

18.4 COUNTERFACTUAL FUNDING REQUIREMENT

It was noted previously that the requirement for funding from general sources, such as commercial rates and the Local Property Tax, for 2014 in the Connacht Ulster Region is €17.79 million. It was also noted that this is the funding that has to be provided after certain income, such as user charges, pension deductions and specific grants, has been included.

From **Figure 18-1** it is clearly evident that no group is financed fully from "principal" sources, i.e. user charges and/or specific grants. The smallest funding gaps in money terms are in recovery, recycling and thermal recovery; together with Waste Regulation and Enforcement where the funding gap is €4.28 million. Closing this gap may be problematic, as increasing user charges (for example at CAS) may deter consumers from following good environmental practice. Furthermore, as landfill volumes have been falling nationally, and plastic bag usage decreasing, income to the Environment Fund has been falling and hence grants have been pared back. It is difficult to see how this gap can be closed other than by some form of levy that is put in place in such a manner as not to change good consumer practice.

In respect of Waste Regulation, Monitoring and Enforcement, the funding gap appears small relative to other gaps. The potential to raise additional revenues should be reviewed as part of the plan. The funding required for the landfill, waste collection, street cleaning and litter activities is €13.51 million at present. Two main options should be reviewed here whether there is scope to reduce costs through operational efficiencies and the potential to reduce the levels of service required through, for example, litter awareness programmes and improved citizen behaviour, although these measures can take time to be effective.

18.5 PLAN SCENARIO

As noted previously, under the counterfactual scenario – i.e. assuming that there will be no regional waste plan - it is not envisaged that there would be any substantive change in local authority waste management activities or expenditures.

18.5.1 Potential Cessation of Existing Activities

While developing the waste plan, consideration was given to what potential exists to curtail or cease some current activities in the interests of operating and cost efficiency. In other words, the range of existing activities was considered to see if any opportunities for savings from these activities could be identified.

These discussions are summarised as follows:

- **Landfill operation and aftercare**: Expenditure under this activity heading is not discretionary. There is a range of statutory obligations under which aftercare is required, as well as other environmental, social and other considerations;
- **Recovery and Recycling activities** are in the first instance "higher order" waste management activities (and include prevention activities), and as such any curtailment or reduction in

these activities would require strong justification. Bring banks, bring centres and civic amenity centres in convenient locations are important pieces of waste infrastructure which facilitate the collection of a broad range of materials. These collection systems contribute towards the management of waste streams and Ireland achieving its EU mandated recovery and recycling targets, particularly in waste streams such as WEEE, where household or business collections are not feasible. Similarly, education in recycling and recovery is a substantial factor in promoting good environmental practice and hence any reduction in these activities would be likely to have negative environmental impacts.

- **Street cleaning and litter management** are key activities of all local authorities, especially urban authorities. Essentially, this is not an activity that can be reduced or eliminated. The effects on business, tourism and industrial development would be significant and would have a far greater economic cost than the financial savings from a cessation of these activities. There may be some opportunities for operational cost savings in particular instances, but no provision is made as these would have to be reviewed and the practical aspects of their implementation would need to be considered. Were change to be sought, it is essential that the effectiveness of current operations is would not be reduced, and if possible, it should be enhanced.
- **Waste Regulation and Enforcement** is a necessary function of local authorities. The costs of non-compliance with waste legislation can be substantial from a social, environmental, economic and financial perspective. These costs can range from the work needed to remedy pollution and other consequences up to substantial fines being levied by the European Court of Justice for non-compliance with EU legislation. There is no identifiable potential to reduce activity in this area**.**
- **Other areas of expenditure** are relatively small and while it is possible to consider reductions in some cases, such as, the assistance paid to low-income households in respect of household waste collection services, the savings would be modest in the context of overall local authority expenditure in the region.

In summary, there is no identifiable substantive opportunity to reduce current local authority expenditure in the region without creating potentially serious economic, social, environmental and financial risk.

18.6 FINANCIAL IMPLICATIONS FOR LOCAL AUTHORITIES

In developing the waste plan, the Region has prepared a range of policies and actions that should be implemented. These are detailed in **Chapter 19**. For the purpose of this financial appraisal, the relevant actions are shown in **Table 18-4**.

For the local authorities in the Connacht Ulster Region, the financial implications of the suite of proposed actions can be classified as being of two types, namely staff/resources and non-staff resources.

- **Staff**-A key factor is that the staff implications of the proposed actions are limited in the case of the Connacht Ulster Region to the provision of additional staff at the Regional Waste Management Office, some of whom may be provided through redeployment. For the Connacht Ulster Region, we estimate that the annual additional expenditure will be of the scale of €200,000 per annum.
- **Environmental Awareness Services**-As outlined in the actions, these activities will focus on specific areas and aspects of waste management such as targeting areas where collection

Table 18-4: Policy Actions with Financial Implications

Action	Summary Description	Activity Heading	Potential Funding Source(s)	Main Responsibility	Staffing Required (Over & above existing staff)	Additional Finances
B 1.1	Appoint or retain Environmental Awareness Officers (EAOs) to work on the implementation of the waste plan	Waste Management Plan	Local authority budgets	Local Authorities	Possibly none	Potentially
B 1.2	Ensure on-going financial allocation annual budgets for waste prevention related activities over and above staff costs and any grant aid.	Waste Management Plan	Local authority budgets	Local Authorities	None	Estimated €0.15c/inhabitant
B 2.1	Collaborate regionally on prevention initiatives and programmes targeting priority areas.	Waste Management Plan	Local authority budgets	Local Authorities	None	Funding required for implementation
B 2.2	Ensure existing documentation on sectoral waste prevention actions and programmes is catalogued, available and disseminated in region.	Waste Management Plan	Local authority budgets	Local Authorities	None	Funding required for implementation
B 2.3	Maintain the implementation of effective local prevention, awareness and education campaigns.	Waste Management Plan	Local authority budgets	Local Authorities	None	Funding required for implementation
B 2.4	Maintain, develop and integrate waste prevention measures and systems into all local authority offices and operations to best practice standards.	Waste Management Plan	Local authority budgets	Local Authorities	None	Funding required for implementation
B 4.1	Promote the prevention of hazardous wastes to households, communities and small businesses	Waste Management Plan	Local authority budgets	Local Authorities	None	Funding required for implementation
B 4.3	Collaborate with other national authorities and agencies delivering communication and information campaigns	Waste Management Plan	Local authority budgets	Local Authorities	None	Funding required for implementation
C 1.2	Review the operation of the CA Sites to facilitate the segregation of materials for reuse.	Recycling Activities	Permit Fees; Facility Fees; PRI Schemes	Lead Authority-Regional Office	None	Funding required to re-arrange sites
D 2.1	Establish Regional Waste Management Office (RWMO) and the requisite structures	Waste Management Plan	Environmental Fund	Lead Authority-Regional Office	RWMO in place	Some additional funding required
D 2.2	Establish Regional Co-Ordinator, Resource Efficiency Officer, Prevention Officer, Technical Officer and Administrative support	Waste Management Plan	Environmental Fund	Lead Authority-Regional Office	RWMO in place	Some additional funding required
F 1.1	Monitor Household compliance with segregation of waste	Waste Regulation Monitoring	Permit Fees	Local Authorities	None	Funding required
F 1.2	Monitoring apartment complexes to improve	Waste Regulation	Permit Fees	Local Authorities	None	Funding required

Action	Summary Description	Activity Heading	Potential Funding Source(s)	Main Responsibility	Staffing Required (Over & above existing staff)	Additional Finances
	compliance with the segregation of waste	Monitoring				
G 2.3	Prepare applications for high-risk landfill sites	Landfill Aftercare Costs	DECLG	Local Authorities	None	Funding required
G 2.4	Remediate high risk sites (subject to funding being available)	Landfill Aftercare Costs	DECLG	Local Authorities	None	Funding required
G 4.1	Identify areas of low household waste collection coverage and determine the cause	Environmental Awareness Services	Environmental Fund	Lead Authority-Regional Office	None	Funding required to cover the survey
G 4.2	Design and implement a programme to regulate areas of low household waste collection coverage	Environmental Awareness Services	Environmental Fund	Local Authorities	None	Funding required for implementation
G 4.3	Engage with waste collectors to serve areas of low collection coverage	Environmental Awareness Services	Environmental Fund	Lead Authority-Regional Office	None	Some funding implications for LAs
H 2.1	Investigate viability of pilot scheme for farm chemicals reuse	Recycling Activities	Range of Fees; LEOs; PRI Schemes	Lead Authority-Regional Office	None	Yes
H 2.2	Examine the expanding of reuse schemes for bulky or hazardous waste	Recycling Activities	Range of Fees; LEOs; PRI Schemes	Lead Authority-Regional Office	None	Yes
E3	Develop the existing networks for bring infrastructure to facilitate Hazardous and Non-Hazardous wastes	Recycling Activities	Local authority budgets	Local Authorities	None	Yes
E5	Explore the possibility of accepting hazardous waste at existing CA facilities	Recycling Activities	Local authority budgets	Local Authorities	None	Yes
E7	Work with the EPA and others to support collection of hazardous farm waste	Recycling Activities	Local authority budgets	Local Authorities	None	Yes
E11	Consider the potential to develop activities at closed landfill sites	Other	Local authority budgets	Local Authorities	None	Yes

rates are low and targeting specific types of waste, such as hazardous waste from farms. No additional staff may be required, though a provision for an additional expenditure of €500,000 in the CU region is made. This is to provide for non-staff expenses in activities such as awareness campaigns and includes, but is not limited to, the per capita provision proposed in Chapter 19.

- **Recycling Activities**-The actions in respect of recycling are focused on improving recovery of waste for potential re-use; as well as collection of hazardous waste and the establishment of pilot schemes aimed at areas such as farm chemical re-use. We provide an expenditure of €0.75 million per annum for future years and propose that these activities be funded by a range of income sources, including assistance from producer responsibility compliance schemes; user charges for collection at the recycling centres and revenues from sales of recyclable materials. The detailed breakdown of these revenue opportunities cannot be determined until the relevant pilot schemes have been carried out. Should the schemes demonstrate that the environmental and financial objectives are not achievable, the cost and income projections may need revision.
- **Waste Regulation Monitoring**-The action plans in respect of waste regulation are focused on the compliance of households (houses and multi-storey dwellings) with regulatory requirements. Resource needs will be modest; additional staff are not required, hence we provide €150,000 per annum and propose that these costs be funded by increased permit fees. Improved source segregation should provide improved quality and quantity of recyclable wastes, which will in turn improve the revenues earned by waste collectors from the sale of recyclables to processors. This measure should enhance our overall recycling performance as well as improving financial returns.
- **Remediation of High-Risk Landfill Sites**-This is an activity that has a high priority, though at this stage the annual level of expenditure cannot be predicted or provided for with any degree of certainty. Landfill expenditure in the Connacht Ulster Region is currently of the order of €8.2 million per annum. The ultimate level of additional expenditure in respect of remediation of closed high risk sites will depend on the findings of the initial site surveys and the scale to which revenue raising activities such as resource mining can be carried out. There are 12 sites of this nature in the Connacht Ulster Region and the potential cost is between €11.58 million and €20.27 million. This is based on experience on existing sites in Ireland. We provide for expenditure of €2 million per annum from 2017 to 2021. This expenditure will be met to a substantial extent by DECLG/EPA funding together with any revenues that may be earned from resource mining and suchlike.

A summary of the expenditures and incomes provided for is shown in **Table 18-5Error! Reference source not found.**. The incremental funding needs for local authorities arising from these Action Plans in the Connacht Ulster Region is estimated at €0.7 million per annum initially, rising to €1 million from 2017 onwards.

Table 18-5: Summary of Additional Expenditure Needs

	Expenditure per annum €	Income per annum €
Regional WMO	200,000	0
Environmental Awareness Services	500,000	0
Recycling Activities	750,000	750,000
Waste Regulation Monitoring	150,000	150,000
Remediation of High Risk-Landfill Sites from 2017	2,000,000	1,800,000
Total	**3,600,000**	**2,700,000**

Policy

The review of local authority finances shows a considerable gap in funding requirement to maintain the current level of expenditure. A significant portion of existing expenditure is on lower tier activities which is reducing the available income for the implementation of higher activities related to prevention, reuse and recycling. The local authorities in the region are committed to reviewing the current level of expenditure across the tiers of the hierarchy to ensure that adequate funding is being diverted to activities which deliver the highest environmental outcome.

Policy:

G1. Ensure the highest environmental and human health benefits are achieved by prioritising the implementation of the upper tiers of the waste hierarchy and ensuring these actions are funded appropriately .

The local authorities in the region recognise the current funding requirement for waste activities in the region and the need to explore other potential funding sources. Over the course of the plan the local authorities will consider applying for funding, from both national and European authorities, for the financing of activities related to the implementation of the waste plans. Projects carried out under such funding will enhance waste resource management on a regional and national level which will bring associated environmental benefits.

Policy:

D4. Work with key stakeholders, including government and industry operators, on the funding of local authority waste activities in the region and co-ordinate applications for relevant national and European funding.

18.7 INVESTMENT IMPLICATIONS

For the local authorities in the Connacht Ulster Region, no capital investment requirements are foreseen.[88] For the Connacht Ulster Region specifically, regional investment that is anticipated includes additional biological treatment capacity to cater for municipal biowaste and additional biological treatment capacity to cater for agricultural waste. In addition, private sector investment in additional reprocessing, recycling and re-use infrastructure is anticipated.

Additional private sector investment is anticipated in the development of other recovery facilities to treat residual municipal wastes and also residual hazardous wastes; the latter need is identified by the EPA in the National Hazardous Waste Management Plan. The capacity need expressed in the plan for these types of treatment is on a national basis.

[88] Landfill capping and closure is shown on the local authority current accounts; and not the capital accounts; so this expected expenditure is taken into account in the counterfactual scenarios

As shown in **Table 18-6**, the investment in treatment infrastructure which will operate on a national basis is estimated at €260 million, while the investment for regional facilities is estimated at €35 million. These investments are to provide additional waste management capacity – nationally and regionally – and are those specified in this regional waste plan. It is anticipated that other investment in respect of pre-treatment, preparing for reuse, and reprocessing (of secondary wastes) is very likely to take place over the plan period.

Investment in reuse and preparing for reuse activities will be small by comparison to other waste mechanical processing and thermal recovery operations. These activities generally can operate out of small commercial spaces and are often quite resource-intensive operations relative to the tonnage of material handled. The job creation aspect is a clear benefit of these types of operations as well as the value which is typically added to the materials handled. Many of these activities take materials, which may or may not be waste, and through simple steps generate a material or product which can be recirculated into the economy and given a new life.

Investment in indigenous reprocessing of secondary waste materials is supported by the waste plan but quantifying the scale of investment is not possible. Developing these facilities depends on the availability and quality of the secondary waste material in question. Reprocessors depend on a consistent quality and feedstock of material, which, along with the availability of a robust technology, will be important factors prior to making any investment. The market development programme, RX3, has produced a number of reports[89] looking at different waste materials (paper, plastics, organics, bulky wastes) and the potential to grow markets in Ireland.

With respect to pre-treatment type operations there will almost certainly be investment on the part of the private operators that is driven by the need to replace obsolete plant or to install new processing lines. It is not possible to quantify the value of these investments in the context of the preparation of this plan. However, the investment being considered is generally of two types; firstly, investment in the replacement of existing infrastructure; and second, investment in new technologies. This private investment is driven primarily by existing treatment capacity, market share and competitive reasons and will not add, substantially, to regional capacity.

Table 18-6: Anticipated Investment – Private Sector

Infrastructure Element	Capacity (Tonnes)	Estimated Cost (€)
National Treatment		
Thermal Recovery	300,000	200 million
Hazardous Waste Thermal Recovery	50,000	60 million
Total Investment		**260 million**
Regional Treatment		
Biological Treatment-biowaste	40,000	15 million
Biological Treatment–agri-waste	Not quantified	20 million
Reuse; Reprocessing; Pre-Treatment		Not Quantified
Total Investment		**35 million**

[89] Refer to www.rx3.ie to access the various reports.

18.8 SUMMARY OF FINANCIAL IMPLICATIONS

The counterfactual scenario, i.e. assuming no changes in current activities or plans, showed the projected financial scenario for the CUR given in **Table 18-7**.

Table 18-7: Counterfactual Scenario – Funding Requirement

	2014	2015	2016	2017	2018	2019	2020	2021
	Budget € m	Proj. € m	Proj. € m	Proj. € m	Proj. € m	Proj. € m	Proj. € m	Proj. € m
Total Expenditure	26.37	26.37	26.37	26.37	26.37	26.37	26.37	26.37
Income from User Charges, Specific Grants, etc.	8.58	8.58	8.58	8.58	8.58	8.58	8.58	8.58
Funding required from other sources	17.79	17.79	17.79	17.79	17.79	17.79	17.79	17.79

It can be seen that the funding required from sources other than user charges or specific grants over the period of the plan, in real terms (i.e. no provision for inflation) remains at 2014 levels of €17.79 million.

Table 18-8 shows the financial implications of the Regional Waste Strategy proposed. In summary, it is envisaged that the financial implications of the regional waste plan for the CUR are that:

- Local authorities in the region will incur additional current expenditure of €1.6 million in 2015, i.e. from the €26.37 million shown in the counterfactual case, **Table 18-7**, to €27.97 million shown for 2015 in the Regional Waste Plan scenario, **Table 18-8**. A similar increase is projected in 2016. The increase will rise to €3.6 million in 2017 and remain at that level thereafter. However, this estimate is highly dependent on the extent to which additional works on high-risk landfill site investigations and remedial works take place. This activity is funded to a significant extent by the DECLG and any variation will not have a significant impact on overall funding needs;
- The local authorities will generate additional income of €0.9 million in 2015 and 2016, rising to €2.7 million in 2017 onwards;
- The incremental funding required to be provided by local authorities from their own resources over and above the counterfactual scenario, is estimated at €0.7 million for 2015 and 2016, rising to €0.9 million from 2017 onwards;
- No additional local authority investment in the Connacht Ulster Region is anticipated as a consequence of this plan;
- Expected private sector investment over the Plan period is estimated at €260 million on national facilities and €35 million on regional facilities; with an unknown amount to be spent on replacement plant and new technology.

The funding required is higher than that shown in the counterfactual scenario, however, the increases are relatively modest.

Table 18-8: Funding Requirement – Regional Waste Plan Scenario (Units = € million)

	2014	2015	2016	2017	2018	2019	2020	2021
	Budget € m	Proj. € m	Proj. € m	Proj. € m	Proj. € m	Proj. € m	Proj. € m	Proj. € m
Total Expenditure	26.37	27.97	27.97	29.97	29.97	29.97	29.97	29.97
Income from User Charges, Specific Grants etc.	8.58	9.48	9.48	11.28	11.28	11.28	11.28	11.28
Funding required from other sources	17.79	18.49	18.49	18.69	18.69	18.69	18.69	18.69

18.9 BENEFITS

It is difficult to estimate the range of social, economic and environmental benefits arising from the proposed regional waste plan. In the first instance, while the net costs to the local authorities in the Connacht Ulster Region may be small – and in effect will require the forgoing of some of the potential future savings from reductions in activities such as landfill aftercare – there are costs to the State as a whole; particularly the remediation of high-risk landfill sites, for which we can make just a provision at present. Below is a summary of the benefits resulting from the implementation of the waste plan:

- **Job Creation**-No new direct job creation is expected on the part of the local authorities in the Connacht Ulster Region, except for some incremental staffing within the Regional Waste Office. Gross expenditure (i.e. ignoring incremental income from user charges etc.) over the counterfactual scenario during the period of the plan on the part of State organisations (incl. DECLG; EPA) is estimated at €17.6 million.[90] The job creation potential of landfill remediation is unknown, but if the "conversion rate" from expenditure to jobs created was the same as, say, construction, then the proposed work would create some 30 new jobs each year. If the job creation of the balance of the expenditure is considered, the plan may create of the order of 40 jobs per annum. This waste plan does not make any claim on the job creation potential of the private sector investment cited previously; and also it should be noted that many of the proposed actions within local authorities will be carried out by existing staff. Many activities will be staffed through the re-deployment of staff and thus there is a strong element of unquantified job maintenance in this waste plan.
- **Waste Regulation**-While Ireland has achieved very high levels of waste recovery and recycling, there is scope for further improvement in certain areas. For example, the EPA National Waste Report 2012 shows that while recovery of paper, board and glass is of the order of 90%, the corresponding figures for more valuable materials such as plastics and aluminium are 78% and 55% respectively. If the increased emphasis on improved source segregation were to lead to a 4 percentage point increase in the recovery of these materials, i.e. from 78% to 82% for plastics and from 55% to 59% for aluminium, the value of the materials recovered would increase by €1.3 million nationally. While these increased revenues would accrue to waste collectors, from the perspective of the State as a whole, it can be seen that modest improvements in recycling volumes, arising from improved source segregation, would justify the costs of the plan. Source segregation would be a far more

[90] This assumes a continuation of the existing grants, the provision of grant aid towards the remediation of high risk landfill sites and potential contributions towards prevention and awareness campaigns.

effective means in terms of both technology and costs-of reducing the quantities of recyclable materials being consigned to landfill.

- **Recycling and Re-use** – It is more difficult to provide a quantitative estimate for the benefits of developing the re-use of particular waste items, such as WEEE. In 2012, 40,818 tonnes of WEEE was collected in Ireland (EPA NWR 2012). In Britain, a survey of WEEE deposited at various collection points by WRAP (Waste Resources Action Programme) found that 24% of the material is resalable immediately or after viable repair or refurbishment. Applying this ratio to WEEE collected in Ireland would give a resalable volume of just under 10,000 tonnes. If the value of re-used WEEE were similar to that of the UK, this would have a net value of the order of €15 million per annum nationally – after purchasing and repair costs had been accounted for. There are many variables between the UK and Ireland, but this example shows that the economic benefits of re-used WEEE could be substantial, relative to the additional costs involved. There is further confirmation of these benefits in the recent national study on bulky waste which reported that the 30,000 bulky items delivered to CAS have a potential reuse value of €60 million.

Certain activities such as historic landfill remediation are required so that Ireland is in compliance with various EU Directives and legislation, and the economic benefits are the avoidance of financial penalties that could be levied on the State in the event of on-going non-compliance. There are other areas where there is no basis that we are aware of that can be used to even illustrate the economic benefits, such as re-use of farm chemicals. This can only be determined by the pilot projects proposed. However, the examples shown do illustrate in our view, that the potential economic benefits of the actions proposed in this waste plan (as part of the transition to a circular economy) outweigh the costs. In additional, there are immeasurable environmental and social benefits in terms of quality of life and promotion of Ireland as a tourist and investment destination that are derived from many factors, including leading edge waste management strategies.

18.10 CONCLUSIONS

It is not possible to predict accurately the level of expenditure and income in future years, as a major portion of that estimate is dependent on the availability of funding from central government; and the financial capacity of the State – while improving – does not allow funding assumptions to be made with confidence. The overall thrust of the plan is to redefine waste activities in the context of existing budgetary limitations and staffing. The plan does not require additional funding over the current budget provisions. The impact can be substantial and justifies the fundamental approach.

The investment potential in waste management infrastructure is substantial. The proposed plan has a strong element of improving consumer behaviour, which should provide a stronger market base on which such investment can take place, which will in turn provide additional economic benefits.

19 POLICY ACTIONS AND TARGETS

The strategic vision for the CUR to 2021 is captured in **Section 5.2,** which describes the strategy and principles of the plan. The local authorities have set out the strategic objectives of the plan, which embody the strategic approach and covering eight policy areas (labelled A–H). The strategic objectives have been further expanded into policies which have been included and described at appropriate points throughout the plan. A full list of the plan policies is presented in **Appendix G**.

The CUR has 3 main overarching performance targets, these are detailed in **Section 5.4.2** and are summarised as follows:

- 1% reduction per annum in the quantity of household waste generated per capita over the period of the plan;
- Achieving a recycling rate of 50% of managed municipal waste by 2020; and
- Reducing to 0% the direct disposal of unprocessed[91] residual municipal waste to landfill (from 2016 onwards) in favour of higher value pre-treatment processes and indigenous recovery practices.

These performance targets will be measured over the plan period along with the other actions and targets. In this chapter the policies of the plan are further expanded into implementable actions with associated timelines and measures of success. The delivery of these policies and actions will assist in the achievement of the overall performance targets of the plan. The policies relating to the provision and regulation of infrastructure are documented in **Chapter 16** and are primarily focused on the waste treatment infrastructure and operators in the market. These policies are of a different nature to other policies and are not directly expanded into measurable actions. However specific actions detailed in this chapter address some of the regulatory policies from Chapter 16.

In the course of the development of the policies and actions the local authorities have considered many factors. The findings of the evaluation reports, which examined the success of implementing previous plan policies, have been analysed and the recommendations made therein assisted the local authorities in the preparation of the policies and actions in this plan.

The formulation of the plan policies and actions has also taken account of European and national waste legislative requirements, targets and policy objectives. Local, regional and national waste issues outside of the legislative framework and the current status of waste management in the CUR have also been addressed in the plan policies and actions assigned where possible.

Finally, environmental impacts have been considered throughout the evolution of the plan from the evaluation reports to the preparation of the strategic objectives, policies and actions.

19.1 STRUCTURE OF POLICY ACTIONS

Each of the strategic objectives (A-H) described in **Section 5.3** of the plan has been referenced, as has each of the linked policies described throughout the plan (A1, A2, B1, etc.). The actions

[91] Unprocessed residual waste means residual municipal waste collected at kerbside or deposited at landfills/CA sites/transfer stations that has not undergone appropriate treatment through physical, biological, chemical or thermal processes, including sorting.

developed to implement the plan policies are linked and referenced accordingly (A.1.2, A.1.2, B.2.1, B2.2, etc.). The numbering sequence for area A is:

- A: Strategic Objective;
- A.1 to A.4 : Policy;
- A.1.1, A.2.1, A.2.2, A.3.1 & A.4.1: Policy Actions.

All strategic policy objectives follow the structure described with the exception of the infrastructure policies i.e. objective E. This policy is recognisably different to the other areas with policies directed primarily towards waste market operators whereas the regional lead authorities and local authorities (with the region) are the primary lead in the other policy areas.

Each policy action has an associated target, an expected timeline, an indicator where relevant and identifies the **body with primary responsibility** which will be supported by other body/bodies listed for the implementation of the action. **Figure 19-1** describes how the policy actions are set out in the following chapters.

Figure 19-1 Policy Actions & Targets Flow Diagram

In the following sections the strategic objectives, policies and implementable actions are set out in full, starting with Strategic Objective A and finishing with H. Policies E are addressed in **Chapter 16**.

19.2 POLICY & LEGISLATION ACTIONS

Strategic Objective A

The region will implement EU and national waste and related environmental policy, legislation, guidance and codes of practice to improve management of material resources and wastes.

A.1 Policy Take measures to ensure the best overall outcome by applying the waste hierarchy to the management of waste streams.

A.1.1 Policy action	**Move waste further up the hierarchy by eliminating the direct disposal of unprocessed residual municipal waste to landfill**[92]
Targets	Consult with the EPA and recommend new collection permit conditions for issue to NWCPO
Expected Timeline	July 2016
Indicator	% residual municipal waste (unprocessed) delivered directly to landfill
Responsibility	**Lead Authority**, EPA & NWCPO

[92] ECJ 323/13.

SEA Mitigation Proposed	Negative impacts associated with Policy A.1 and Policy Action A1.1 relate to possible impacts associated with siting of infrastructure. While it is acknowledged that the plan includes environmental protection criteria to reduce the negative effects of implementation, it is recommended that consideration be given to developing *Siting Guidelines* in due course to guide development of infrastructure in a sustainable manner which protects the environment and human health.

A.2 Policy Implement the polluter pays principle across all waste services and regulatory activities in a manner appropriately reflecting the risk to the environment and human health.

A.2.1 Policy action	**Review the application fee structures related to regulatory activities for local authority facility authorisations**
Targets	Complete review and issue suggested changes to the DECLG
Expected Timeline	Q4 2016
Indicator	N/A
Responsibility	**Lead Authority**, DECLG, and local authorities
SEA Mitigation Proposed	Any review of fees and charges should take into account how they might indirectly encourage unsustainable waste management activities.
A.2.2 Policy action	**Review and implement (if appropriate) charging structures in place for wastes accepted at local authority civic amenity and other local authority waste facilities**
Targets	Complete review and implement appropriate charges
Expected Timeline	Q3 Annually
Indicator	N/A
Responsibility	**Local Authority**, lead authority

A.3 Policy Contribute to the improvement of management performance across all waste streams through the implementation of policy actions and monitor progress towards national targets.

A.3.1 Policy action	**Prepare an annual report on the progress of policy actions and the implementation of mandatory and waste plan performance targets (refer to Chapter 5)**
Targets	Prepare annual report and disseminate information
Expected Timeline	Annually
Indicator	All statistical indicators & progress on policy actions
Responsibility	**Lead Authority**, EPA, NWCPO, PROs and local authorities
SEA Mitigation Proposed	The use of key performance indicators should be considered in the annual reporting

A.4 Policy Aim to improve regional and national self-sufficiency of waste management infrastructure for the reprocessing and recovery of particular waste streams, such as mixed municipal waste, in accordance with the proximity principle. The future application of any national economic or policy instrument to achieve this policy shall be supported.

A.4.1 Policy action	**Monitor and report on planned, authorised and utilised capacity on a regional and national basis (building on the work done for the waste plan)**
Targets	Establish, maintain and publish capacity database
Expected Timeline	Ongoing
Indicator	Not applicable
Responsibility	**Lead Authority**, local authority, NWCPO, EPA and DECLG

19.3 PREVENTION ACTIONS

Strategic Objective B

Prioritise waste prevention through behavioural change activities to decouple economic growth and resource use.

B.1 Policy Local authorities in the region will ensure that the resources required to implement waste prevention activities are available through the lifetime of the plan.

B.1.1 Policy action	**Appoint, where the role does not exist, or retain the role of the local authority Environmental Awareness Officers (EAOs) on a whole time equivalent basis to work on activities including the implementation of the waste plan on a local and regional basis.**
Targets	Retain EAO staff and clarify role as needed
Expected Timeline	On-going
Indicator	Number of EAO staff
Responsibility	**Local Authority,** Lead Authority
B.1.2 Policy action	**Ensure an on-going financial allocation is made in the local authority annual budgets to cover expenditure on waste prevention related activities over and above staff costs and any grant aid.**
Targets	A minimum of €0.15/inhabitant to be spent on local prevention projects to be reviewed annually
Expected Timeline	Q1 each year
Indicator	Total prevention/reuse budget per annum
Responsibility	**Local Authorities**

B.2 Policy 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.

B.2.1 Policy action	**Collaborate regionally on prevention initiatives and programmes targeting priority areas to raise awareness of the benefits of prevention and deliver campaigns with more impact and better value for money.**
Targets	Implement at least one regional campaign per annum
Expected Timeline	Q4 each year
Indicator	Number of regional campaigns per year
Responsibility	**Lead Authority** Local Authorities
B.2.2 Policy action	**Ensure existing documentation on sectoral waste prevention actions and programmes is catalogued, available and disseminated in region. New material on prevention will be produced to fill any sectoral needs or gaps identified.**
Targets	Review library of prevention documentation annually and explore sectoral gaps
Expected Timeline	Q4 each year
Indicator	Number of documents in the library database
Responsibility	**Lead Authority**
B.2.3 Policy action	**Maintain the implementation of effective local prevention, awareness and education campaigns targeting households, communities, schools and businesses.**
Targets	Improve waste management practices through behavioural change
Expected Timeline	On-going
Indicator	Number of local events, workshops and campaigns
Responsibility	**Local Authorities**
B.2.4 Policy action	**Maintain, develop and integrate waste prevention measures and systems into all local authority offices and operations to best practice standards.**
Targets	Reduce the quantity of waste generated at local authority head office by 10% over the baseline year (2015) during the plan period
Expected Timeline	2020
Indicator	% reduction over baseline year and/or % reduction per employee
Responsibility	**Lead Authority** Local Authorities

B.3 Policy Build and maintain a strong partnership with the National Waste Prevention Programme (NWPP).

B.3.1 Policy action	**Establish regional and local structures and networks through the regional office to ensure effective, consistent and practical coordination and implementation of NWPP initiatives**
Targets	Set up a workable regional framework for implementing NWPP initiatives
Expected Timeline	Q4 2015
Indicator	N/A
Responsibility	**Lead Authority**

B.3.2 Policy action	**Work with the committee and management team of the NWPP to contribute to the development of the programme's initiatives and to report on the effectiveness of implementation and funding at regional and local levels.**
Targets	Engage with the EPA at least 3 times per annum on prevention issues
Expected Timeline	On-going
Indicator	Number of meetings attended per annum
Responsibility	**Lead Authority** EPA

B.4 Policy 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).

B.4.1 Policy action	**Promote the prevention of hazardous wastes to households, communities and small businesses building on effective initiatives and disseminating best practice throughout the region**
Targets	Implement one campaign per annum on hazardous waste prevention
Expected Timeline	Q4 each year
Indicator	Number of campaigns on hazardous waste prevention
Responsibility	**Local authorities** Lead Authority
B.4.2 Policy action	**Work with manufacturers, designers, compliance schemes, and national authorities on the development of waste prevention measures for products and services.**
Targets	Meet annually with key stakeholders to discuss solutions to prevent waste
Expected Timeline	Annually
Indicator	n/a
Responsibility	**Lead authority** EPA, Irish Water, DECLG, PROs ,Local Authorities
B.4.3 Policy action	**Collaborate with other national authorities and agencies delivering communication and information campaigns to include messaging on waste prevention and recycling.**
Targets	Communicate with relevant authorities annually to discuss upcoming campaigns and potential for collaboration
Expected Timeline	Annually
Indicator	Number of householders to receive communication on waste issues
Responsibility	**Lead authority** Irish Water, Sustainable Energy Authority of Ireland, local authorities, other state agencies and government departments
SEA Mitigation proposed	Policy B.4.3 would benefit from messaging around the impact of waste on society and ecosystem services to raise awareness across the region of why waste prevention and proper management is vital to environment and human health.

19.4 RESOURCE EFFICIENCY AND CIRCULAR ECONOMY

Strategic Objective C

The region will encourage the transition from a waste management economy to a green circular economy to enhance employment and increase the value recovery and recirculation of resources.

C.1 Policy Establish reuse, repair, and preparing for reuse activities and networks to recirculate and extend the lifespan of items.

C.1.1 Policy action	**Engage with and facilitate enterprises in the development of repair and preparing for reuse activities**
Targets	To engage with the sector to explore and develop possibilities
Expected Timeline	On-going
Indicator	Number of reuse activities
Responsibility	**Lead Authority** Local Authorities
SEA Mitigation Proposed	A guidance note will be prepared for reuse and preparation for reuse activities at the local level to assist operators complying with relevant national regulations and delivering a positive sustainable service overall.
C.1.2 Policy action	**Review and amend (where appropriate) existing and/or condition the award of new local authority CA site contracts to facilitate the segregation of materials for reuse/preparing for reuse by social enterprises and similar organisations (WEEE will be considered subject to discussion and agreement with the compliance schemes).**
Targets	Aim to reuse or prepare for reuse of up to 10% of non-residual waste at local authority CA sites
Expected Timeline	On-going
Indicator	Tonnage of materials reused/prepared for reuse at local authority CA sites
Responsibility	**Lead Authority** Local Authorities
C.1.3 Policy action	**Engage with the Community Reuse Network Ireland (CRNI) and other similar networks to develop a network of reuse/upcycling activities and promotional events**.
Targets	To promote reuse and upcycling in communities.
Expected Timeline	Annually
Indicator	Number of activities/events
Responsibility	**Lead Authority**, Local Authorities

C.2 Policy Optimise the value of recycled and residual waste resources in the system to turn these materials into reliable sources of secondary raw materials for reprocessing and recovery.

C.2.1 Policy action	**Review/introduce presentation of waste bye-laws, across the region, to maximise the quantity and quality of recyclable waste collected and amend/replace/introduce new bye-laws if appropriate.**
Targets	Review existing bye-laws.
Expected Timeline	Q4 2018
Indicator	Number of waste bye-laws reviewed or introduced
Responsibility	**Lead Authority**, Local Authorities, Elected Members
C.2.2 Policy action	**Produce a code of practice for local authority authorised facilities to maximise the quantity and quality of material produced.**
Targets	To produce the code of practice in consultation with the EPA
Expected Timeline	Q4 2017
Indicator	Code of practice completed
Responsibility	**Lead Authority**, Local Authorities, EPA
SEA Mitigation proposed	The code of practice referenced in C2.2 should include reference to site management for the protection of human health and the environment with particular focus on pathways to groundwater and surface water from storage of segregated materials

C.3 Policy Identify and promote the growth of secondary material markets and enterprises in the region through regional and local supports.

C.3.1 Policy action	**Liaise with and support Economic Development Departments of local authorities in the identification of enterprises and potential clusters of enterprises for the development of secondary material markets**
Targets	Meet with economic development departments and promote awareness regarding rethinking raw materials for new and established enterprises
Expected Timeline	On-going
Indicator	To be confirmed following discussion with economic development department
Responsibility	**Lead Authority, Local Authority**

C.4 Policy Contribute to the greening of public procurement in local authorities through the inclusion of resource efficient criteria in all tendering processes related to waste plan activities.

C.4.1 Policy action	**Prepare resource efficiency criteria for local authority waste related contracts.**
Targets	Review existing contractors and develop new criteria for resource efficiency
Expected Timeline	Q4 2016
Indicator	Number of contracts containing resource efficiency criteria as a % of total contracts issued
Responsibility	**Lead Authority**, Local Authorities

C.4.2 Policy action	**Implement a systematic engagement with local or regional local authority procurement officers and the Office of Government Procurement (OGP) to ensure the inclusion of resource efficiency criteria in contracts.**
Targets	To meet with local or regional procurement officers and relevant staff of the OGP at least every six months.
Expected Timeline	Annually from Jan 2016 onwards
Indicator	Number of meetings with procurement officers or staff of OGP
Responsibility	**Lead Authority**, Local Authorities

C.5 Policy Work with and through business support agencies and the National Waste Prevention Programme to encourage businesses and industry to implement resource efficiency principles including the use of clean technologies and preventing waste at source.

C.5.1 Policy action	**Encourage SMEs (including micro-enterprises) and industry to realise the environmental and economic benefits of resource efficiency.**
Target	Promote the concept of resource efficiency among business support agencies
Expected Timeline	On-going
Indicator	To be confirmed following discussion with business support agencies
Responsibility	**Lead Authority,** Local Authorities

19.5 COORDINATION ACTIONS

Strategic Objective D

Coordinate the activities of the regions and work with relevant stakeholders to ensure the effective implementation of objectives.

D.1 Policy The lead authority on behalf of the region will participate in the national waste coordination committee for waste management planning (NCCWMP) and other national groups relevant to the implementation of the waste management plan.

D.1.1 Policy action	**Participate in relevant national groups to formulate waste policy and practice**
Targets	Attend all relevant meetings
Expected Timeline	Annually over duration of the plan
Indicator	Number of meetings attended
Responsibility	**Lead Authority,** local authorities

D.2 Policy The lead authority and local authorities will work together on the structures required to implement the waste plan, capacity building, training and knowledge share on delivering waste management activities.

D.2.1 Policy action	**Establish and/or maintain funded regional waste management office and the requisite structures (including administrative, technical & communication) to implement national and regional policy**
Targets	Ensure a funded regional office is maintained over the life of the plan
Expected Timeline	Mid 2015
Indicator	Operational office in place
Responsibility	**Lead Authority**, DECLG, local authorities
D.2.2 Policy action	**Establish or maintain a Regional Co-Ordinator, Regional Resource Efficiency Officer, Regional Prevention Officer, Technical Officer and administrative support.**
Targets	Ensure roles are in place or maintained
Expected Timeline	Mid 2015
Indicator	Number of staff.
Responsibility	**Lead Authority**, Local Authorities
D.2.3 Policy action	**Identify training needs and coordinate future shared training to develop knowledge and expertise at regional & local level**
Targets	Meet the training needs of the region
Expected Timeline	End 2016
Indicator	Number of training events
Responsibility	**Lead Authority**, Local Authorities

D.3 Policy Foster links and activities with relevant stakeholders including businesses and industry groups, NGOs and other relevant networks (including cross-border networks) to extend the reach of the plan.

D.3.1 Policy action	**Establish partnerships to build knowledge capacity and to promote higher order waste activities (prevention, reuse, resource efficiency and recycling).**
Targets	On-going
Expected Timeline	Over lifetime of Plan
Indicator	Number of partnerships and networks established, research & pilot projects undertaken
Responsibility	**Lead Authority**, local authorities, EPA, DECLG & all relevant network partners and stakeholders

D.4 Policy Work with key stakeholders, including government and industry operators, on the funding of local authority waste activities in the region and coordinate applications for relevant national and European funding.

D.4.1 Policy Action	**Review European and national calls for funding in waste, resource and research areas to identify opportunities and partners in the region and make appropriate applications**
Targets	Monitor and apply for funding calls
Expected Timeline	On-going
Indicator	Number of funding applications
Responsibility	**Lead Authority**, local authorities & relevant stakeholders

19.6 INFRASTRUCTURE PLANNING

Strategic Objective E

The region will promote sustainable waste management treatment in keeping with the waste hierarchy and the move towards a circular economy and greater self sufficiency.

The context and policies addressing infrastructure planning are presented in **Chapter 16** and are primarily aimed at market operators and regulatory authorities. Environmental protection criteria guiding the siting of future facilities and the development of existing facilities are also included in this chapter.

19.7 ENFORCEMENT AND REGULATION ACTIONS

Strategic Objective F

The region will Implement a consistent and coordinated system for the regulation and enforcement of waste activities in cooperation with other environmental regulators and enforcement bodies.

This strategic objective and associated policy actions will be the responsibility of the lead authority for waste enforcement in the region

F1 Policy 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.

F.1.1 Policy action	**Allocate resources to the systematic monitoring of household compliance with the segregation of waste with a particular focus on prioritising the reduction of contamination.**
Targets	To increase the level of monitoring and inspection at household levels.
Expected Timeline	Annually (Resource allocation and target monitoring numbers to be set out in annual RMCEI)
Indicator	Number of inspections at household level as per RMCEI.
Responsibility	**Local Authorities**, Lead Authority for waste enforcement
F.1.2 Policy action	**Allocate resources to the systematic monitoring of apartment complexes to improve compliance with the segregation of waste prioritising the reduction of contamination.**
Targets	To engage with all relevant stakeholders including management companies, collectors and the residents and target 5% of the number of apartments/flats in purpose built complexes in city/highly populated areas and 10% in all other areas per local authority per year
Expected Timeline	On-going
Indicator	Number of apartment blocks targeted
Responsibility	**Local Authorities**, Lead Authority for waste enforcement
F.1.3 Policy action	**Allocate resources to the national systematic monitoring of waste collectors including on-site audits of waste collection data and random roadside checks for compliance with permit conditions.**
Targets	To conduct at least one strategic review meeting with each major household waste collector a region annually and to complete at least one waste collection permit audit per county annually.
Expected Timeline	Annually
Indicator	Number of visits
Responsibility	**Local Authorities**, Lead Authority for waste enforcement and NWCPO
F.1.4 Policy action	**Allocate resources to monitor the schedule for the roll-out of brown bins to households in accordance with the European Union (household food waste and Bio-Waste) Regulations 2013**
Targets	To engage with the waste industry and NWPCO to provide the requisite data to monitor adherence to the time schedule as per the regulations
Expected Timeline	Timeline as per regulations
Indicator	% of households served in scheduled agglomeration
Responsibility	**Local Authorities**, Lead Authority for waste enforcement and NWCPO

F.2 Policy Enforce all waste regulations through increased monitoring activities, and enforcement actions for non-compliance with authorisations and regulatory obligations.

F.2.1 Policy action	**Prepare a regional RMCEI plan to prioritise enforcement actions and activities across the region taking account of the national enforcement priorities laid down by the EPA, DECLG and PROs.**
Targets	To improve enforcement through greater regional coordination, information sharing, and prioritisation of enforcement activities
Expected Timeline	Annually
Indicator	Regional RMCEI Plan
Responsibility	**Lead Authority for waste enforcement**, local authorities
SEA Mitigation Proposed	Results on monitoring should be documented annually in the RMCEI plan and the use of KPIs should be considered in reporting of the monitoring results. The RMCEI should contain specific criteria to address the management of waste which in turn should inform the inspections.
F.2.2 Policy action	**Work in partnership with the compliance schemes and other bodies to address on-going regulatory obligations**
Targets	To identify on-going issues
Expected Timeline	On-going
Indicator	Number of meetings held
Responsibility	**Local Authorities,** local authorities, lead authority for waste enforcement, PROs
F.2.3 Policy action	**Maintain high level of site inspections of existing local authority waste authorisations and ensure that these are reflected in the RMCEI**
Targets	Prioritise the inspections in accordance with the risk
Expected Timeline	As per RMCEI plan annual review
Indicator	Number of Inspections -as per RMCEI
Responsibility	**Lead Authority,** Lead Authority for waste enforcement, Local Authorities
F.2.4 Policy action	**Audit waste arisings from non-household waste premises (commercial and similar premises) to determine compliance with relevant regulations including commercial food waste regulations as reflected in the RMCEI**
Targets	To increase the level of annual inspections
Expected Timeline	On-going
Indicator	No of inspections
Responsibility	**Local Authorities;** Lead Authority for waste enforcement

F.3 Policy Take measures to prevent and cease unauthorised waste activities by way of investigation, notifications, remediation requests or legal action as appropriate.

F.3.1 Policy action	**Identify and maintain the role of Environmental Complaints Coordinator to manage an unauthorised waste activity database based on complaints received and monitoring undertaken.**
Targets	Establish and maintain consistent database of unauthorised waste activities consistent across the region
Expected Timeline	Annually
Indicator	Maintain an up to date database
Responsibility	**Lead authority for waste enforcement,** local authorities
F.3.2 Policy action	**Carry out investigations and issue notifications, as required, as dictated by the unauthorised waste activity database and as directed by the EPA.**
Targets	Increased investigation and prevention of unauthorised waste activities
Expected Timeline	Annually
Indicator	% of unauthorised waste complaints investigated
Responsibility	**Local Authorities,** Lead Authority for waste enforcement
F.3.3 Policy action	**Prepare action plan (subject to AA screening) to deal with the prevention and management of waste from significant unauthorised activities and waste arisings from other criminal activities. Coordination required between the regions.**
Target	Prevent and address unauthorised activities in the region
Expected Timeline	Annually
Indicator	Prepare and publish the action plan
Responsibility	**Lead Authority for waste enforcement**, Local Authorities
SEA Mitigation Proposed	The proposed action plan to address waste arising from criminal activity should be prepared in consultation with various stakeholders including the NPWS, GSI, Gardaí etc. Responsibilities for implementing the action plan and monitoring requirements to assess its implementation will be critical to its success

F.4 Policy Improve the consistency of local authority waste authorisations and conditions issued to waste collectors and facility operators.

F.4.1 Policy action	**Work with NWCPO to standardise Waste Collection Permit conditions with standard mandatory conditions and local discretionary conditions**
Targets	To meet with NWCPO when required
Expected Timeline	On-going
Indicator	N/A
Responsibility	**NWCPO**, Lead Authority for waste enforcement and Local Authorities

F.4.2 Policy action	**Move to standardise conditions for Waste Facility Permit/COR conditions with standard mandatory conditions and local discretionary conditions**
Targets	To improve consistency of enforcement, reporting, assigning EWCs, and capacity authorisations of facility permit/CoRs conditions and to provide a level playing field for facility operators
Expected Timeline	Q1 2017
Indicator	Issue standard class specific templates
Responsibility	**Lead Authority for waste enforcement**, local authorities, EPA and the DECLG
SEA Mitigation Proposed	Standard mandatory conditions and local discretionary conditions should consider inclusion of screening in relation to both EIA and AA processes

19.8 PROTECTION ACTIONS

Strategic Objectives G

Apply the relevant environmental and planning legislation to waste activities in order to protect the environment, in particular European sites, and human health against adverse impacts of waste generated.

G.1 Policy Ensure the highest environmental and human health benefits are achieved by prioritising the implementation of the upper tiers of the waste hierarchy and ensuring these actions are funded appropriately.

G.1.1 Policy action	**Review local authority expenditure on lower waste order activities to determine if there is scope to deliver a more cost effective service and balance expenditure across the hierarchy.**
Targets	Carry out an initial review with a view to increasing expenditure on prevention, reuse and recycling.
Expected Timeline	Q3 2015 (initial review), Q3 2016 (complete review)
Indicator	% change in budget for prevention, reuse and recycling activities
Responsibility	**Lead authority**, local authority

G.2 Policy Rollout the plan for remediating historic closed landfills, prioritising actions to those sites that are the highest risk to the environment and human health.

G.2.1 Policy action	**Each region is to rank the class A high risk historic unregulated landfill sites (1977–1996).**
Targets	To rank 100% of Class A sites
Expected Timeline	Q4 2015
Indicator	% sites ranked
Responsibility	**Lead Authority**

G.2.2 Policy action	**Each region is to develop and agree a road map prioritising for investigation and remediation the ranked landfills (taking into account the scale of risk and impacts on the environment)**
Targets	Prepare roadmap
Expected Timeline	Q4 2016
Indicator	Roadmap in place
Responsibility	**Lead Authority**, Local authorities, DECLG, EPA
G.2.3 Policy action	**Prepare authorisation applications to the EPA for landfill sites identified in accordance with the roadmap during the lifetime of the plan (subject to Department funding being available)**
Targets	Prepare and apply for authorisation to the EPA
Expected Timeline	Q1 2021
Indicator	Number of applications submitted
Responsibility	**Local authorities** Lead authorities, DECLG, Landowners, EPA
G.2.4 Policy action	**Remediate high risk sites in accordance with the plan agreed in the EPA authorisation and in accordance with the requirements of the EU Habitats Directive & Water Framework Directive (subject to Department funding being available)**
Targets	Remediation all authorised sites
Expected Timeline	Q1 2021
Indicator	Number of authorised sites remediated
Responsibility	**Local authorities**, lead authorities, DECLG, Landowners, EPA
SEA Mitigation Proposed	AA Screening should be undertaken for all Tier 1, 2 and 3 Risk Assessments. The lead authority shall liaise with relevant stakeholders (including the EPA and NPWS) to ensure appropriate measures are in place for control of the spread of IAS in relation to remediating historic closed landfills.

G.3 Policy Ensure there is a consistent approach to the protection of the environment and communities through the authorisation of locations for the treatment of wastes.

G.3.1 Policy action	**Prepare siting guidelines for waste facilities and review general environmental protection criteria as set down in the waste plan.**
Targets	Determine if the general environmental protection criteria are appropriate and put siting guidelines in place
Expected Timeline	Siting guidelines to be prepared in 2015 & all documents reviewed every 2 years
Indicator	n/a
Responsibility	**Lead authority**, local authorities, DECLG, An Bord Pleanála, EPA
SEA Mitigation Proposed	The application of siting criteria will offset the potential shorter term temporary construction impacts associated with infrastructure. It is recommended that consideration be given to developing *Siting Guidelines* in due course to guide development of infrastructure in a sustainable manner which protects the environment and human health

G.3.2 Policy Action	**Undertake a risk assessment of all waste disposal sites in coastal and estuarine areas to identify those at risk from coastal erosion in the short, medium and long term.**
Targets	To ensure climate proofing measures are implemented at sites identified as being of high risk to prevent impacts on the environment
Expected Timeline	Lifetime of the plan
Indicator	n/a
Responsibility	Lead authority, local authorities, DECLG, An Bord Pleanála, EPA

G.4 Policy Implement a coordinated approach to address unmanaged waste and the potential impact to the environment and human health.

G.4.1 Policy action	**Identify areas of low collection coverage and survey householders who are currently not availing of a household waste collection service to determine the cause.**
Targets	Report on surveys of low coverage areas and the causes in cooperation with the authorised household waste collectors
Expected Timeline	End 2016
Indicator	Number of surveys issued
Responsibility	**Lead Authorities**, Local authorities and waste collectors
G.4.2 Policy action	**Design and implement a programme to regulate, enforce and communicate in areas with low collection coverage, including the negative health and environmental impacts of burning/illegal dumping**
Targets	Implement programme of communication and carry out follow-up enforcement inspections
Expected Timeline	On-going
Indicator	Number of households with a kerbside collection service Quantity of unmanaged waste
Responsibility	**Local authorities** Lead authority
G.4.3 Policy action	**Engage with authorised waste collectors to design solutions to serve communities or areas of low collection coverage and implement the solutions**
Targets	Complete review and identify solutions and implement
Expected Timeline	Q4 2017
Indicator	Number of households with a kerbside collection service, Quantity of unmanaged waste
Responsibility	**Lead authority,** Local authorities, private waste collectors

G.5 Policy Ensure that the implementation of the regional waste management plan does not prevent achievement of the conservation objectives of sites afforded protection under the EU Habitats and Birds Directives.

G.5.1 Policy Action	**As part of the statutory review process under the relevant waste regulations, the local authorities will examine relevant waste authorisations requiring local authority consent to determine if AA screening is required. In addition, the local authorities will prioritise reviews of waste authorisations and requirements for AA screening, in advance of any scheduled review, based on the proximity to or potential pathway of the permit holder to European Sites.**
Targets	To ensure relevant existing development consents relating to waste activities and infrastructure have been screened for AA and ensure NIS is provided by the applicant/operator where considered appropriate.
Expected Timeline	Ongoing
Indicator	No of AA screenings completed
Responsibility	For AA Screening: **Local Authorities**; Lead Authority, Lead Authority for waste enforcement, applicant/operator For NIS: **Applicant/Operator**;

19.9 OTHER WASTE STREAMS ACTIONS

Strategic Objective H

The region will establish policy measures for other waste streams not subject to EU and national waste management performance targets.

H.1 Policy 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.

H.1.1 Policy action	**To engage with Irish Water in relation to national planning and management of wastewater treatment plant sludge and water treatment plant sludge.**
Targets	Lead authorities to meet with Irish Water once per annum regarding their plan objectives and the associated treatment options for sludge waste.
Expected Timeline	Q4 Annually
Indicator	Number of meetings held with Irish Water
Responsibility	**Lead Authority** Irish Water and local authorities

H.1.2 Policy action	**To engage with the water pollution teams of the local authorities to ensure that environmental legislation and national guidelines are being implemented, including the inspection plan for the management of domestic wastewater treatment systems, and to review the management options for the disposal of septic tank sludge.**
Targets	To meet with Local Authorities to review inspections and outcomes once per annum
Expected Timeline	Annually
Indicator	Quantity of septic tank collected per annum
Responsibility	**Local Authorities**, EPA and lead authority
H.1.3 Policy action	**To engage with the NWCPO regarding specific conditions for private waste collectors collecting septic tank waste**
Targets	To meet with NWCPO regarding specific conditions for septic tank collectors
Expected Timeline	Annually
Indicator	Conditions in place
Responsibility	**Lead Authority,** Local Authorities & NWCPO

H.2 Policy 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).

H.2.1 Policy action	**To investigate the viability of running a pilot scheme for the management of farm chemicals**
Targets	To consult with the relevant industry and examine the practicalities of developing a management scheme for farm chemicals . Rollout a scheme in 1-3 local authorities where high volumes of the waste steam are available and expand if successful and practical.
Expected Timeline	Q4 2016 (investigate) Q4 2017 (roll-out)
Indicator	Quantity of farm chemicals collected through the scheme
Responsibility	**Lead Authority**, Local Authorities
H.2.2 Policy action	**Examine the possibility of expanding existing reuse schemes in place throughout the region**
Targets	Grown existing reuse schemes for specific wastes in the region
Expected Timeline	Q4 2017
Indicator	Quantity of stream reused/recycled
Responsibility	**Lead Authority** & local authorities
SEA Mitigation Proposed	Guidelines will be developed by the Regional Prevention Officer and applied to all such schemes to ensure protection of human health and the environment. In addition, waste prevention should be the overarching aim of any pilot scheme introduced.

H.2.3 Policy action	**To transfer knowledge and skills on the successful schemes to all local authorities in all Regions**
Targets	To organise a minimum of 1 networking event per region per year to educate lead authorities and local authorities on the successful management of a new scheme
Expected Timeline	Annually
Indicator	Number of attendees at the event
Responsibility	**Lead Authority** & Local Authorities

H.3 Policy Cooperate and input into the setting up of new national producer responsibility schemes (statutory or voluntary) for waste streams to ensure the role of local authorities is clear and can be practically achieved.

H.3.1 Policy action	**Participate in working groups for setting up of new national producer responsibility schemes.**
Targets	Ensure at least one representative on behalf of the three regional lead authorities participates in each working group established by the DECLG
Expected Timeline	On-going
Indicator	Not applicable
Responsibility	**Lead Authority**, DECLG and EPA
H.3.2 Policy action	**To ensure better segregation of hazardous waste and non-hazardous wastes at the point of collection from households and small businesses.**
Targets	Ensure that all local authority waste management websites provide up to date information on locations for the collection of hazardous wastes for households, farms and small businesses
Expected Timeline	Q4 2015
Indicator	Number of websites with the info included Quantity of household hazardous wastes collected at CAs/Recycling Centres
Responsibility	**Local Authorities** Lead Authority

20 MONITORING AND REPORTING

The plan reflects national policy and will monitor how such policy will be implemented over the course of the plan. Monitoring and reporting of the plan implementation is a continuous process that requires regular review and refinement. This will ensure that the implementation programme continues to be relevant, as well as assessing progress towards meeting targets. This chapter outlines the proposed monitoring and reporting system which will form the foundations of implementation. In order to ensure effective implementation, all waste data must be quantified, used consistently and reported in order to assess progress towards meeting EU targets.

20.1 ANNUAL REPORT

There will be an annual review of performance under each policy heading detailed in **Chapter 19** prepared by the regional waste office. An Annual Report will be prepared focusing on the progress of the implementation of the plan across the region, taking account of the findings of the annual waste data reports and bulletins from the EPA. There is also a need for municipal waste characterisation data for the annual report highlighting the on-going national need for characterisation studies for waste reporting. The report will be prepared by the end of Q4 every year based on data for the previous calendar year with a summary of key waste statistics provided. The annual report will amalgamate information from each local authority in the region using existing available data sources and thereby limiting additional data requests. Recommendations for any policy failures will be made and a particular focus will be placed on performance in relation to:

- Key performance indicators specified below;
- National treatment and recovery capacity;
- Prevention/minimisation and associated waste awareness activities;
- Delivery of the main collection systems, facilities and infrastructure required by the plan;
- Regulation and enforcement activities;
- Reporting any difficulties or challenges emerging in plan implementation; and
- Review of financial performance and implementation of the polluter pays principle, including for example a review of the charging mechanisms for waste services.

20.2 ENGAGEMENT AS PART OF ANNUAL REPORT

The regional office recognises the need for the ongoing input of stakeholders to the implementation of this plan. It is proposed to provide stakeholders with an opportunity to provide feedback on the implementation of the plan, and to bring forward new proposals or innovations as they arise. Preparation of an annual report gives an opportunity for two-way communication with relevant sectors including the waste management industry, community and voluntary sectors. The private waste sector has significant responsibility in the plan for collecting waste and developing facilities, both of which require significant investment. Proposed stakeholders are identified as:

- Waste holders/producers – households, businesses, institutions, and industry;
- Organisations handling or managing waste – private waste companies and charity sector;
- Voluntary and NGOs;
- Representative groups (Repak);
- Regulators, policy makers, public sector (EPA, DECLG);

- Local authorities in the region; and
- Other relevant stakeholders.

This engagement will be developed through workshops which will enable better partnership to be developed with the sector in the coming years and will provide an opportunity to consult with and coordinate activities with other local authorities regarding prevention, recovery, collection and disposal.

20.3 STATISTICAL INDICATORS

The regions have improved data collection and collation with the assistance of the local authorities, the EPA and the NWCPO. In addition to the policy action indicators, a series of primary and secondary statistical indicators known as key performance indicators (KPIs) have been developed: see **Tables 20-1** to **20-5**. These are chosen to represent the main categories of waste streams and categories of activities/events addressed in the plan.

Using these KPIs will prove a useful tool in benchmarking performance with other regions, both nationally and internationally. They will also demonstrate real progress to other stakeholders, including the public. These indicators will form the basis of the statistical section of the annual report. The annual report will include a series of tables which will outline progress in the following areas:

- Primary household waste indicators and plan performance indicators;
- Primary municipal waste indicators;
- Priority waste indicators;
- Secondary waste indicators; and
- Environmental indicators.

Table 20-1: Primary Household Waste Indicators

Indicator	Unit
Household Waste Managed (HWM)/inhabitant	tonnes/inhabitant
HWM-Directed to recycling/recovery per inhabitant	tonnes/inhabitant
HWM - Disposed per inhabitant	Tonnes/inhabitant
Kerbside HWM/household served	Tonnes/household served
Total residual kerbside household waste collected/household served	tonnes/household served
Total non-residual kerbside household waste collected destined for recycling (“Destination Recycling” (DREC))/household served	tonnes/household served
Non-kerbside HWM/inhabitant	tonnes/inhabitant
Unmanaged household waste (estimate)/inhabitant	tonnes/inhabitant
Reduction in Household Waste Generated Per Capita	%
Managed Municipal Waste Recycling Rate	%
Unprocessed Residual Municipal Waste Sent Direct to Landfill	%

Table 20-2: Primary Municipal Waste Indicators

Indicator	Unit
Municipal waste managed/inhabitant	tonnes/inhabitant
Managed municipal waste disposed inhabitant	tonnes/inhabitant
Municipal waste destined for recycling (Destination Recycling(DREC)) per inhabitant	Tonnes/inhabitant
Commercial (municipal non-household) waste managed per inhabitant	tonnes/inhabitant
Commercial (municipal non-household) waste recovered per inhabitant	tonnes/inhabitant
Commercial (municipal non-household) waste disposed per inhabitant	tonnes/inhabitant

Table 20-3: Priority Waste Indicators

Indicator	Unit
Packaging Waste:	
Packaging waste managed/inhabitant (estimate)	tonnes/inhabitant
Packaging waste recovered/inhabitant (estimate)	tonnes/inhabitant
C&D:	
Total C&D waste collected	tonnes
Soil & stone waste collected	tonnes
Contaminated soils collected	tonnes
WEEE:	
Total Household WEEE (Compliance Scheme) Collected for Recovery	tonnes
Household WEEE (Compliance Scheme) Collected for Recovery/per inhabitant	kgs/inhabitant
Household WEEE (Compliance Scheme) Collected at Retailers	tonnes
Household WEEE (Compliance Scheme) Collected at Recycling Centres/CAS	tonnes
Household WEEE (Compliance Scheme) Collected at one off collection events	tonnes
Batteries:	
Separately Collected (Portable only)(Compliance Scheme) for Recovery	tonnes
Separately Collected (Portable only) (Compliance Scheme) for Recovery/per inhabitant	g/inhabitant
ELVs:	
Quantity of ELVs accepted at ATFs within the Region	tonnes/year/region
Certificates of Destructions (CODs) issued	number
Waste Tyres:	
Quantity of waste tyres collected	tonnes
Farm Plastics:	
Quantity of farm plastics collected	tonnes
Number of farmers who availed of the collection service	number
Other:	
Healthcare waste collected	tonnes
Waste oils collected	tonnes
PCBs collected	tonnes

Table 20-4: - Secondary Waste Indicators

Waste Prevention & Minimisation:
Number and type of prevention awareness events held annually
Number of Local Authority Prevention Network (LAPN) projects
Number of green business site visits
Number of waste minimisation events
Green Schools/Green Flags:
Number of schools in the region
Number of schools registered with Green Schools
% of schools registered with Green Schools Programme
% of schools participating in Green Schools Programme
Number of schools with green flag
% of schools with green flag
BeGreen Programme:
Number of business engaging with the green business programme
Number of green hospitality award members
Number of hospitals/healthcare facilities that had green healthcare audits
Household Refuse Collection Service:
Number of households with a waste collection service
% of households with a waste collection service
Number of households with a residual collection service ONLY
% of households with a residual collection service ONLY
Number of households with a residual & MDR collection service
% of households with a residual & MDR collection service
Number of households with an organic collection service
% of households with an organic collection service
Number of households with a glass collection service
% of households with an glass collection service
Recycling Centres/Civic Amenity Sites (CAS):
Number of recycling centres/CAS (Public & private operators)
Number of recycling centres/CAS per 50,000 inhabitants
Tonnage of waste collected at recycling centres/CAS
Tonnage of waste collected at recycling centres/CAS per inhabitant
Bring Banks:
Number of bring banks
Number of bring banks/50,000 inhabitants
Tonnage of waste collected at bring banks

Table 20-5: Environmental Indicators

Indicator	Sources & Responsibilities
The status of protected habitats and species as reported to the EU (report due every six years, first report in 2007).	The Status of EU Protected Habitats and Species in Ireland report. Published every 6 years, National Parks & Wildlife Service (NPWS)
Audit of progress in the implementation of mitigation measures two years post adoption of the plan and at completion of the plan period.	Lead Authority, local authorities SEA mitigation measures proposed in relation to policy actions
Total prevention/reuse budget per annum in each Local Authority as a % of total spend on waste management.	Financial Returns/Annual budget for local authorities to be reported to the Lead Authority
Number of households in the region on a kerbside collection. Quantity of unmanaged waste in the region.	Waste statistics data from Local authorities, private waste collectors, Lead authority National Waste Report/Bulletin, published annually, Environmental Protection Agency (EPA)
Number of authorisations granted for sites to be remediated. Number of authorised sites remediated in the region.	Historic Unregulated Landfill Sites Register held by Local Authorities Historic Unregulated Landfill Sites Certificate of Authorisation Register published by the Environmental Protection Agency (EPA)
Status of water bodies as reported by the EPA. Number of authorisations granted for sites to be remediated. Number of authorised sites remediated in the region.	Water quality in Ireland report, Environmental Protection Agency (EPA) Historic Unregulated Landfill Sites Register held by Local Authorities Historic Unregulated Landfill Sites Certificate of Authorisation Register published by the Environmental Protection Agency (EPA)
Number of exceedances relating to air quality and noise at waste licensed facilities. Quantity of unmanaged waste.	Focus on Environmental Enforcement Report in Ireland, covering a 3 year period, published every 3 years, Environmental Protection Agency (EPA) RMCEI plans. Local authority, Lead authorities for waste enforcement. Waste statistics data from Local authorities, private waste collectors, Lead authority for waste enforcement
Quantity of household waste generated per capita (measured nationally). % municipal waste recycled (measured nationally). Quantity of residual kerbside household waste sent for disposal. Number of strategic flood risk assessments completed for waste related infrastructure within the region.	Waste statistics data from Local authorities, private waste collectors, Lead authority for waste enforcement National Waste Report/Bulletin, published annually, Environmental Protection Agency (EPA) Strategic Flood Risk Assessment Reports, Local Authorities
Application of siting guidelines through the planning process.	Authorisation of locations in planning application files, Lead authority, local authorities, DECLG, An Bord Pleanála, EPA

Indicator	Sources & Responsibilities
Quantity of residual waste exported annually (Quantified nationally).	National Waste Report/Bulletin, published annually, Environmental Protection Agency (EPA)
Quantity of household waste generated per capita (measured nationally). % municipal waste recycled (measured nationally). Quantity of residual kerbside household waste sent for disposal.	Waste statistics data from Local authorities, private waste collectors, Lead authority for waste enforcement National Waste Report/Bulletin, published annually, Environmental Protection Agency (EPA)