

# WEST DUNBARTONSHIRE COUNCIL

Report by the Director of Housing, Regeneration and Environmental Services.

Community Safety and Environmental Services Committee: 3 May 2006

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**Subject: Internal Waste Audit and Waste Prevention Plan**

## **1. Purpose**

- 1.1** To report on the findings of an audit of the Council's internal waste arisings and seek Committee approval of a Waste Prevention Action Plan for internal waste.

## **2 Background**

- 2.1** In November 2004 the Minister for Environment and Rural Development announced a £2 million fund to support internal waste audits and waste prevention plans.
- 2.2** To obtain an allocation from the fund Councils were required to submit a bid outlining the scope of the audit, how the audit would be carried out and a timescale for completion. West Dunbartonshire Council was awarded the maximum sum allowed - £62,500.

## **3 Main Issues**

- 3.1** The internal waste audit process commenced in April 2005. The Council's Asset Register was used to organise properties into ten broad categories as follows:-

- Schools
- Offices
- Parks/Cemeteries
- Halls
- Libraries
- Leisure facilities
- Care facilities
- Community Education Centres
- Depots/Workshops
- Nurseries

Properties were categorised in this manner as it was determined that the type of waste arising from each property within a specific category would be very similar.

- 3.2** A detailed waste review and analysis was carried out on a representative sample of the properties from each category and the results extrapolated to reflect the overall position.
- 3.3** The review followed a recognised methodology, ensuring that both qualitative and quantitative data was gathered and as a result realistic estimates of waste types and volumes were obtained.
- 3.4** The Internal Waste Audit report and proposed Waste Prevention Action Plan is attached to this report as appendix A.
- 3.5** The audit has identified that the Council's own operations generate over 4,000 tonnes of waste annually, with 86% of the waste arising from three service areas: Education (42%), Grounds Maintenance (30%) and Operations Depots (14%). These areas should therefore be prioritised for waste reduction and recycling measures.
- 3.6** The Waste Prevention Action Plan identifies that the introduction of a recycling infrastructure at Council properties to capture paper, cardboard, plastic, cans, glass and green waste together with the implementation of general waste reduction measures, would result in up to 57% of the annual internal waste arisings being diverted from landfill disposal. This would contribute to the overall recycling performance of the Council and demonstrate positive leadership in waste management and recycling to the West Dunbartonshire community.

#### **4. Personnel Issues**

- 4.1** There are no personnel issues.

#### **5. Financial Implications**

- 5.1** The priority areas of the Waste Prevention Action Plan, referred to in 3.5 above, will be funded from the £62,500 grant received to support the Internal Waste Audit and Waste Prevention Plan process.
- 5.2** The medium term actions of the Waste Prevention Action Plan, shown as SWIP Actions are part of rolling waste diversion process and are supported by existing resources and initiatives within the Council's Strategic Waste Implementation Plan.
- 5.3** The long term actions of the Waste Prevention Action Plan will require further review and may require external funding support which officers will seek from the Scottish Executive's Strategic Waste Fund as appropriate.

## **6. Conclusion**

- 6.1** The implementation of the Waste Prevention Action Plan for the Council's internal waste will result in up to 57% of internal waste being diverted away from landfill disposal.

## **7. Recommendations**

- 7.1 The Committee is asked to note the Internal Waste Audit Report and approve the implementation of the Waste Prevention Action Plan.**

**David McMillan**

**Director of Housing, Regeneration and Environmental Services**

**Date: 6 April 2006**

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**Wards Affected:** All Wards

**Background Papers:** Report to West Dunbartonshire Council 23 June 2004 entitled "Recycling and Waste Minimisation – Development of Services".

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## **West Dunbartonshire Council**

### **Internal Waste Audit and Prevention Plan – March 2006**

**Waste Services Section  
Richmond Street  
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## **1.0 EXECUTIVE SUMMARY**

In November 2004 The Minister for Environment and Rural Development announced a £2 Million fund to support internal waste audits and waste prevention plans in each of Scotland's 32 Local Authorities. Each Authority was required to submit a waste audit which detailed the annual municipal solid waste from the Authority's main buildings and activities, such as schools, offices, libraries, housing repairs and grounds maintenance, and to produce a Waste Prevention Action Plan outlining methods which would result in a reduction in waste arisings and significant drop in the amount of waste being disposed of at landfill. Each Authority was awarded £62,500 to carry out the waste review and implement waste prevention actions. West Dunbartonshire Council was one of 21 Authorities working with support from Remade Scotland which provided the opportunity to share best practice on a national level.

This report outlines the methodology of the waste audit, details the waste arisings from West Dunbartonshire Council's main buildings and services, provides an action plan of waste prevention actions, and examines the potential for sustainable procurement within the Council.

## **2.0 INTRODUCTION**

### **2.1 Purpose**

The Scottish Executive's decision to commission a waste audit complements recent commitments by the Executive to 'move to a more sustainable waste management system, with significant increases in recycling and composting (to 30 per cent by 2008) and other recovery of value from waste', supporting the view of waste being increasingly regarded as a resource.

By carrying out an audit of its own waste and implementing a waste prevention plan, Local Authorities can be seen to be leading by example when encouraging residents to adopt similar behaviour in their own homes.

The main purposes of the exercise can be broadly outlined as:

- To quantify the amount of waste produced by the council in carrying out its services (as no examination of local authority waste has taken place before, this is more of a waste review than audit, and this will provide baseline figures which can provide a benchmark for future comparison).
- Produce a waste prevention plan – covering all of the Council's services and introducing waste reduction, re-use and recycling initiatives which are practical and will assist the Council meet its landfill allowance objectives.
- The audit outlines where cost savings can be made, be this through saving on disposal costs and in procurement.

- Procurement methods will be discussed to illustrate where waste prevention savings and purchasing decisions can be made.
- The Council will be seen to be leading by example in 'greening' its attitude to waste and waste disposal.

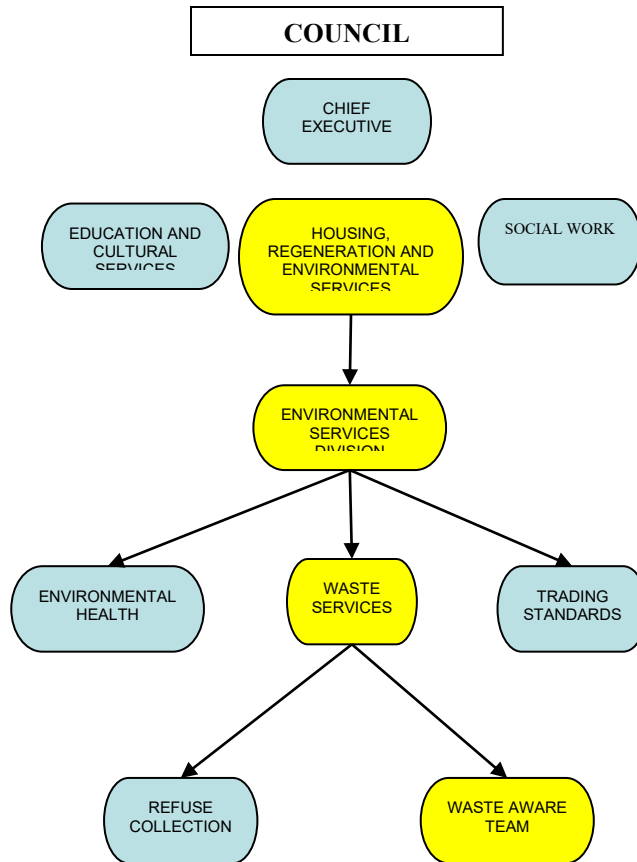
The audit process is shown below:

- Obtain commitment of Senior Management
- Plan Waste Audit
- Conduct Waste Audit
- Analyse Data and report results
- Draft Waste Minimisation Plan
- Initiate waste minimisation initiatives
- Gain staff interest/support for initiatives
- Monitor initiatives
- Review Plan/Waste Arisings

During the initial stages of the audit, waste 'champions' were appointed by each department of the Council. It was decided not to involve the 'champions' in the data collection process; however, they will be involved in the implementation of the waste prevention plan (see Section 5).

## **2.2 Overview of West Dunbartonshire Council structure**

The following flowchart provides an illustration of the current structure of West Dunbartonshire Council. The Waste Aware team is part of Waste Services in the Housing, Regeneration and Environmental Services Department.  
(Figure 1)



### 3.0 OVERALL WASTE REVIEW

#### 3.1 Specific Buildings and Services included/excluded

All of the Council's services were covered by the waste review. Details of the Council's premises were obtained from the Asset Register. The Asset Register was divided by type of premises into ten broad categories (number of premises in parenthesis):

- Schools (43)
- Offices (21)
- Halls (8)
- Libraries (10)
- Depots/Workshops (9)
- Care Homes/Centres (13)
- Community Education Centres (10)
- Early Education and Childcare Centres (11)
- Leisure (3)
- Parks and Cemeteries (4 major parks, 27 small parks and greens, 7 cemeteries, 1 crematorium)

- Total number of premises covered by audit: 129 plus 38 parks/cemeteries

Premises were further divided (where possible) by Council Department – Some of the larger Office premises house sections from a number if not all Departments so it was not possible to sub-divide these and they remain therefore in the Office premises category.

Premises were organised in these groups as the waste streams coming from each property in a group can be assumed to be very similar. This allowed for a sample of premises in each category to be visited and the results extrapolated across the remainder of the premises (by volume of waste bins). This method suited the make-up of West Dunbartonshire Council as some departments cover a number of property types, for example Education and Cultural Services include Schools, Nurseries, and Libraries.

### **3.2 Sources of data gathering**

To begin the data gathering process and establish the preliminary information required to begin planning the waste review, Duty of Care records were examined to determine annual waste arisings for each Council property, based on the number and size of bins at each property and frequency of uplift. The waste review was carried out through a number of visual inspections at premises to establish the make up of the waste stream. A more detailed waste analysis was also carried out in Schools and Offices to gain an in-depth picture of waste arisings. Information was also gleaned from Waste Transfer Notes, invoices from external Council partners, and from Council officers who have direct control over waste production disposal.

#### **3.2.1 Waste Review**

Waste stream data has been gauged from the majority of premises by way of visual waste reviews. These took the form of either qualitative or quantitative reviews. Qualitative reviews involved visual inspection of bins at a location to assess the make-up of the waste and proportions. The results were initially recorded by volume, for example a 360 litre capacity bin consisting of 60% paper and cardboard, 20% plastic, 10% metal, 10% food waste. Qualitative analysis also involved speaking to relevant employees at each location (such as caretakers, cleaning staff) to gain a more accurate picture of the waste stream as these staff see it daily. The quantitative analyses involved collecting a day's waste from premises then examining it in greater detail, sorting it and breaking it down into the various waste types then assessing the volume of each type. It should be highlighted at this stage that the waste review provides details of the average make up of the Council's waste stream, and does not take into account, for example, seasonal variations or refurbishment of premises and the resulting waste. However, for the purposes of the waste prevention plan, it is the average waste stream that is to be examined.

#### **3.2.2 Waste Analysis**



A waste analysis was carried out by an external company at a number of schools and offices – these categories having the greatest number of premises within the Council. There are 43 schools, 21 offices and schools also produce a high proportion of the Council's waste. Analysis provided more detailed information than that which can be obtained by a waste review. The analysis involved collecting waste from a number of schools and offices, totalling 20,350 and 14,040 litres respectively, which equated to 1,885 kilograms of school waste and 811 kilograms of office waste analysed in detail. For the analysis, the waste is again separated into various types, but offers far more detail than a review alone, for example plastics are split into 6 different types, and results were provided in both volume (litres) and weight (kilograms). This provides an accurate picture of the waste arisings from these types of premises and this information has been utilised to work out annual arisings for each type of waste by weight and volume, as well as the average density of the uplifted bins and cost of waste uplift to each school and office. This detailed information has allowed us to work out how much waste is suitable for recycling (particularly through the existing blue and brown bin schemes) and the reductions in volume and weight which can be expected with the introduction of recycling.

#### **4.0 WASTE ARISING BY SERVICE/AREA**

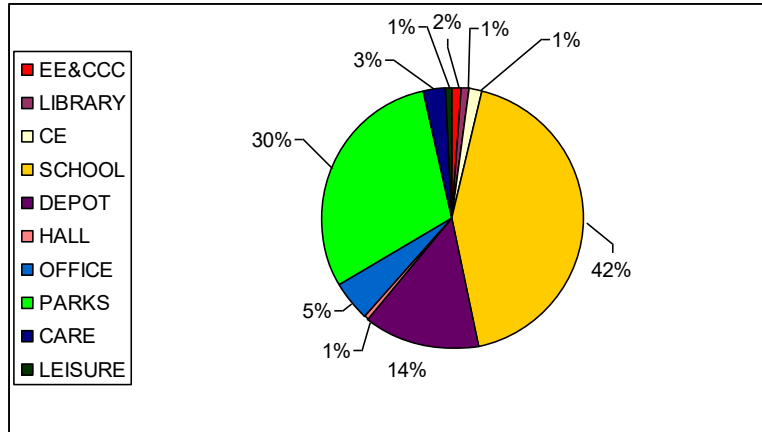
##### **4.1 General**

There are 129 premises included in the waste audit, plus 38 parks and cemeteries, split into ten broad categories by the type of service provided/nature of the premises. The waste stream coming from each type of property is represented in volume, for example, 50% of the waste stream is kitchen waste, 30% cans, 20% paper. This data has been converted to provide a weight for each type of waste and an annual waste arising from each property has been calculated based on size of bin and frequency of uplift. The total waste arising for each category has then been calculated based on arisings at each individual premise. The annual waste arisings are represented in kilograms for each category, but it must be stressed that these are approximate figures. Providing information on both waste stream and the weight of the waste is useful as it allows for more in-depth analysis and a range of waste prevention measures to be suggested accordingly. For example, a waste stream may feature a relatively small percentage of glass; however, as glass is a heavy material, it may make up a substantial proportion of a premises' waste arisings in terms of the weight produced. Conversely, polystyrene could be a significant element in a waste stream but as it is very light in weight, will not be of significance when examining the weight of the waste.

In terms of the weight produced by the ten categories, and therefore the Council, the chart below illustrates that the majority of the waste comes from schools (42%), followed by green waste from parks and cemeteries (30%), then depots (14%). In the case of waste from depots and parks, this tends to be of a heavier nature, including material such as wood, glass and metal which accounts for their significance in the

overall make up of the Council's waste. There are 43 schools, the largest category by far in terms of the number of premises, accounting for the high percentage of Council waste which is produced by schools.

(Figure 2)



## 4.2 Schools

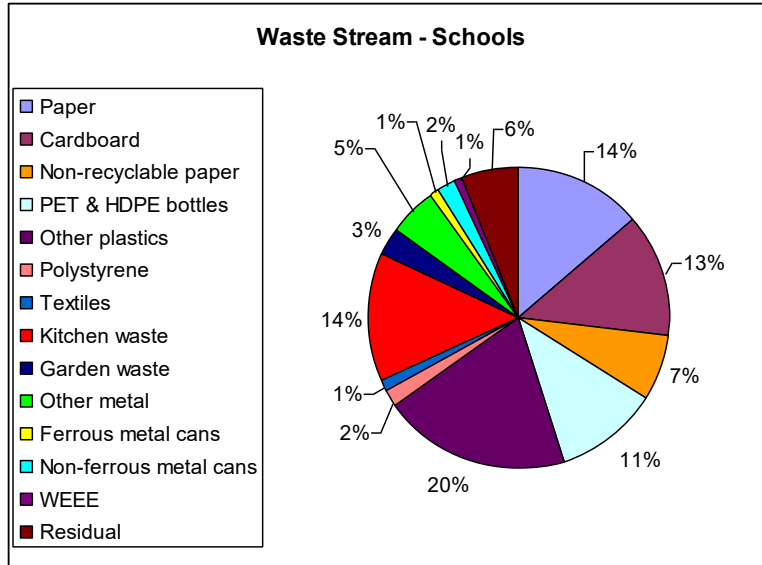
There are 43 Schools in West Dunbartonshire, made up of 7 high schools, 34 primary schools and 2 special schools.

A waste analysis was carried out on schools waste, with waste from 2 high schools and 5 primary schools analysed. A total of 20350 litres of waste was collected for the analysis which weighed a total of 1885 kilograms. The information recorded from the analysis suggests a 41% density of schools bins.

While there is likely to be slight variations in the waste streams coming from high schools, primary schools, and special schools, the waste analysis is seen to provide a reasonable average of the general waste stream.

The following chart illustrates the waste stream from schools. It can be seen to be fairly mixed with no single waste type dominating.

(Figure 3)

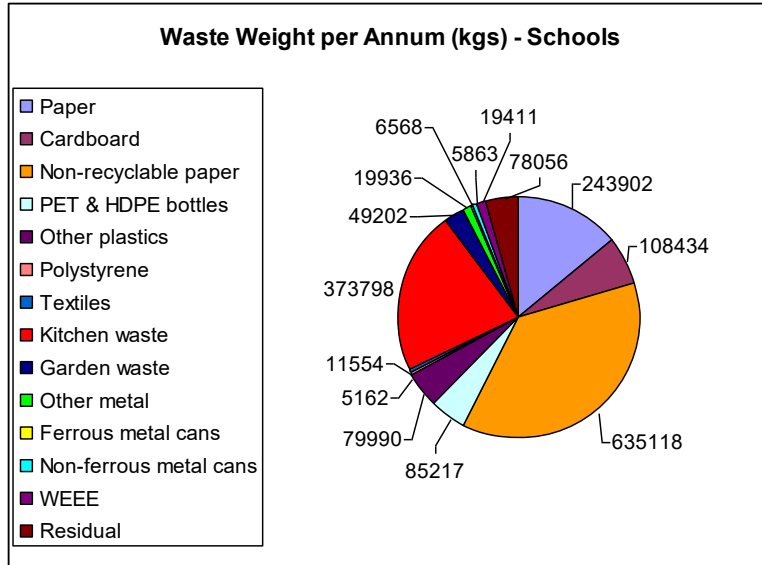


The greatest single type of waste is Other Plastics, which is made up of plastic film, polypropylene and unallocated plastics. Of this plastic film makes up the majority – 14%. As this figure is relatively significant in terms of waste stream volume it will be examined in the waste prevention plan (Section 5) to see if there are ways to minimise the amount of plastic film coming into schools.

From the chart, it can also be seen that 43% of the waste stream volume can be recycled currently through recycling operations in West Dunbartonshire – 14% Paper, 13% Cardboard, 11% PET & HDPE bottles, 1% Textiles, 3% Cans, 1% Waste Electrical and Electronic Equipment (WEEE). A further 3% from Garden Waste could also be composted, bringing the total to a possible 46% of the waste volume that could be diverted from landfill.

The waste analysis data was further extrapolated to provide a figure of 1,728,488 kilograms of waste from schools per annum. The breakdown of this is as follows:

(Figure 4)



While non-recyclable paper and kitchen waste were not overly significant in terms of volume, this chart illustrates they are significant in terms of the weight they add to schools waste – 635,118 and 373,798 kilograms per year respectively. They make up 59% of the total weight of waste coming out of schools. While there is the possibility of composting at least some of the kitchen waste, the non-recyclable paper will have to be tackled through waste reduction and reuse methods, again addressed within the waste prevention plan (Section 5).

Of the materials which are recyclable/compostable, they make up 30% of the waste weight, equating to a possible diversion of 530,151 kilograms from landfill per annum.

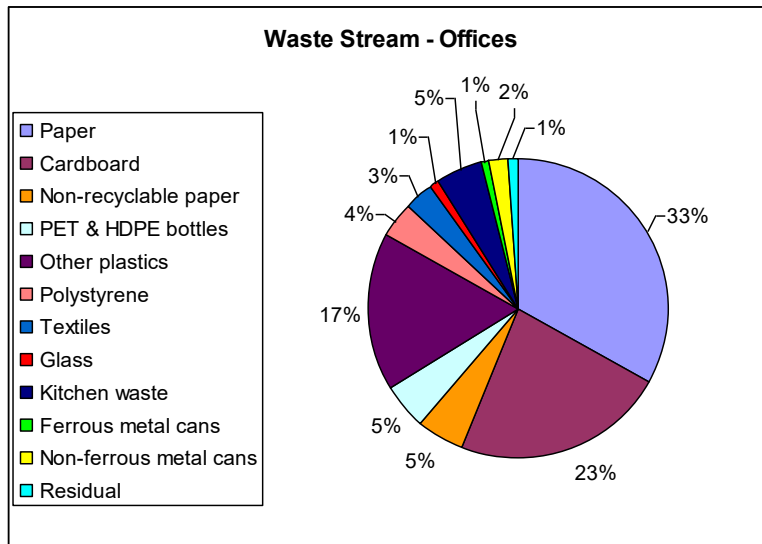
### 4.3 Offices

21 premises in the Council’s Asset Register have been classified as Offices. There are smaller offices in a number of other premises such as at Depots and the Crematorium, where the office waste makes up a very small proportion of the total waste. In these cases, the office waste will be included in the total waste output for the category.

A waste analysis was carried out on office waste providing a very accurate picture of the waste stream and waste arisings from this type of premise. This process involved the collection of a total of 14,040 litres of waste from eight offices of differing sizes. This waste weighed a total of 811 kilograms and the bins were found, on average, to have a density of 55%.

As may be expected in offices, the majority of the waste stream (33%) was made up of paper. The next most significant wastes in terms of volume were cardboard, 23%, and other plastics, 17%, which includes 13% plastic film. A breakdown of the waste stream is illustrated below. Please note that some waste types, such as plastic film, polypropylene and unallocated plastics, have been combined for ease of analysis of the data.

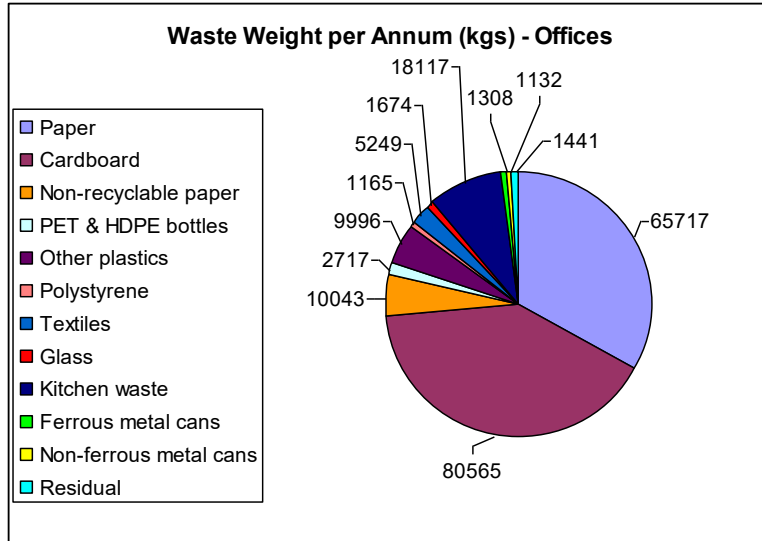
(Figure 5)



From this, there is the potential for 68% of the waste stream to be recycled through current schemes in operation in West Dunbartonshire, made up of 33% Paper, 23% Cardboard, 5% PET & HDPE bottles, 3% Textiles, 1% Glass, and 3% Cans.

Extrapolation of the data provided by the waste analysis indicates that offices produce 201,058 kilograms of waste per annum. This is assuming the 55% density throughout every office premise. The weight of the waste stream is illustrated below:

(Figure 6)



The remainder of the weight which is not illustrated on this chart is made up of Other Metals, 1011 kilograms, Waste Electrical and Electronic Equipment, 467 kilograms, and Potentially Hazardous waste, 456 kilograms. These have not been illustrated graphically as they make up such a small proportion of the waste stream volume (less than 1% each).

In terms of weight, the majority comes from cardboard (39%, 80,565 kilograms) and paper (33%, 65,717 kilograms). The recyclable materials represent 79% of the total weight of office waste, equating to 158,362 kilograms which could potentially be diverted from landfill. This is a significant figure and could be made greater through the introduction of other waste prevention methods which will be addressed in Section 5. It was also noted that in some offices facilities were provided for an uplift of paper for confidential shredding. However, this was seen to be mis-used as staff would treat it as a paper recycling facility and place non-confidential material in the sacks. This will significantly increase the cost of providing this service as far more paper is being uplifted and shredded than it actually required based on its confidentiality. This will also be addressed in the waste prevention plan (Section 5).

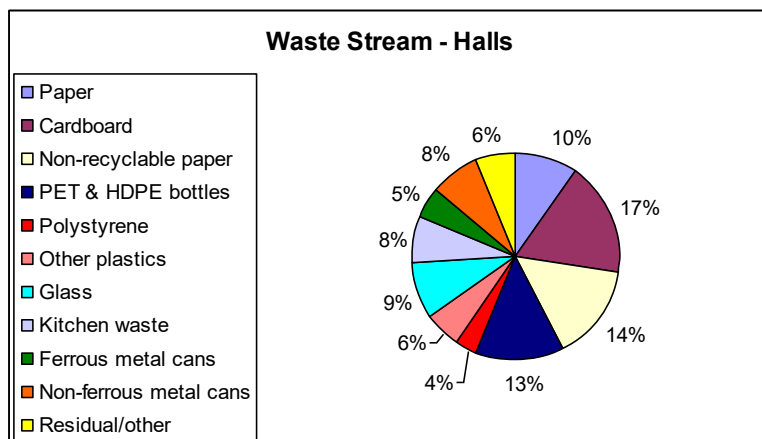
#### 4.4 Halls

There are eight premises categorised as Halls. These are made up of six smaller halls, one large town hall and one theatre. The waste stream of the town hall and theatre was slightly different to the smaller halls as these two larger premises are used more as entertainment venues, hosting regular public social events and performances. The smaller halls tend to be utilised more like Community Centres, hosting a number of community groups such as indoor bowls, exercise classes, parent & toddler groups and meetings. The smaller halls are available for public hire but due to the size are not hired as frequently as the town hall. Clydebank Town Hall and Burgh Hall in Dumbarton were visited and a visual inspection of the waste conducted. Caretakers at each premise were also interviewed to gain a better insight/understanding of the waste make

up at these premises. This proved very useful as, for example, there was not a lot of glass waste present during the visit to Clydebank Town Hall; however, the Caretaker advised this can make up a substantial proportion of the Hall's waste after public events such as weddings or parties, this was therefore taken into account when compiling the average waste stream.

An average of the waste streams of all the Halls together is illustrated below:

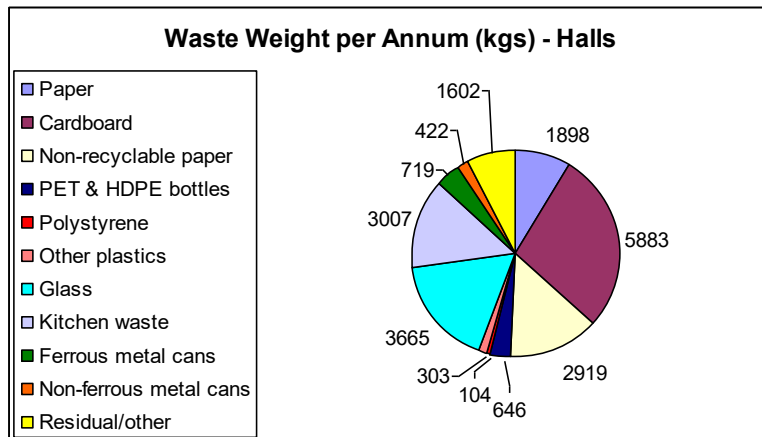
(Figure 7)



This illustrates that a large proportion of the waste coming from Halls is potentially recyclable through schemes in operation in West Dunbartonshire – 62%, consisting of 10% Paper, 17% Cardboard, 13% PET & HDPE bottles, 9% Glass, and 13% Cans.

The available volume for waste from Halls per annum is 359,840 litres, the majority of this coming from the town hall and theatre. Using conversion factors, this equates to 21,168 kilograms of waste from Halls per annum (this assumes 100% density). This is illustrated below in terms of the weight of each material:

(Figure 8)



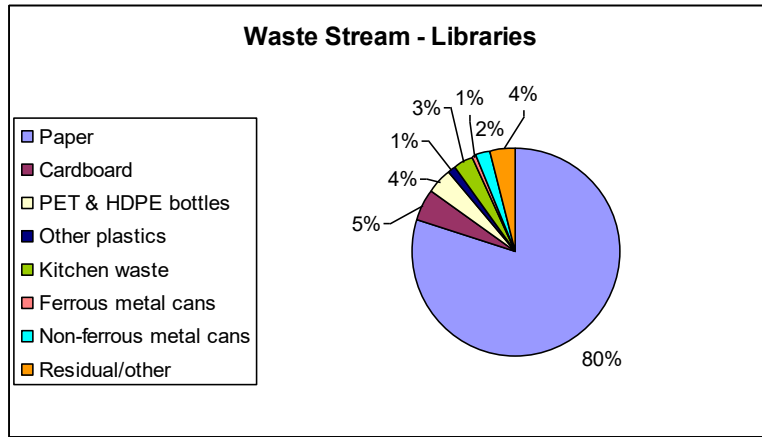
This indicates that 13,233 kilograms of waste could be recycled from Halls each year. Cardboard (29%) and Glass (17%) make up the majority of the waste stream in terms of weight, which is positive news as recycling provision for these materials is available in West Dunbartonshire. The next heaviest waste types are non-recyclable paper (14%) and kitchen waste (14%). The waste prevention plan (Section 5) will suggest initiatives to minimise these wastes.

#### 4.5 Libraries

There are 10 Libraries in West Dunbartonshire. Of these, Clydebank Library and Dalmuir Library were visited and visual inspections of the waste carried out as well as speaking with library staff about the waste composition. The majority of library users do not spend a significant amount of time in the library, making libraries unique from the other premises utilised by the public, such as Community Centres, where a lengthy period of time is usually spent. Libraries, however, offer internet access and, at times, educational classes or exhibits which can result in a larger proportion of visitors and visitors spending more time at the library; however, it is assumed that this will not cause a particularly notable change in the waste stream. As would be expected, the majority of waste coming from Libraries is paper, making up 80% of the waste stream. The entire waste stream is detailed below:

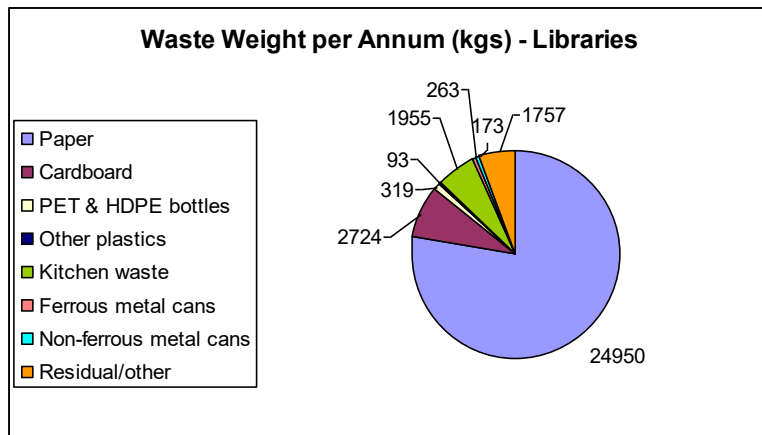


(Figure 9)



The waste capacity in volume for Libraries each year is 550,160 litres, resulting in 32,233 kilograms of waste each year (assuming 100% density). Of this, paper makes up 24,950 kilograms (see chart below), or 77% of the total weight of waste coming from Libraries in the area.

(Figure 10)



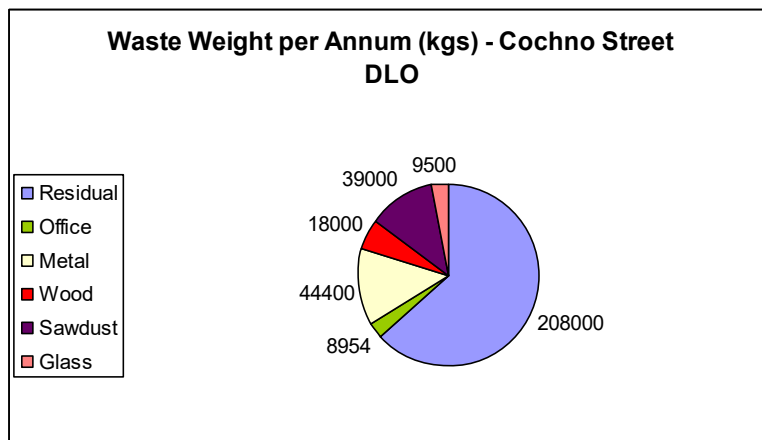
Taking into account the volume of paper and the other recyclable materials in Libraries' waste stream (Cardboard, PET & HDPE Bottles, and Cans), a potential 89% of the current weight of Library waste could be diverted from landfill each year, equating to 28,687 kilograms diverted.

## 4.6 Depots/Workshops

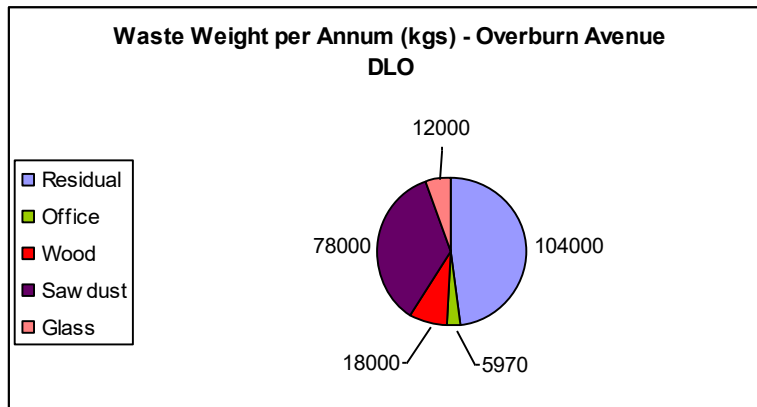
There are 6 Depot/Workshop premises in West Dunbartonshire. Information on the weights and volumes of waste coming from these premises is not as readily available than from other premises due to the nature of the work they are engaged in and variety of waste receptacles used on each site. Also, some of these premises produce a significant amount of liquid and other wastes which go beyond the remit of this audit. Where information has been obtained, this will be noted and a total figure (for solid waste) will be estimated based on this.

The main depot premises are two Direct Labour Organisations (DLO) at Cochno Street in Clydebank and Overburn Avenue in Dumbarton. Both DLO's were visited and information was obtained through a mixture of interviewing DLO managers and visual inspection. Both sites have waste skips for a general mix of waste including cardboard and plastic packaging, woodchip, glass offcuts and rubble. It has been estimated that these skips weigh 4000 kilograms when full; however, precise conversion factors for these types of waste are not available, therefore they will be classed as residual for the purposes of the review. These sites both have skips for wood and glass which are uplifted by external companies for recycling. One site has a skip for metals which is uplifted by the Council. Both also have offices which make up a small proportion of the waste, and produce significant amounts of sawdust which is collected by a local community farm and reused as bedding for animals. An estimation of the total weight of waste coming from these sites annually is as follows:

(Figure 11)



(Figure 12)

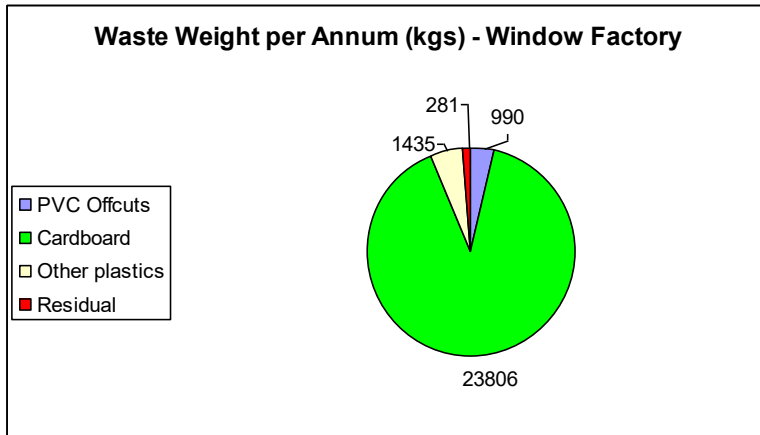


This results in a total weight from the DLO's of 545,824 kilograms per annum. DLO's are already recycling 218,900 kilograms of their waste arisings, equivalent to 40% of the total weight arising from these premises.

There are a number of transport workshops producing a variety of waste types. Much of this is liquid, such as waste oil and paraffin used for cleaning and is therefore not included in the scope of the audit; however, it should be mentioned that waste oil and waste paraffin are collected by external companies for recycling. The remainder of transport workshop waste is made up from oil filters, tyres and used batteries – all of which are collected for recycling by external companies. While such items could be classified as solid waste, it was not possible to obtain figures for either the volume or weights produced from Council services each year. There is also a quantity of residual waste present at transport workshops.

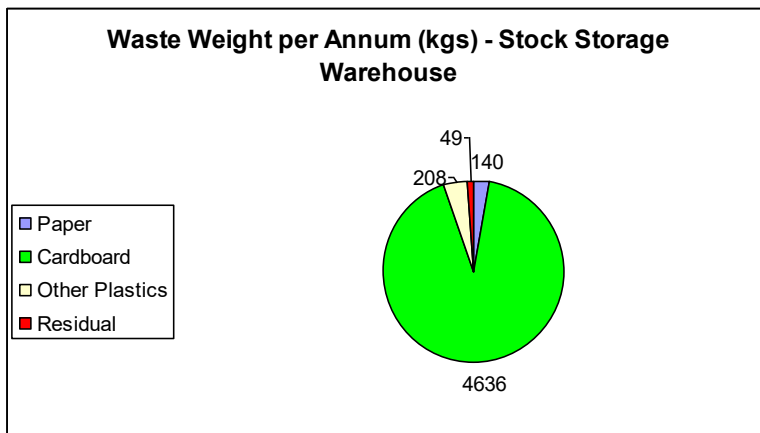
West Dunbartonshire Council has a window factory and stock storage warehouse which has been included in the Depot/Workshop category. The window factory produces 990 kilograms of PVC offcuts in a year, which are collected for recycling by an external company. The entire waste arisings are as follows:

(Figure 13)



The stock storage warehouse waste arisings are illustrated below:

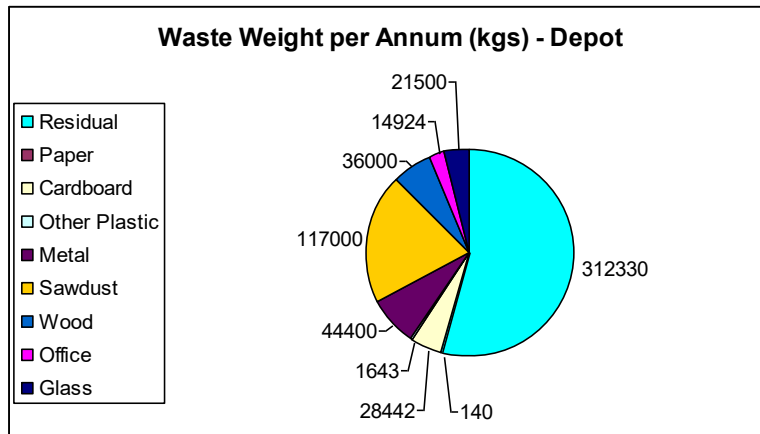
(Figure 14)



The warehouse produces an average of four timber pallets a week which are currently sent to landfill. Methods to divert this waste from landfill will be suggested in the waste prevention plan (Section 5).

A total for solid waste arisings from Depots is illustrated below. Waste from Transport workshops has not been included.

(Figure 15)



For ease of data analysis, sawdust will be included with wood, PVC offcuts with residual and metal will be placed in the 'other metals' waste type category in line with the 16 waste type categories used throughout the rest of the audit.

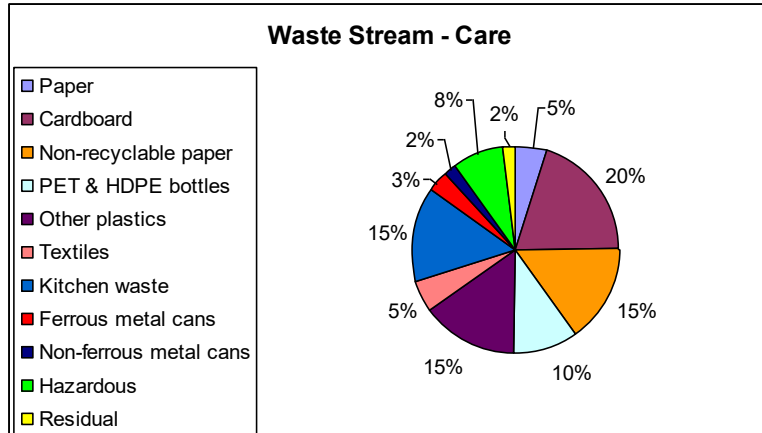
The most significant weights arising from Depots in terms of weight are residual (54%) and sawdust (20%). Sawdust is currently being re-used as animal bedding; the waste prevention plan (Section 5) will look at ways of reducing the amount of residual waste at Depots.

#### 4.7 Care Homes/Centres

There are 13 Care facilities in West Dunbartonshire, these are made up of a mix of residential properties, drop-in/day centre properties and properties which provide both services. As the majority of properties provide residential services, the waste stream from one of the larger residential homes was reviewed (visual inspection) to provide a picture of the waste stream from care facilities. Every care facility has cooking facilities and generally provide similar services; however, some facilities are specifically for elderly residents, some for children and some for disabled residents. This may result in slight fluctuations in some waste types, however, it has been assumed that generally the waste streams will be very similar.

The waste stream was seen to consist of the following:

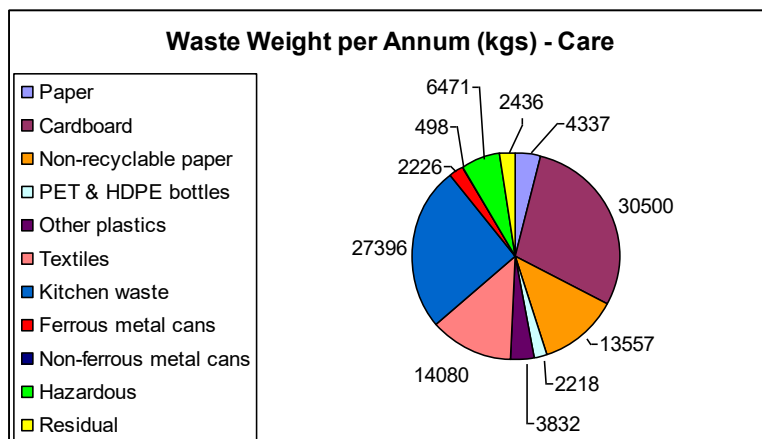
(Figure 16)



This shows a very mixed waste stream, the majority of it being made up of cardboard, non-recyclable paper, other plastics and kitchen waste. Action will have to be taken to reduce these particular wastes as, apart from cardboard, they are not readily recyclable in West Dunbartonshire. The potentially recyclable materials make up 45% of this waste stream – Paper 5%, Cardboard 20%, PET & HDPE bottles 10%, Textiles 5%, and Cans 5%.

There is the capacity for 1,540,240 litres of waste from Care facilities, producing an annual 107,579 kilograms of waste (assuming 100% density). The breakdown of the waste stream by weight can be seen below:

(Figure 17)



Again, cardboard and kitchen waste make up the majority of the waste by weight, weighing 30,500 (29% of total weight) and 27,396 (25% of total weight) respectively.

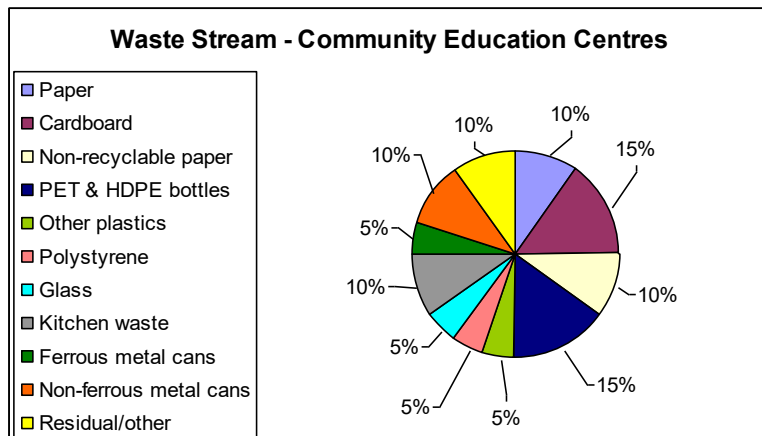
The recyclable materials make up 50% of the weight coming from care premises and diverting these wastes from landfill would mean a reduction of 53,859 kilograms per annum.

#### 4.8 Community Education Centres

There are 10 Community Education Centres in West Dunbartonshire. These Centres vary in size and the services they offer; however, generally they all provide cooking facilities and/or cafés, and host groups/events such as health clinics, exercise classes, meetings, parent & toddler groups, youth groups, and are utilised by all ages of the Council population.

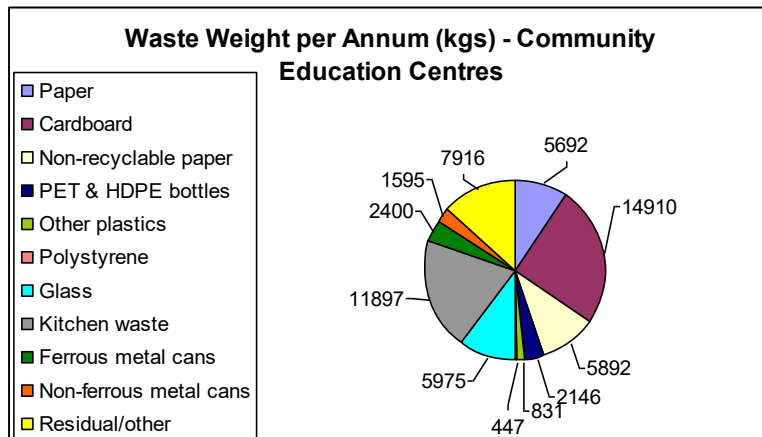
Centres were visited at Bonhill, representative of the smaller centres with 720 litres of waste per week, and Alexandria, representative of the larger centres hosting a café and with 3,300 litres of waste each week. The waste stream was gauged through visual inspection and was seen to have a varied make up, illustrated in the chart below. The waste stream represents an average throughout all 10 centres with some centres likely to have a higher proportion of, for example, polystyrene through hosting a café, while others will have a higher proportion of glass from baby food jars used at regular parent & toddler groups.

(Figure 18)



From this, it can be seen that 60% of the waste stream is potentially recyclable in West Dunbartonshire – 10% Paper, 15% Cardboard, 15% PET & HDPE bottles, 5% Glass, and 15% Cans. This would eliminate 32,718 kilograms of waste from disposal via landfill as can be seen in the following chart:

(Figure 19)



Community Education Centres produce a total of 59,701 kilograms of waste per annum, so recycling the items listed above would reduce the annual weight of Community Education Centre waste sent to landfill by 55%.

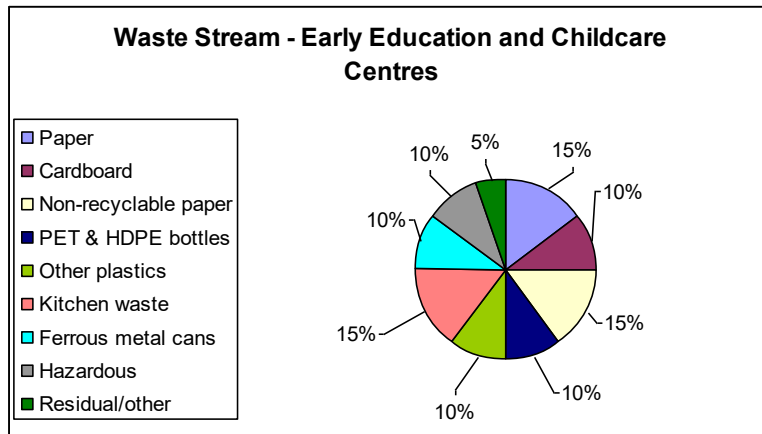
#### 4.9 Early Education and Childcare Centres

There are 11 Early Education and Childcare Centre in West Dunbartonshire. These vary in size but typically all provide nursery/childcare services. The majority of these centres have a used nappy uplift service provided by Initial. It has proved very difficult, however, to obtain full details of this contract from the relevant Council department, for example, details of the cost of the service and weight of nappies uplifted. A figure for nappy waste has therefore been assumed under the Hazardous waste category and the waste prevention plan will indicate the savings that could be made through introducing a real nappy programme in these centres (see Section 5).

Centres at Ladyton and Dalmonach were visited, visual inspections carried out and discussion also took place with Centre managers concerning the waste stream. As these Centres can participate in the EcoSchools scheme, waste prevention measures are likely to be welcomed.



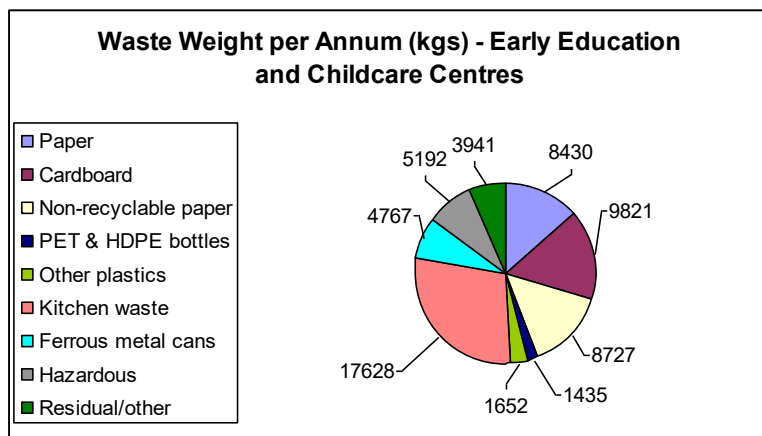
The waste stream was seen to consist of the following:  
(Figure 20)



There is again a wide mix of waste coming from Early Education and Childcare Centres, with potentially 45% of the stream being suitable for recycling – 15% Paper, 10% Cardboard, 10% PET & HDPE bottles and 10% Cans. Waste food and food packaging account for at least 35% of the waste stream at these Centres due to the nature of the service they provide, all with cooking facilities and serving at least two meals a day to children. Kitchen waste alone accounts for 29% (17,628 kilograms) of the total weight of the waste material coming from the Centres. Ways to divert this waste from landfill will be suggested in the waste prevention plan (Section 5) as the degree of food waste is quite high.

Early Education and Childcare Centres have the capacity for 991,120 litres of waste per annum, and produce approximately 61,592 kilograms of waste each year (assuming 100% density). This is broken down by weight of material in the chart below:

(Figure 21)

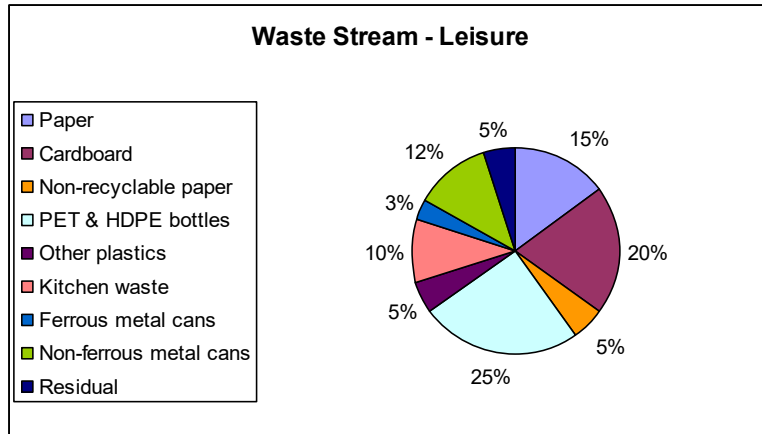


This indicates that diverting the recyclable materials from landfill would reduce the weight of waste from these premises by 40% - 24,453 kilograms per annum.

#### 4.10 Leisure

There are three Leisure facilities in West Dunbartonshire, each featuring a swimming pool, gym, café, and a number of sports halls/courts. These vary in size from the largest, The Playdrome, producing 18,801 kilograms of waste each year, to the Vale of Leven Swimming Pool producing 6,267 kilograms per year. The Playdrome was visited and a visual inspection showed the following waste stream:

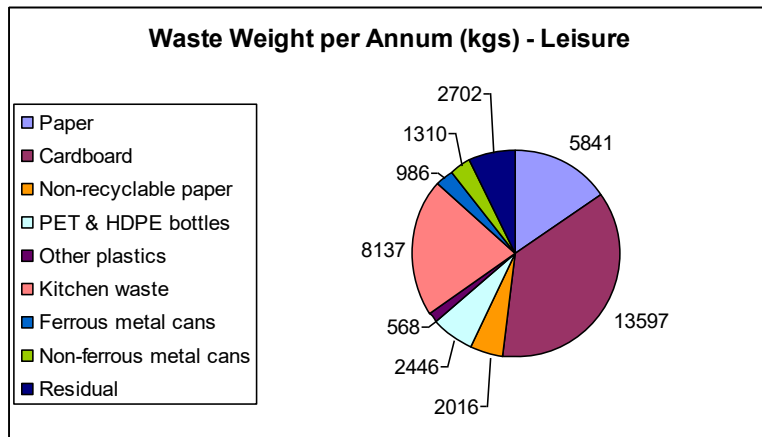
(Figure 22)



Leisure facilities have a fairly mixed waste stream, with the greatest volume being made up of food and drink packaging. This illustrates that a potential 75% of leisure waste is easily recyclable through schemes already in operation in West Dunbartonshire (15% Paper, 20% Cardboard, 25% PET & HDPE bottles, 15% Cans).

The total available volume for leisure waste is 686,400 litres per annum, resulting in 37,603 kilograms of waste (assuming 100% density). The breakdown of the weight of this waste is illustrated below:

(Figure 23)



From this it can be seen that the heaviest types of waste coming from leisure facilities are cardboard (13,597 kilograms, 35% of the total weight) and kitchen waste (8,137, 22% of the total weight). Methods to potentially reduce these amounts or divert them from landfill will be addressed in the waste prevention plan (Section 5).

This chart also illustrates that providing recycling facilities in leisure premises could result in a diversion of 24,180 kilograms of waste from landfill per annum, equating to 64% of the weight of leisure waste.

#### 4.11 Parks and Cemeteries

##### 4.11.1 Parks

There are four main parks in West Dunbartonshire, 17 smaller parks, and 10 bowling greens. There are also a number of football parks in the area; however, these are in the process of being changed from grass to an alternative playing surface which will produce no regular waste. These football parks have not therefore been included in the review of parks waste.

The majority of information for parks came from contact with relevant staff and information from Weight Transfer Notes. All of the main parks have 7yd skips for general waste, a visual inspection of one of these skips at Dalmuir Park showed it contained a variety of material such as soil, rubble and stones, cardboard and plastic packaging and waste from litter bins. There are no suitable conversion factors to obtain weights for this mixed material therefore it has been classed as residual and an estimated weight for the skip of 875 kilograms has been assumed for this process. Two of the main parks have 20yd skips for green waste and another mulches green waste on site – this has been estimated to be equivalent to the volume of a 20yd skip. For the purposes of this audit, the weight of a 20yd skip filled with green waste has been estimated as 2,500 kilograms. Green waste is comprised of waste which is

compostable such as grass cuttings, hedge trimmings, twigs and small branches, flowers and leaves.

Waste from the smaller parks is taken to skips at these four main parks and also to the Council's waste transfer site at Richmond Street, and Dalmoak. A figure for green waste deposited at Richmond Street has been obtained through Waste Transfer Notes. As the public can also drop green waste at Dalmoak, it has been estimated that 40% of the green waste from this site is produced by Council activities. It should be highlighted that green areas throughout the Council area which are not classed as parks but which are tended to by the Council are included in these figures as this waste is also deposited in skips at either the parks, Richmond Street or Dalmoak sites.

Parks staff also advised that a further 110,000 kilograms of wood, in the form of chippings and cuttings, are produced from parks each year.

From this information it has been calculated that parks produce 1,081,236 kilograms of green waste and 91,000 kilograms of residual waste per annum, giving a total of 1,172,236 kilograms of park waste.

#### **4.11.2 Cemeteries**

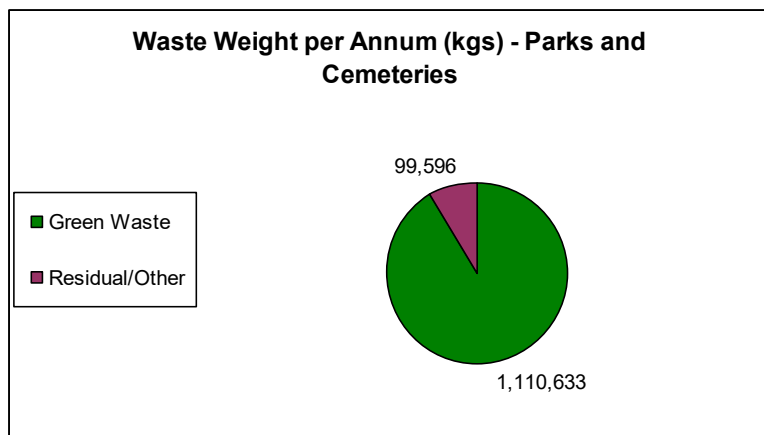
Turning to Cemeteries, there are seven in West Dunbartonshire (and one Crematorium). There are 7yd skips at three of the cemeteries which hold a mixture of green waste and residual waste such as litter bin waste. These skips produce a total of 31,500 kilograms of waste each year of which it is estimated approximately three quarters is green waste (including floral tributes) amounting to 23,625 kilograms of green waste from cemeteries per annum. As before, there are no suitable conversion factors for the remainder of this skip waste so it has been classified as residual, producing an annual weight of 7,875 kilograms.

Cemeteries also produce a substantial quantity of inert waste each year, comprised mainly of soil from grave sites. This soil is normally used to reprofile land in cemeteries and has therefore not been classed as a waste output.

The Crematorium produces a total of 6,493 kilograms of waste each year, of which 5,772 kilograms (89%) is green waste and the remainder office waste. The totals for waste from the cemeteries and crematorium show they produce 29,397 kilograms of green waste, 7,875 kilograms of residual waste and 721 kilograms of office waste per annum, a total of 37,993 kilograms.

The total waste stream for Parks and Cemeteries is therefore made up of 92% green waste and 8% residual waste, including 0.7% office waste. The total weights are illustrated in the chart below:

(Figure 24)



The majority of this green waste is already taken to a reprocessing plant for composting and some is mulched on site as mentioned earlier. However, the green waste coming from cemeteries is mixed with residual waste meaning it is landfilled and the Council is currently missing out on diverting an extra 23,625 kilograms of green waste from landfill each year. Suggestions to prevent this loss will be addressed in the waste prevention plan (Section 5).

#### 4.12 Totals

Combining the results of the waste review illustrates that, in terms of the weight produced, the majority of the Council's waste is made up of green waste (34%), non-recyclable paper (18%), kitchen waste (11%), paper (9%) and cardboard (7%). The majority of green waste is currently composted, providing a useful diversion for a large proportion of Council waste. Paper and cardboard can be easily recycled through existing schemes in operation in West Dunbartonshire. Tackling the amount of non-recyclable paper and kitchen waste, however, will prove more difficult and methods of reducing these wastes will be suggested in the following section.

### 5.0 IMPLEMENTATION/MINIMISATION PROJECTS IN LOCAL AUTHORITY

#### 5.1 Waste reduction, re-use and recycling initiatives

This section proposes initiatives that could be introduced in Council premises and to current working practices that will result in a decrease in both the amount of waste produced and therefore the amount sent to landfill.

It is recommended that all Council premises are incorporated in the current household blue bin kerbside recycling scheme. The benefits of introducing this would be threefold – recycling is a 'quick hit' in terms of seeing significant reduction in waste being disposed of to landfill in a relatively short period of time; introducing recycling gets people thinking about waste management more generally and can be the start of an education on waste prevention; and, based on waste analysis figures, removing blue bin

materials would divert a substantial amount of waste from landfill disposal leading to significant savings in waste disposal for the Council.

Introducing recycling facilities in Council buildings which are heavily utilised by the public, such as leisure and community centres and libraries will also serve to further promote recycling initiatives currently in operation for the public, such as kerbside and tenemental recycling schemes and Household Waste Recycling Points. This could encourage greater use of these public initiatives and the Council is likely to be viewed in a positive light for providing the facilities for members of the public to continue best practice in terms of waste disposal at home and when using Council facilities.

There are a number of waste reuse and reduction methods which can also be employed through the majority of Council premises. The following suggestions could be introduced in any premise which has an office of any description or carries out similar functions to an office, such as a Library where photocopying and printing will take place. Every Council department will be able to utilise these suggestions to some extent. Offices premises were found to have up to 79% of the weight of waste bins made up of recyclable materials. Adding reuse and reduction initiatives to a blue bin recycling scheme could potentially reduce the amount of waste from offices which is landfilled by up to 85%. For the purposes of this report, these suggestions will be classed as 'general waste reduction methods'.

### **Photocopying**

- Photocopy double sided
- Print a trial copy before doing a big batch
- Situate paper recycling bins beside photocopiers
- Recycle toner cartridges

### **Printing**

- Change the default margin sizes, drafts do not normally require wide margins such as letters
- Check spelling and layout before printing
- Only print when necessary
- Always 'view' the document before printing to avoid mistakes
- Recycle cartridges

### **Paper**

- Use of e-mail, and voice mail to minimise paper use
- Retain documents digitally rather than in hard copy, saving on paper and file storage space
- Use line spacing of no more than 1.5
- Lay out documents with the minimum necessary white space
- When sending out reports, such as Council Committee Reports which can be very lengthy, notifying recipients (preferably by email) that the report is available if they want it and providing the means for them to order a copy

- Label publications with relevant environmental information about how it was produced

### Envelopes

- Use specifically designed sticky labels, to re-use envelopes
- Use internal envelopes
- Do not purchase window envelopes as these cannot be recycled

### Stationery

- Buy refillable recycled biros
- Use pencils made from recycled materials
- Use solar power calculators or the calculator on the computer
- Collect unused discs, erase them, put new labels on them and make them available for re-use
- Use paper clips rather than staples where feasible, and continually reuse them

### General

- Use mugs or glasses rather than plastic cups at water coolers
- Try to use mains power whenever possible, or use rechargeable batteries

Suggestions for each individual category of premises are detailed below, focusing on the areas of greatest waste production both in terms of the volume of waste and the weight. General procurement issues will be discussed later in the report.

## 5.2 Schools

### PRIORITY ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Introduce blue recycling bins	Will divert most types of paper, plastic bottles, and steel and aluminium cans from disposal by landfill	July 2006	41% of the waste stream - 26% of the total weight of schools waste
Provide staff with waste prevention guidance	Keeps staff involved and motivated and can result in waste reduction	June 2006	n/a
Educate school pupils on the use	Keeps pupils involved and	June 2006	Reflected in levels of recycling

of recycling bins and wider waste prevention methods through 'Binman' DVD and education package (targeted at Primary 4 pupils on a continuing programme)	motivated and can result in waste reduction. Specially tailored education for young people to make subject interesting for them		
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**SWIP ACTIONS**

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Introduce general waste reduction methods, including facilities for recycling toner and printer cartridges	Diverts waste from landfill. Schemes to raise money for the school through recycling such materials could be promoted (such as Recyclool, or Collect4School)	Ongoing	n/a
Introduce brown recycling bins for garden waste where practical	Diverts green waste from disposal by landfill	Ongoing	3% of the waste stream - 3% of the total weight of schools waste
Introduce compost bins where practical	Reduces volume of waste. This may be of interest to schools involved in EcoSchools project	Ongoing	n/a
Use 'clean' waste as material for crafts, such as plastic bottles, cardboard and tetra pak containers	Reduces volume of waste	Ongoing	n/a



## LONG-TERM ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Review feasibility of introducing hand dryers/linen roller towels	Provide an alternative to paper towels	March 2007	37% of the total weight of school waste, 7% of waste stream, is made up of non-recyclable paper, a large proportion of which can be assumed to be paper towels
Review feasibility of introducing reverse vending machines	Machines compact wastes such as aluminium cans and pay out 1p per can	March 2007	2% of waste stream (non-ferrous cans)
Review feasibility of collecting tetra pak containers for recycling (Primary pupils receive milk in these containers daily)	Smith Anderson in Fife recycle tetra pak. Monitor pilot schemes operating in other Local Authority areas to establish the worth of introducing a similar scheme	March 2007	n/a
Review feasibility of investing in anaerobic digesters	Reduces volume of waste	March 2007	n/a

### 5.3 Offices

## PRIORITY ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Provide staff with	Keeps staff	June 2006	n/a

waste prevention guidance	involved and motivated and can result in waste reduction		
Provide clear guidance on the use of the confidential paper uplift service to ensure it is not mis-used	Will ensure maximum amount of paper is diverted from landfill disposal	June 2006	n/a

**SWIP ACTIONS**

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Introduce general waste reduction methods, including facilities for recycling toner and printer cartridges	Diverts waste from landfill. Materials can be collected to raise funds for local charities	Ongoing	n/a

**LONG-TERM ACTIONS**

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Introduce blue recycling bins	Will divert most types of paper, cardboard, plastic bottles, and steel and aluminium cans from disposal by landfill	March 2007	64% of the waste stream - 35% of the total weight of office waste
Review feasibility of purchasing an industrial shredder, allowing any confidential shredding to take place in-house	Has the potential to produce cost savings over longer period of time if service provided in-house rather than by external	March 2007	n/a

	contractor		
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## 5.4 Halls

### PRIORITY ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Introduce blue recycling bins	Will divert most types of paper, cardboard, plastic bottles, and steel and aluminium cans from disposal by landfill	December 2006	53% of the waste stream - 46% of the total weight of halls waste
Provide staff with waste prevention guidance	Keeps staff involved and motivated and can result in waste reduction	June 2006	n/a
Provide visual guidance (eg. posters) for public making use of hall facilities to advise what materials are accepted in recycling bins	Ensures blue recycling bins are fully utilised	December 2006	53% of the waste stream - 46% of the total weight of halls waste
Encourage sustainable catering, eg. not over catering for expected numbers of visitors at events	Reduces volume of kitchen waste	June 2006	8% of the waste stream – 14% of the total weight of halls waste
Introduce glass recycling facilities at larger halls which are frequently used for events	Diverts glass waste from disposal by landfill	December 2006	9% of the waste stream - 17% of the total weight of halls waste

## SWIP ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Introduce general waste reduction methods	Diverts waste from landfill	Ongoing	n/a

## LONG-TERM ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Review feasibility of introducing hand dryers/linen roller towels	Provide an alternative to paper towels	March 2007	14% of the total weight of halls waste, 14% of waste stream, is made up of non-recyclable paper, a large proportion of which can be assumed to be paper towels
Introduce glass recycling facilities to all remaining halls	Diverts glass waste from disposal by landfill	March 2007	9% of the waste stream - 17% of the total weight of halls waste
Review feasibility of introducing reverse vending machines	Machines compact wastes such as aluminium cans and pay out 1p per can	March 2007	8% of waste stream (non-ferrous cans)

## 5.5 Libraries

### PRIORITY ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Provide staff with waste prevention guidance	Keeps staff involved and motivated and	June 2006	n/a

	can result in waste reduction		
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### SWIP ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Introduce general waste reduction methods, including facilities for recycling toner and printer cartridges	Diverts waste from landfill. Materials can be collected to raise funds for local charities	Ongoing	n/a

### LONG-TERM ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Introduce blue recycling bins	Will divert most types of paper, cardboard, plastic bottles, and steel and aluminium cans from disposal by landfill	March 2007	92% of the waste stream - 88% of the total weight of libraries waste
Provide visual guidance (eg. posters) for public making use of library facilities to advise what materials are accepted in recycling bins	Ensures blue recycling bins are fully utilised	March 2007	92% of the waste stream - 88% of the total weight of libraries waste

### 5.6 Depots/Workshops

#### PRIORITY ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE</b>
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			<b>DIVERSION</b>
Ensure all staff are aware of the range of recycling opportunities available within depots/workshops and that these are fully utilised	Keeps staff involved and motivated and will result in maximum utilisation of the available recycling facilities	June 2006	n/a

### **LONG-TERM ACTIONS**

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Introduce blue recycling bins	Will divert most types of paper, plastic bottles, and steel and aluminium cans from disposal by landfill	March 2007	n/a
Review contracts to ensure they meet sustainable purchasing criteria	Minimises waste and environmental impact of materials purchased	March 2007	n/a

### **5.7 Care Facilities**

#### **PRIORITY ACTIONS**

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Provide staff with waste prevention guidance	Keeps staff involved and motivated and can result in waste reduction	June 2006	n/a
Encourage sustainable catering, eg. not over catering for	Reduces volume of kitchen waste	June 2006	15% of the waste stream, 25% of the total weight of care facilities

number of residents			waste
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### SWIP ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Introduce general waste reduction methods	Diverts waste from landfill	Ongoing	n/a

### LONG-TERM ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Introduce blue recycling bins	Will divert most types of paper, cardboard, plastic bottles, and steel and aluminium cans from disposal by landfill	March 2007	40% of the waste stream, 38% of the total weight of care facilities waste
Provide suitable guidance for users/residents of care facilities as to the correct use of recycling bins, through a mixture of visual guidance and information flowing down from education provided to staff	Ensures maximum utilisation of blue recycling bins	March 2007	40% of the waste stream, 38% of the total weight of care facilities waste
Review feasibility of introducing hand dryers/linen roller towels	Provide an alternative to paper towels	March 2007	13% of the total weight of care facilities waste, 15% of waste stream, is made up of non-recyclable paper,

			a large proportion of which can be assumed to be paper towels
Review feasibility of investing in anaerobic digesters and/or introduce compost bins where practical	Reduces volume of waste	March 2007	n/a

## 5.8 Community Education Centres

### PRIORITY ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Provide staff with waste prevention guidance	Keeps staff involved and motivated and can result in waste reduction	June 2006	n/a
Encourage sustainable catering, eg. not over catering for expected numbers of visitors at events	Reduces volume of kitchen waste	June 2006	10% of the waste stream – 20% of the total weight of community centre waste

### SWIP ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Introduce general waste reduction methods	Diverts waste from landfill	Ongoing	n/a

### LONG-TERM ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE</b>
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			<b>DIVERSION</b>
Introduce blue recycling bins	Will divert most types of paper, cardboard plastic bottles, and steel and aluminium cans from disposal by landfill	March 2007	55% of the waste stream, 43% of the total weight of community centre waste
Provide visual guidance (eg. posters) for public making use of community centres to advise what materials are accepted in recycling bins	Ensures blue recycling bins are fully utilised	March 2007	55% of the waste stream, 43% of the total weight of community centre waste
Review feasibility of introducing hand dryers/linen roller towels	Provide an alternative to paper towels	March 2007	10% of the total weight of community centre waste, 10% of waste stream, is made up of non-recyclable paper, a large proportion of which can be assumed to be paper towels
Introduce small-scale glass recycling facilities, such as mixed glass collection bins in the centres	Diverts glass waste from landfill	March 2007	5% of the waste stream, 10% of the total weight of community centre waste
Review feasibility introducing reverse vending machines	Machines compact wastes such as aluminium cans and pay out 1p per can	March 2007	10% of waste stream (non-ferrous cans)
Review feasibility of investing in anaerobic	Reduces volume of waste	March 2007	n/a

digesters			
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## 5.9 Early Education & Childcare Centres

### PRIORITY ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Provide staff with waste prevention guidance	Keeps staff involved and motivated and can result in waste reduction	June 2006	n/a

### SWIP ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Introduce general waste reduction methods	Diverts waste from landfill	Ongoing	n/a
Encourage use of 'real nappies' and promote the Council's scheme to parents	Reduces volume of waste	Ongoing	n/a

### LONG-TERM ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Introduce blue recycling bins	Will divert most types of paper, cardboard, plastic bottles, and steel and aluminium cans from disposal by landfill	March 2007	45% of the waste stream, 40% of the total weight of early education and childcare centres waste
Review feasibility of introducing hand dryers/linen	Provide an alternative to paper towels	March 2007	14% of the total weight of childcare centres

roller towels			waste, 15% of waste stream, is made up of non-recyclable paper, a large proportion of which can be assumed to be paper towels
Introduce compost bins where practical	Reduces volume of waste. This may be of interest to schools involved in EcoSchools project	March 2007	n/a
Provide specially designed visual guidance on what can be placed in recycling bins for children at the centres. This can be based on the 'Binman' education package so children are familiar with the character as they progress to Primary school	Keeps the children interested in the scheme and provides them with a basis for waste prevention education.	March 2007	Reflected in levels of recycling
Review feasibility of collecting tetra pak containers for recycling (Primary pupils receive milk in these containers daily)	Smith Anderson in Fife recycle tetra pak. Monitor pilot schemes operating in other Local Authority areas to establish the worth of introducing a similar scheme	March 2007	n/a
Review feasibility of investing in anaerobic	Reduces volume of waste	March 2007	n/a

digesters			
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## 5.10 Leisure Facilities

### PRIORITY ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Provide staff with waste prevention guidance	Keeps staff involved and motivated and can result in waste reduction	June 2006	n/a

### SWIP ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Introduce general waste reduction methods	Diverts waste from landfill	Ongoing	n/a

### LONG-TERM ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Introduce blue recycling bins	Will divert most types of paper, plastic bottles, and steel and aluminium cans from disposal by landfill	March 2007	75% of the waste stream - 63% of the total weight of leisure facility waste
Provide visual guidance (eg. posters) for public making use of leisure facilities to advise what materials are accepted in recycling bins	Ensures blue recycling bins are fully utilised	March 2007	75% of the waste stream - 63% of the total weight of leisure facility waste

Review feasibility of introducing reverse vending machines	Machines compact wastes such as aluminium cans and pay out 1p per can	March 2007	12% of waste stream (non-ferrous cans)
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## 5.11 Parks/Cemeteries

### PRIORITY ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Provide staff with waste prevention guidance	Keeps staff involved and motivated and can result in waste reduction	June 2006	n/a
Provide segregated facilities for green waste at Dalmoak and Richmond Street	Ensures majority of green waste is diverted from landfill	June 2006	Over 1,081 tonnes per annum

### LONG-TERM ACTIONS

<b>ACTION</b>	<b>OUTCOME</b>	<b>TIMESCALE</b>	<b>POTENTIAL WASTE DIVERSION</b>
Provide separate receptacles for green waste and residual waste at cemeteries to allow this green waste to be composted	Allows the remainder of green waste to be composted rather than disposed of at landfill	March 2007	Over 23 tonnes per annum

## 6.0 SUSTAINABLE PROCUREMENT

In aiming to reduce the amount of waste sent to landfill as a result of Council services, the Council should also look at 'greening' its procurement, that is, making purchases with waste issues in mind, such as not over-ordering, purchasing recycled material and co-ordinating with suppliers to try to reduce the amount of packaging goods are delivered in, or that suppliers accept an obligation to take packaging back and reuse it. It is acknowledged that sustainable procurement does form part of the Council's current Corporate Procurement Strategy and it is hoped waste prevention suggestions can be further incorporated into it.

Not only should 'green' procurement result in waste disposal costs savings, and possibly savings in the cost of materials, there are other benefits such as raising environmental awareness within the Council, which should be beneficial when introducing waste reduction initiatives; an increase in demand for recycled products and 'green' services' reduces their cost and acts as an incentive for technological development towards greener products; and the Council can be seen to be setting an example in procurement which could be echoed by local business and, to a lesser extent, residents.

'Green' procurement questions that should be considered by those responsible for placing orders include:

- Is it essential to buy the product - can it be leased or rented?
- Can the product be re-used, refilled, recharged or reconditioned to extend its life?
- Can the item be easily upgraded by adding or replacing a part?
- Does the product have a recycled content? What percentage?
- Is the product accredited with a recognised environmental standard?
- Can the product be recycled easily (in the workplace and/or local community)?
- Can product packaging be reduced or eliminated?
- Is packaging made of recycled material(s)?
- Can packaging be re-used, recycled or returned?

In the case of IT equipment:

- Does the printer/photocopier allow for double-sided printing/copying?
- Are ink cartridges refillable?

In keeping with the notion of 'green' procurement, although not directly linked to solid waste, purchasers should also consider issues such as energy usage on electrical and electronic equipment, environmental impact of cleaning materials, and transportation of supplies, with the preference being to buy as locally as possible.

The centralisation of purchasing should also be encouraged, as far as is practical. Buying in bulk is generally more cost effective and may reduce the amount of packaging waste and transport impacts. This should also eliminate over-ordering and any subsequent waste.

Where several departments are housed in the same building, such as in the Council's main office at Garshake Road, an "amnesty day" could be organised with departments donating any stationery or electrical equipment they do not use for utilisation by another

department, for example, if a department has recently transferred records from paper to digital format they may have emptied a filing cabinet or number of lever arch files which they no longer have use for, and another department could be looking for a cabinet or files and could therefore save these going to waste.

It may also be useful to set targets and dates to achieve changes in purchasing practice, for example, all paper to be of recycled content throughout the office by next financial quarter; and to introduce a 'green' procurement policy, for example, 'West Dunbartonshire Council will give preference to purchasing environmentally preferable products and services that meet current performance, safety and regulatory requirements.'

## **7.0 STAFF COMMITMENT AND PROMOTION**

One of the most importance aspects of the Council's waste prevention plan is gaining (and retaining) staff commitment to waste reduction, reuse and recycling initiatives. Staff should be informed in advance of any changes to their working practice and of any new infrastructure (such as recycling bins) which is to be introduced to their working environment. Staff should also be advised on the reasons for the introduction of waste prevention initiatives and be provided with clear guidance on the operation of initiatives, for example, materials accepted in recycling bins, where bins are located, how frequently the bins will be emptied and so on. Means of communication should be tailored specifically to the audience, for example, while the intranet may be a useful form of communication for those employed in offices, staff working at DLO's or in schools may be better targeted through leaflets or noticeboards.

It is at this stage that the 'champions' will be of prime importance. To ensure the smooth introduction of waste prevention initiatives, we must be prepared to take on board comments from staff on how these new policies are affecting their work habits. They may have also come up with more ideas now they are starting to think 'green' which could be adopted. As 'champions' are situated in each department, they can promote waste prevention initiatives in their department as well as acting as a central point for collating comments from staff. This could form part of the Council's existing 'Bright Ideas' initiative – part of the Employee Recognition Scheme which seeks suggestions from staff on improving procedures, processes or systems, or any innovations/initiatives which would be of benefit to the Authority, or its customers

It should also be ensured that senior management are participating in any waste prevention activities. Experience shows that any individual resistance will reduce as the system gets underway and everyone sees how simple it is.

On-going enthusiasm could be encouraged through 'waste aware' noticeboards in premises and on the intranet. These could focus on a different waste prevention activity each month to raise awareness and include league tables of the amounts of waste recycled by department or per head in each premise. There could also be the opportunity for an online waste prevention suggestion box with prizes for those who

make useful suggestions. If it was seen to be required in particular premises, or on an ad hoc basis, informal training could be offered to provide more information on waste prevention initiatives and the theory behind their introduction.

To ensure waste prevention initiatives are visible in premises, recycling bins should be placed in locations where they will be most useful, such as in kitchens and near photocopiers. As every property is unique, it cannot be assumed that a blanket method of using and emptying these bins is practical. Rather, discussion should take place with staff including cleaning and janitorial staff as how to best serve that particular premises. Again, the 'champions' can be involved at this stage to assist with this process.

## **8.0 PRIORITY OF WASTE PREVENTION AREAS FOR LA's**

It is suggested that the first waste prevention initiative which is put into place within West Dunbartonshire Council is the roll-out of blue recycling bins to all relevant premises. Concurrently, staff (and where necessary facility user) guidance and promotion posters should be introduced to the premises and all staff issued with waste prevention leaflets detailing how to prevent waste and why it is a priority for the Council. Introducing recycling as a priority will pave the way for other waste prevention methods to be implemented as well as providing a 'quick hit' in terms of the waste it diverts from the landfill disposal route quickly and easily.

Following this, other initiatives can be rolled out on a more ad hoc basis as each relevant department sees fit. Certain initiatives will require a longer period of organisation, such as introducing glass recycling uplift services at halls, and may require a degree of partnership and cooperation between departments.

## **9.0 SUMMARY OF RECOMMENDATIONS FOR WASTE PREVENTION ACTIVITIES**

The recommendations for waste prevention activities can be summarised as follows:

- Introduce recycling facilities as relevant to premises.
- Provide staff with guidance, education and support on waste prevention activities. Provide this information online (intranet pages), visually (posters in Council premises) and through information leaflets (providing more detailed information).
- Encourage 'green' procurement including centralisation of procurement.
- Set up continuous monitoring of waste prevention activities, including weights of waste diverted, and feedback information to staff; and make it available to residents of Council area.
- Review longer terms measures which could help divert further waste from landfill.

From the information provided by the waste review, it is estimated that by introducing recycling facilities (blue and brown bins, cardboard and glass recycling facilities) to



Council premises, an average of around 57% of the current weight of waste sent to landfill could be diverted. Introducing waste reduction and reuse initiatives could potentially reduce the amount of waste produced by at least 5%.

Waste reduction and waste reuse initiatives should be prioritised in that they will result in a reduction in the amount of waste created or disposed of in the first place. They are usually free or low-cost to implement; however, results from such initiatives are not as easily measurable and may take a lengthy period of time to show effect and become embedded in Council life. Recycling may cost slightly more to implement but its effects can be seen almost instantly in the large proportion of waste which is diverted from landfill. Recycling also allows for easy monitoring of its effectiveness. All three types of initiatives, however, should be promoted equally. Each type of initiative should also be encouraged on the basis that they are far more 'environmentally friendly' than relying on landfill disposal, which adds to greenhouse gases and can pollute surface water.

With the cost of landfill disposal increasing year on year, the Council has already signed up to targets set by the National Waste Strategy, however, the focus until now has mainly been on household waste rather than the waste the Council itself produces. In order to meet these targets, and more importantly those set by the EU Landfill Directive, it is imperative that waste prevention initiatives are introduced into Council working life as a matter of urgency. To illustrate the challenge of these targets, by 2010 West Dunbartonshire Council can only send 75% of the amount biodegradable waste which was landfilled in 1995 (the baseline year) to landfill, this equates to a permitted tonnage of 25,842 tonnes. Failure to meet European and national targets could result in the Council facing penalties of up to £200 per tonne for every tonne over the permitted amount.

Putting waste prevention measures into place should not only reduce the risk of the Council facing penalties, over a longer period of time reductions in spending on waste disposal should become apparent.

The 4,036 tonnes of waste produced by the Council each year offers a significant opportunity for successful waste prevention initiatives to be implemented and for the Council to lead by example in changing waste disposal habits in West Dunbartonshire.

