ANNUAL

ENVIRONMENTAL

REPORT

REPORTING PERIOD: 1ST January 2010 – 31st December 2010

WASTE LICENCE REGISTRATION NO:	WL106-02
LICENSEE:	**BRUSCAR BHEARNA TEORANTA (BARNA WASTE)**
LOCATION OF ACTIVITY:	CARROWBROWNE, HEADFORD ROAD, CO. GALWAY.
ATTENTION:	MR. KEALAN REYNOLDS EPA, REGIONAL INSPECTORATE JOHN MOORE ROAD, CASTLEBAR CO. MAYO.
PREPARED BY:	MR. CAMPBELL FINNIE (Barna Waste)
CONTRIBUTIONS FROM:	MR. SEAN CURRAN (Managing Director/Facility Manager) MR. PADHRAIC NOONE (Finance Manager) MR. DAMIEN MONAGHAN (Operations Manager) MR. CORMAC O'DONNELL (Transport Manager) MR. NIALL JORDAN (Deputy Facility Manager) MR. DECLAN HYLAND (Composting Manager) MR. DAVID O'HORA (Health & Safety Manager) EURO ENVIRONMENTAL SERVICES. COMPLETE LABORATORY SOLUTIONS (CLS) P.J. TOBIN CONSULTING ENGINEERS

1.0 Introduction

The following is the Annual Environmental Report (AER) for **Barna Waste** for the period **1st January 2010 to 31st December 2010** for the Waste Transfer / Recycling Facility at Carrowbrowne, Headford Road, Co. Galway only.

This report is in compliance with Condition 10.8 of Waste Licence No. WL106-02, which states:

"The licensee shall submit to the Agency for its agreement not later than January 31st of each year thereafter, an Annual Environmental Report (AER).

The AER shall include as a minimum the information specified in Schedule G: Content of Annual Environmental Report and shall be prepared in accordance with any relevant written guidance issued by the Agency."

This is a consolidated report, which includes details on all aspects of the site's environmental performance for the given period.

It is the policy of Barna Waste to conduct its business of waste acceptance, waste storage and waste transfer at the waste transfer station in such a manner that associated activities minimise any potential adverse effects on the environment. This commitment is expressed in the company's Environmental Management Policy, presented on the next page.

1.1 Environmental Policy

This policy clearly sets out the overall aims and intentions of the company with respect to the environment. The creation of our Environmental Policy was the first step taken in the development of our EMS System, as required by Condition 2.1, of the Waste Licence. This document has been reviewed but no changes were made since last year's submission of the report.

Brúscar Bhearna Teoranta (BARNA WASTE)

Environmental Policy

Brúscar Bhearna Teoranta provides a service to the community in the management of waste activities such as disposal and recovery which is operated under licence 106-2 from the EPA.

Brúscar Bhearna Teoranta regards environmental protection as an essential requirement of its operation. BBT will undertake to conduct its business in a manner which protects the environment of the Customers, Employees and Communities in which it operates. This policy is consistent in its goals with the nature, scale and environmental impacts of our activities, products and services set out in the scope of our EMS system.

Brúscar Bhearna Teoranta will communicate this policy to all employees as part of the induction process for full time and temporary employees and any sub contractors who are engaged to carry out work on site.

Guiding Principles:
BBT is committed to...

a) continual improvements, prevention of pollution and conservation of natural resources which are attributed to its facility.

b) complying with relevant environmental legislation, regulations and other requirements pertinent to its facility.

c) the continual assessment of the aspects and impacts of its activities, functions, products and services.

d) providing a framework for setting and reviewing the environmental objectives and targets of its environmental action programmes.

e) providing appropriate training and continual communication on its environmental issues to all its employees.

f) Making this policy & any all other official records available to the public.

Signed: ________________________________ ***Date:***_______________
FACILITY MANAGER

Signed: ________________________________ ***Date:*** ______________
MANAGING DIRECTOR

2. Waste Management at the Facility

2.1 Waste Activities

As required by Schedule G of our waste licence the principal processes of the facility are outlined below:

1. The recycling / recovery of various waste streams for the diversion of these wastes away from landfill. The facility enables Barna Waste and other waste contractors, local authorities to collect waste from domestic/commercial/industrial sectors and deliver it to our facility for sorting / processing and then transfer for disposal or recovery.

2. Within the facility heavy plant enables the segregation of the waste, (ie. a manual picking station, ballistic separating machines, magnets, edicurrents, balers, shredders, a pre-shredding machine, loading shovels, forklifts (with forks), forklifts (with clamp attachments), grab machines, screeners, crushers). This machinery is used on a daily basis to help separate, move and manage the various waste streams on site.

3. The facility also has a fully operational civic amenity site which is open to the public. The civic amenity site is staffed during operational hours and allows the segregation of general waste, mixed recyclables, cardboard, glass, timber, stones, metal, clothes, batteries and all types of white goods and electrical items.

4. C&D materials are currently being processed outside of the facility because of the space required by the machinery. Currently C&D waste is managed using a screener and a crusher and on occasions a trommel which work in tandem and allow us to recycle the good quality inert materials.

5. Our purpose built composting process has been operational since 1st January 2010. This is a back end process forced aeration system which processes the compostable material to European Standards. The process is licenced through our existing EPA licence and is also monitored by DAFF. The process is currently in its validation stage under the supervision of DAFF.

6. A summary of the current waste activities carried out at our facility are detailed below:

   - Landfill Waste – the majority of mixed waste loads that come to our facility are able to be segregated in some way either by hand or by machine (grab or loading shovel) to ensure that most of the recyclable material which is in a reasonable condition is recovered. Only the non recyclable fractions are then transferred into our own vehicles for landfill disposal
   - Mixed Recyclables – the company have invested in some of the best technology available to process domestic kerbside recyclables which are collected around Connacht. The ballistic separators, magnet, edicurrent and manual picking station allow us to produce segregated recyclable fractions from the original mixed recyclables and send for recycling. Materials currently being recycled via the picking station include paper, newspaper, cardboard, plastic bottles, plastic bags, plastic trays, steel and aluminium cans. This process is currently able to process around 9 tonnes of recyclables per hour on one shift.

- Separately collected recycling – the company also encourage recycling from our commercial customers and source segregated collections are available throughout Connacht. These collections result in collection and recycling of cardboard, paper (various grades), metals and plastics (various grades). These materials are checked for quality and once passed are baled immediately and sent for recycling.
- Confidential shredding – the company also offers customers a confidential shredding service where materials are collected in pre-paid bags or they have the option to deliver to our facility. Materials are shredded and then can be sent off site for recycling (99% of the time it is paper products) but we can shred all types of material in the machine that we have.
- Timber processing – timber is processed in its own dedicated area at the site and the material is processed using two machines a waste reducer (pre-shedder) and a timber shredder which shreds the segregated clean timber to a size which can be sent off site for recycling into chipboard, landfill cover or for boiler fuel.
- Metal recycling – the processing of metal products is carried out within the composting building in a dedicated area. We have a grab machine and baler in this area specifically used for baling this material into a form that can be easily sold as scrap to the UK or Irish metal markets. Some sorting of metal on higher grade materials is also carried out where possible.
- Civic Amenity Site – the site is staffed during operational hours and allows the segregation of general waste, mixed recyclables, cardboard, glass, timber, stones, metal, clothes, batteries and all types of white goods and electrical items.
- General recycling – Barna Waste are always reviewing markets around the world to try and offer as many recycling avenues as possible to our customers and in addition to the items listed above are currently collecting, segregating and sending the following waste types off site for recycling:
    - end of life tyres, glass, batteries, industrial plastics, agricultural plastics, plasterboard

This section of the report was intended to give the reader a summary of the material types and the processing procedures used by Barna Waste during the reporting period. Any additional information required is available by contacting the company directly. Tours of the facility are available if arranged in advance.

2.2 Waste Activities Licensed

The waste activities carried out above are done so within the boundaries of our EPA Waste Licence WL106-2 and the Waste Management Act 1996. The following list is a summary of the waste types and activities for which we are licenced:

Licensed waste disposal activities, in accordance with the Third Schedule of the Waste Management Act, 1996.

Class 11.	**Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.**
Class 12.	**Repackaging prior to submissions to any activity referred to in a preceding paragraph of this Schedule.**
Class 13.	**Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned was produced.**

Licensed waste recovery activities, in accordance with the Fourth Schedule of the Waste Management Act, 1996.

Class 2.	**Recycling or reclamation of organic substances, which are not used as solvents (including composting and other biological transformation processors).**
Class 3	**Recycling or reclamation of metals and metal compounds.**
Class 4.	**Recycling or reclamation of other inorganic materials.**
Class 12.	**Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule:**
Class 13.	**Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced:**

2.3 Composition and Quantity of Waste Received at the Facility

The Waste Transfer Station at Barna Waste is limited not only in the materials that can be accepted at the facility but also by the quantities which can be accepted. The following is a summary of the tonnages of different waste streams permitted to be accepted during this reporting period:

Waste Categories and Quantities acceptable at Transfer Station

WASTE TYPE	MAXIMUM TONNES PER ANNUM
Household	55,500 option A or 55,500 option B
Commercial	17,500 option A or 17,500 option B
Construction & Demolition	30,000 option A or 50,000 option B
Industrial Non Haz Solids	23,000 option A or 23,000 option B
Biodegradable Waste	40,000 option A or 20,000 option B
TOTAL	**166,000 tonnes**

These tonnages are set and documented in our EPA licence WL106-2 (schedule A).

2.4 Waste In / Out Results for this year and past years (2002 – 2010)

This section of the report outlines the quantities and composition of the waste types accepted and removed from the facility for either disposal or recovery / recycling. As required by the Agency results for all years are included therefore results for reporting periods 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 and the current reporting period of 2010 are outlined below.

This year's figures have been included with EWC codes as per the requirement in Schedule G of our waste licence WL106-2.

Waste In / Out Results for 2002 Period

Table 2.4.1: Waste Incoming during period 1st January 2002 – 31st December 2002

The following table outlines the waste that was received on site at the Barna Waste facility during the previous reporting period:-

Waste Type	Tonnes	%
Green / Organic / Timber	480.84	1.3%
Cardboard	700.39	1.8%
Recyclables	2595.08	6.6%
Commercial	10,245.00	26.1%
Household / Domestic	10,557.39	26.9%
Construction and Demolition	14,616.47	37.3%
Total	**39,195.17**	

Figure 2.1 illustrates the percentage breakdown of materials received on site for each of the main categories detailed above.

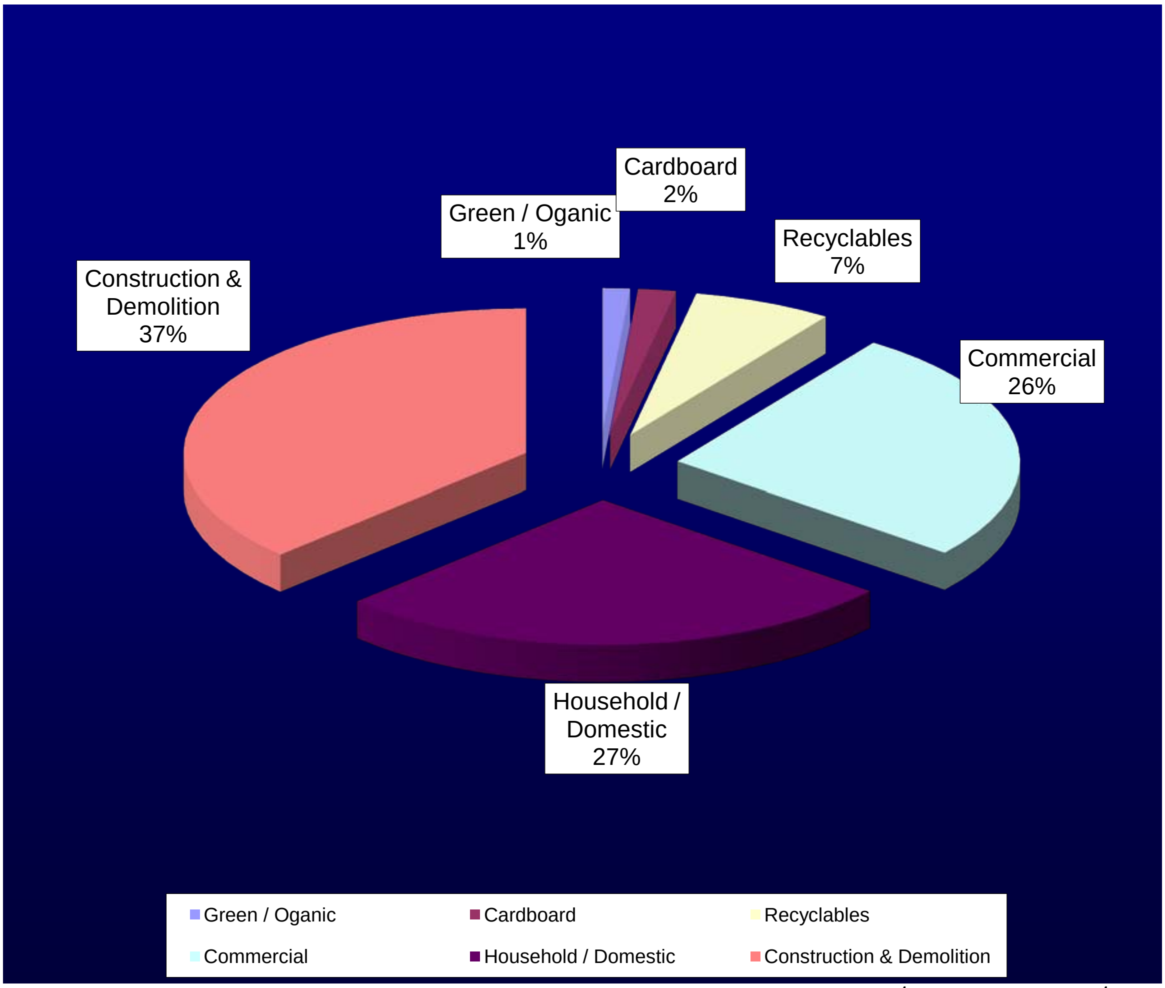


Figure 2.4.2: Percentage Breakdown of Waste Received on site from 1st January – 31st December 2002

Table 2.4.3: Total Wastes Outgoing 1st January 2002 – 31st December 2002

Waste Type	Tonnes	% of Waste In
Materials Recovery (Plastic)	37.17	0.1%
Galway Metal	639.5	1.6%
Railuck (Mixed Plastics)	662.91	1.7%
Fibre Recycling (Newspapers etc)	677.98	1.7%
Fibre Recycling (Cardboard)	919.50	2.4%
Finsa Products (Timber)	1,092.50	2.8%
Recovered Fill	6859.40	17.5%
Ballinasloe Landfill	28,232.69	72%
Total	**39,121.65**	

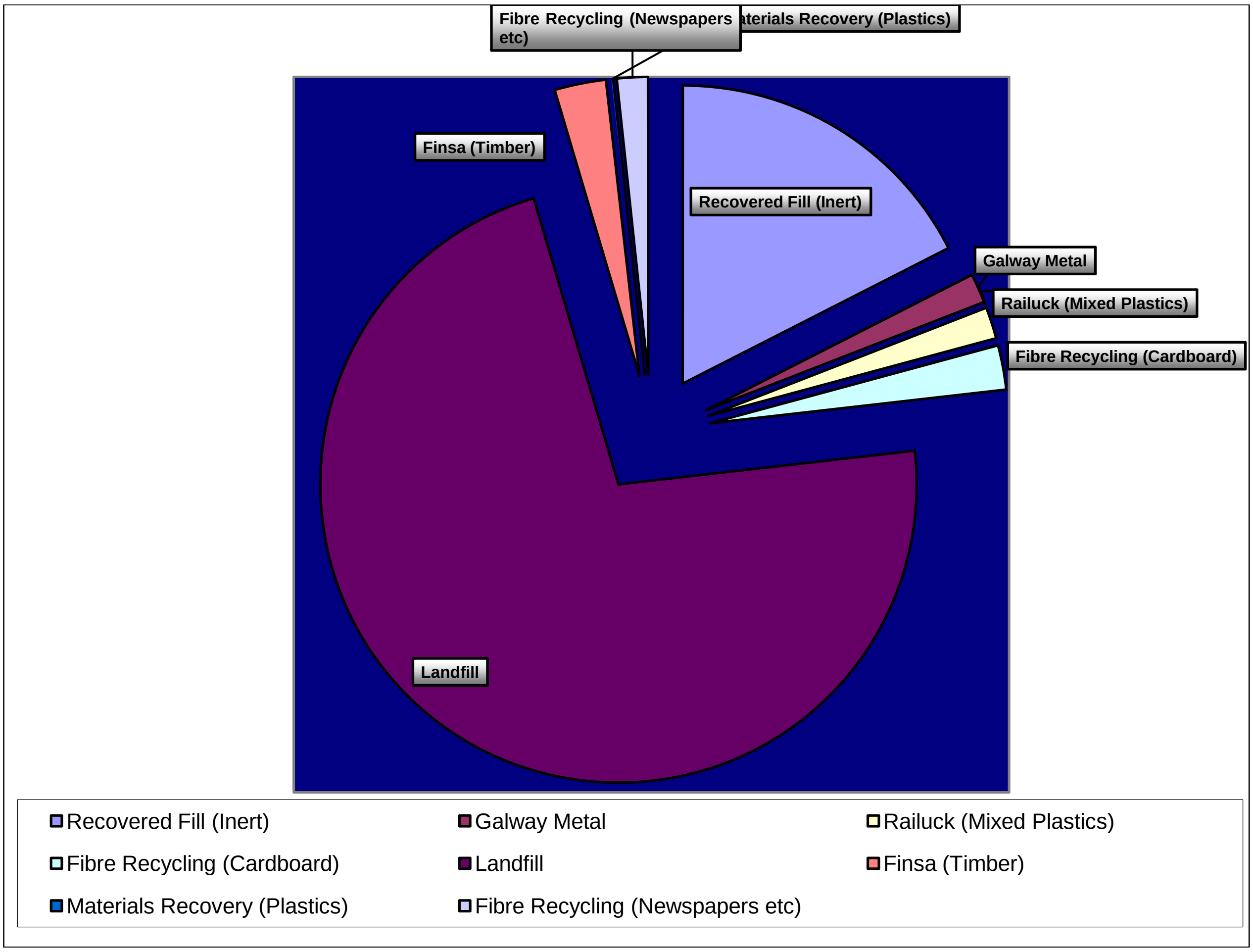


Figure 2.4.4:
Percentage Breakdown of Waste outgoing from 1st January 2002 to 31st December 2002

Waste In / Out Reports for 2003

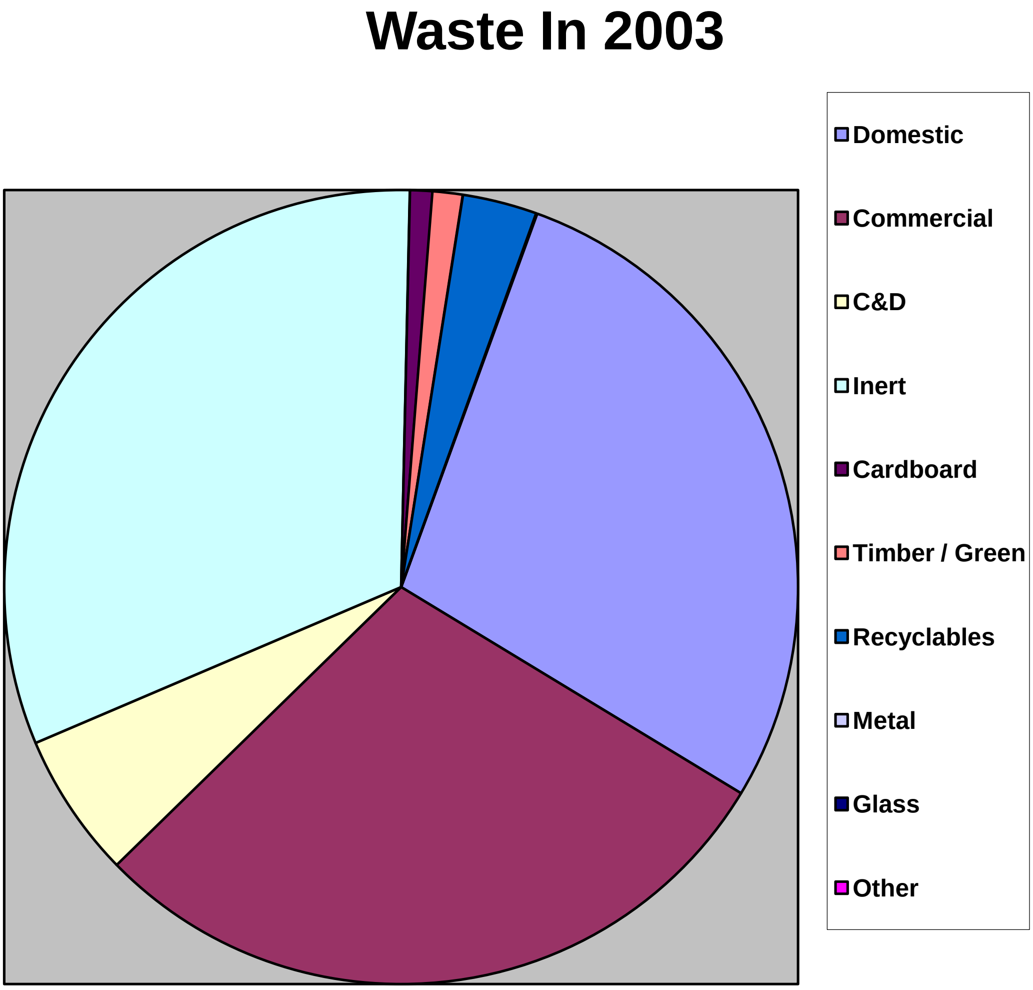


Figure 2.4.5:
Breakdown of Waste Received on site from 1st January – 31st December 2003

WASTE TYPE	WASTE IN (tonnes per annum)
Domestic	20015.92
Commercial	20663.18
C & D	4199.2
Inert	22612.4
Cardboard	643.2
Timber / Green	878.55
Recyclables	2154.1
Metal	15
Glass	3.54
Others (public weighing)	8.02
TOTAL	71193.08

Table 2.4.3: Total Wastes Incoming 1st January 2003 – 31st December 2003

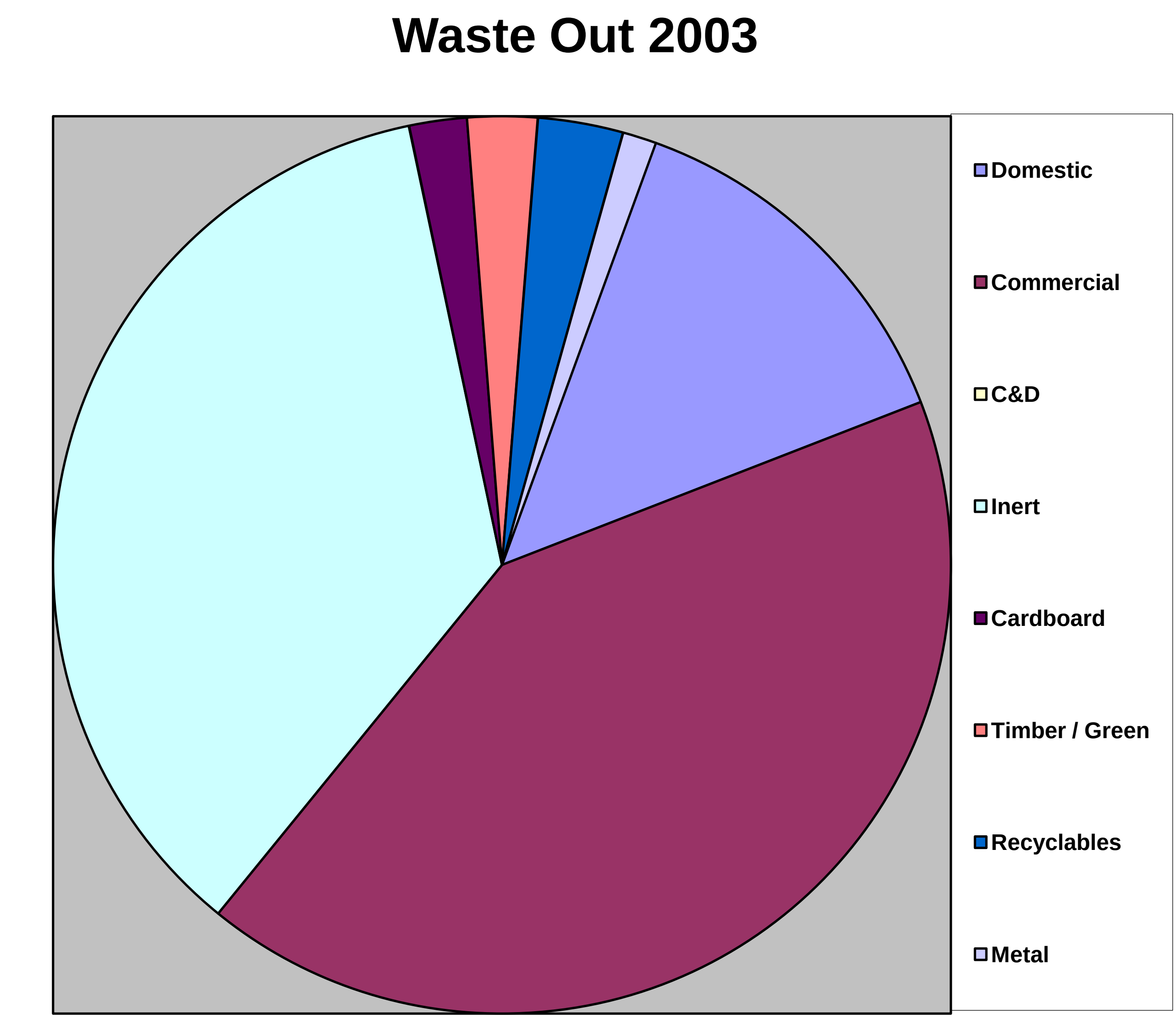


Figure 2.4.6:
Breakdown of Waste going off site for Recovery or Disposal from 1st January – 31st December 2003

WASTE TYPE	WASTE OUT (tonnes per annum)
Domestic	8545.18
Commercial	26393.02
Inert	22602.2
Cardboard	1308.24
Timber / Green	1601.04
Recyclables	1937.22
Metal	761.87
TOTAL	63,418.72

Table 2.4.7: Total Wastes Outgoing 1st January 2003 – 31st December 2003

WASTE TYPE	RECYCLING (tonnes per annum)	% OF TOTAL RECYCLING
Inert	22602.2	80.1%
Cardboard	1308.24	4.6%
Timber / Green	1601.04	5.7%
Recyclables	1937.22	6.9%
Metal	761.87	2.7%
TOTAL	**28,210.57**	**39% of total waste in was recycled for 2003**

Table 2.4.8: Recycling waste out details for 1st January – 31st December 2003

Waste In / Out Reports for 2004

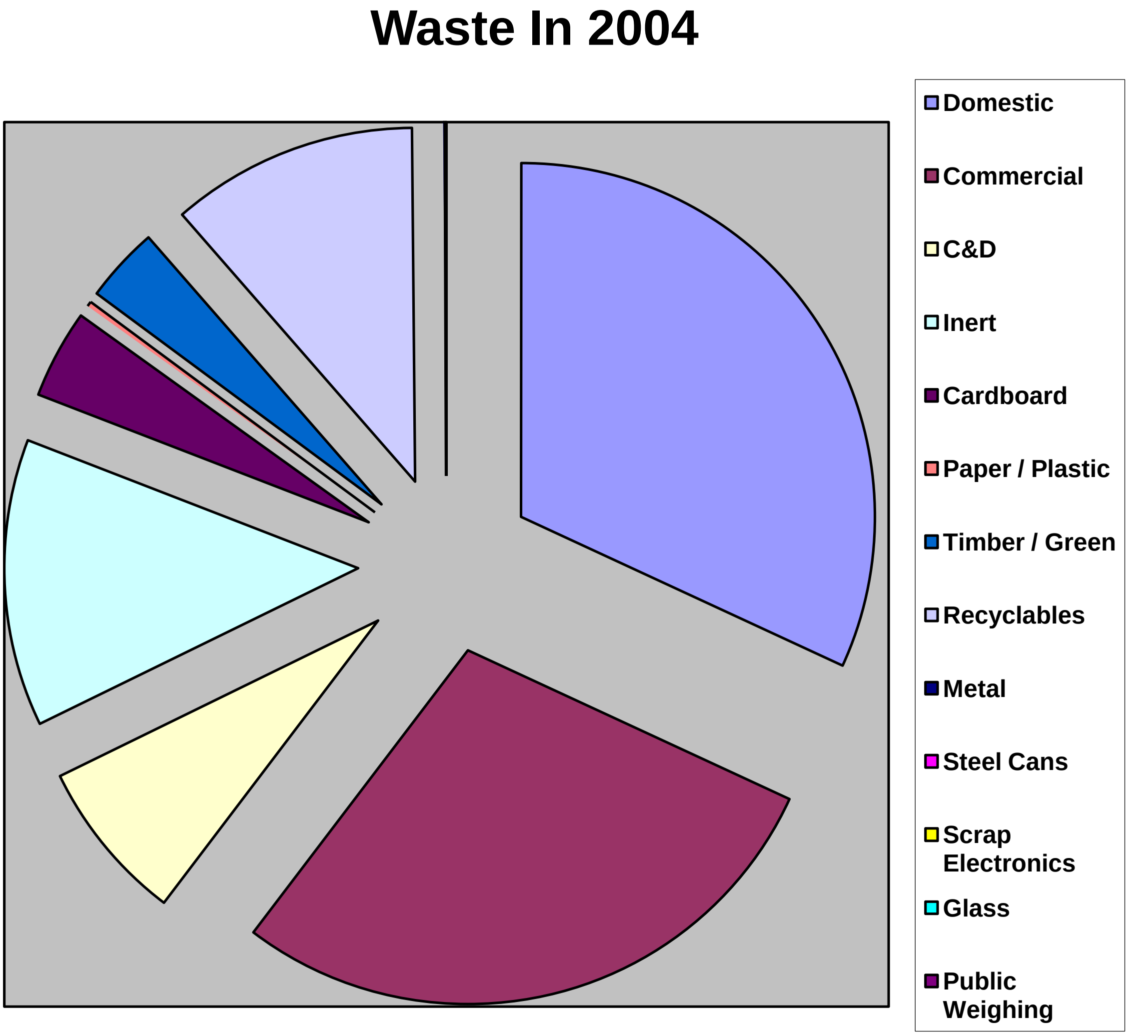


Figure 2.4.9:
Breakdown of Waste Received on site from 1st January – 31st December 2004

WASTE TYPE	WASTE IN (tonnes per annum)
Domestic	19,796.62
Commercial	17,691.68
C & D	4575.1
Inert	8115.82
Cardboard	2506.52
Paper / Plastic	143.74
Scrap Electronics	1.20
Timber / Green	2111.85
Mixed Kerbside Recyclables	6990.80
Metal	45.00
Steel Cans	5.23
Glass	15.76
Public Weighing	15.88
TOTAL	62,045.20

Table 2.4.10: Total Wastes Incoming 1st January 2004 – 31st December 2004

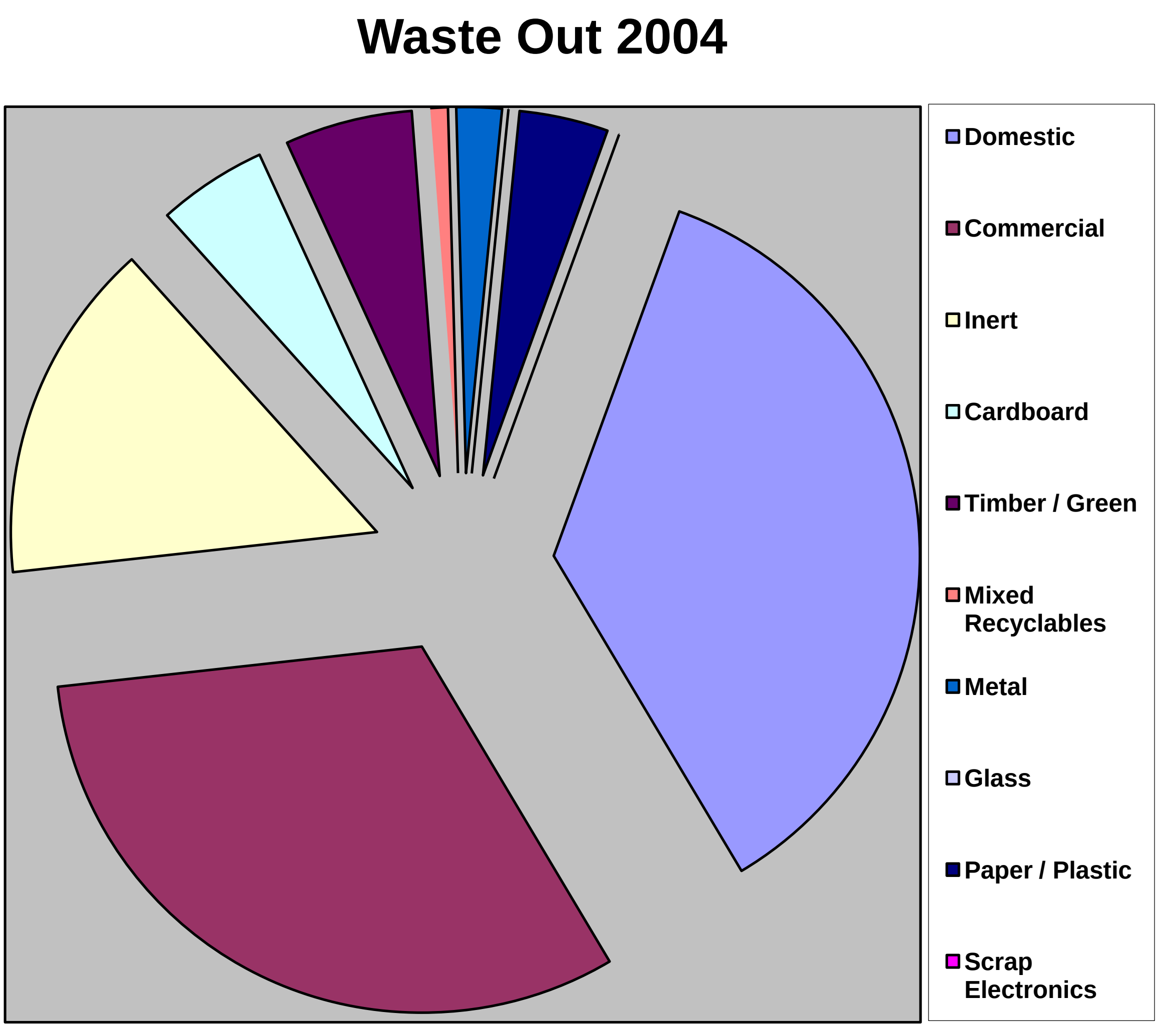


Figure 2.4.11:
Breakdown of Waste going off site for Recovery or Disposal from 1st January – 31st December 2003

WASTE TYPE	WASTE OUT (tonnes per annum)
Domestic	19,299.33
Commercial	17,114.50
Inert	8115.82
Cardboard	2591.73
Paper / Plastic	2113.6
Timber / Green	3028.51
Recyclables	416.23
Scrap Electronics	14.69
Glass	9.98
Metal	1085.37
TOTAL	53,789.76

Table 2.4.12: Total Wastes Outgoing 1st January 2003 – 31st December 2004

All outlets for the materials going out have been approved in advance by the EPA. Our outlets for the waste types above are listed below:

1) Metal goes to Galway Metal
2) Timber / Green waste goes to Finsa Forest Products or Weyerhaeuser Europe
3) Paper / Cardboard / Steel Cans / Aluminium / Plastic / Scrap plastic all goes to AWS (Alternative Waste Solutions)
4) Glass goes to Eclipse Recycling
5) Scrap Electronics go to Cara Environmental
6) Inert material goes into our permitted site within out facility
7) All Domestic and Commercial waste goes to the Poolboy landfill site in Ballinasloe
8) In addition to the above Barna Waste also have Batteries collected by Returnbatt and send tyres as required to Crumb Rubber or to Crossmore Transport

Barna Waste requests and keeps on file recycling certificates from all the companies that take material from the premises for recycling / disposal / recovery.

WASTE TYPE	RECYCLING (tonnes per annum)	% OF TOTAL RECYCLING
Inert	8115.82	46.73%
Cardboard	2591.73	14.9%
Timber / Green	3028.51	17.4%
Recyclables	416.23	2.4%
Paper / Plastic	2113.6	12.17%
Scrap Electronics	14.69	0.1%
Metal	1085.37	6.3%
TOTAL	**17,365.95**	**28% of total waste in was recycled for 2004**

Table 2.4.13: Recycling waste out details for 1st January 2004 – 31st December 2004

Waste In / Out Reports for 2005

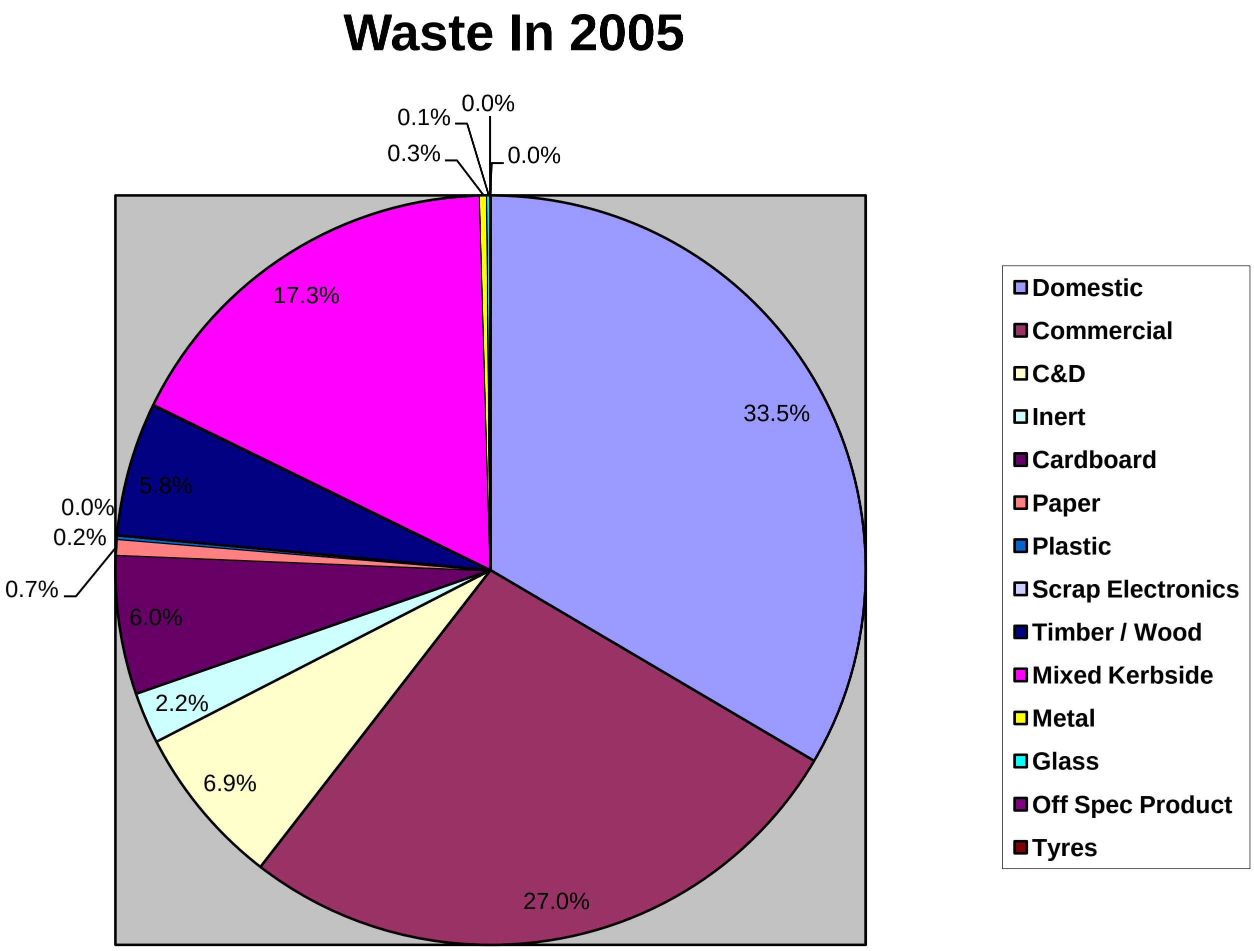


Figure 2.4.14:
Breakdown of Waste Received on site from 1st January 2005 – 31st December 2005

WASTE TYPE	WASTE IN (tonnes per annum)
EWC 200301 Domestic	22134.78
EWC 200100 Commercial	17874.97
EWC 170100 C & D	4594.86
EWC 200202 Inert	1463.6
EWC 200101 Cardboard	3962.02
EWC 200101 Paper	449.78
EWC 200103 Plastic	100.52
EWC 160201 Scrap Electronics	0.76
EWC 200138 Timber / Wood / Green	3808.28
EWC 150101 Mixed Kerbside Recyclables	11443.15
EWC 170407 Metal	205.12
EWC 170202 Glass	78.98
EWC 160304 Off Spec Product	1.17
EWC 160103 Tyres	12.95
TOTAL	66130.94

Table 2.4.15: Total Wastes Incoming 1st January 2005 – 31st December 2005

Waste Out 2005

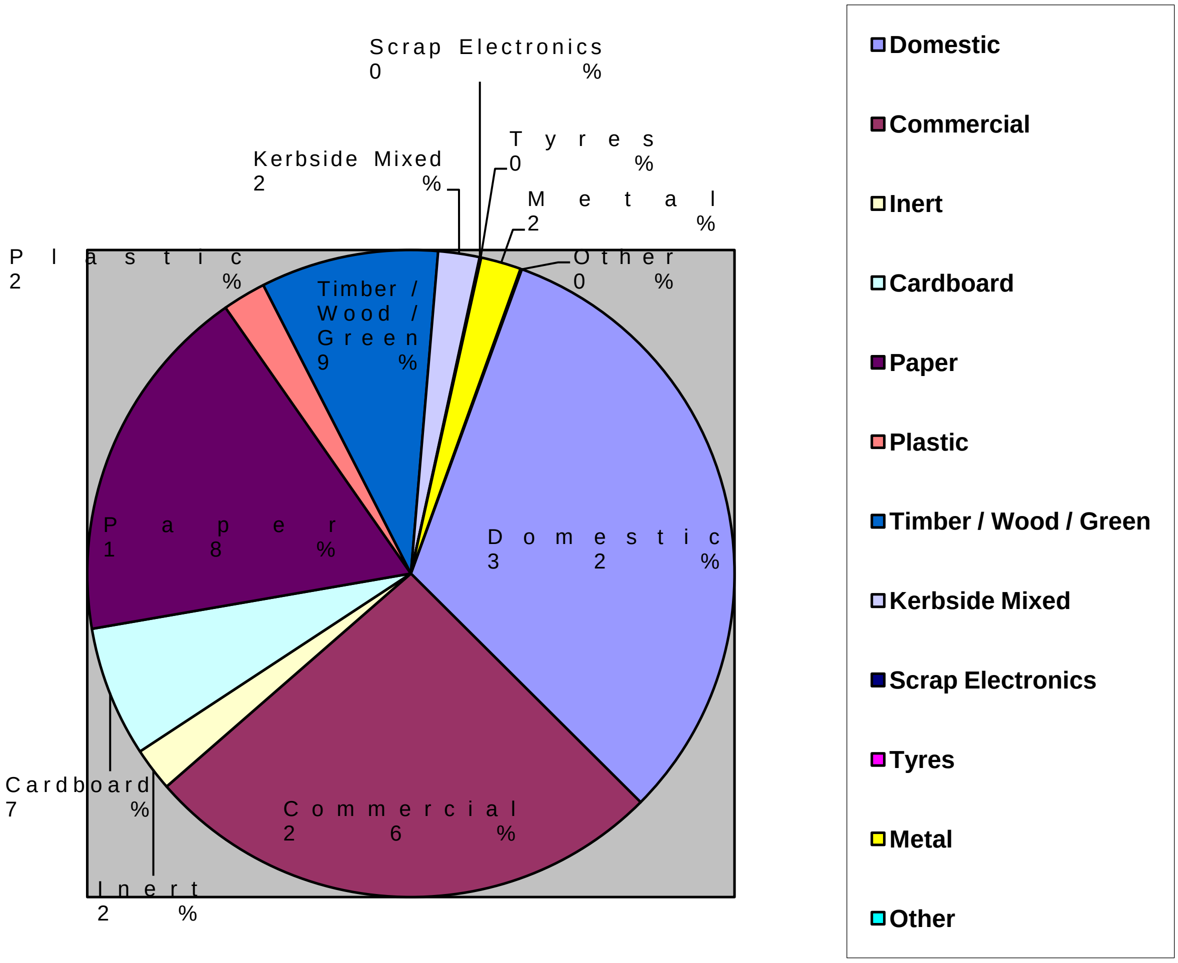


Figure 2.5.0:
Breakdown of Waste going off site for Recovery or Disposal from 1st January 2005 – 31st December 2005

WASTE TYPE	WASTE OUT (tonnes per annum)
EWC 200301 Domestic	21593.80
EWC 200100 Commercial	17667.66
EWC 200202 Inert	1463.6
EWC 200101 Cardboard	4408.69
EWC 200101 Paper	12221.53
EWC 200103 Plastic	1457.49
EWC 200138 Timber / Wood / Green	6003.09
EWC 150101 Recyclables	1391.82
EWC 160201 Scrap Electronics	14.96
EWC 160103 Tyres	40.32
EWC 170407 Metal	1366.35
Other	36.7
TOTAL	67666.01

Table 2.5.1: Total Wastes Outgoing 1st January 2005 – 31st December 200

2.5.2 Summary of Recycling Outlets used in 2005

Barna Waste are committed to finding new recycling markets in Ireland, Europe and Worldwide to ensure materials produced from the picking station and the other areas in our waste transfer station are sent to the best possible recycling outlets.

All outlets for the materials going out have been approved in advance by the EPA.

A summary of the recycling outlets used for 2005 is included below:

1) Metal products are sent to S.Norton Metal Merchants in Liverpool. Alternative outlets include Midland Scrap Metal (Portlaoise) and Galway Metal.
2) Timber / Wood / Green waste goes to Finsa Forest Products or Weyerhaeuser Europe
3) Paper / Cardboard / Steel Cans / Aluminium / Plastic (various grades) all go via AWS (Alternative Waste Solutions) for recycling
4) Paper / Cardboard are also sent to CWS (Complete Waste Solutions) for recycling
5) Paper / Cardboard are also sent to Highlander International Recycling for recycling
6) Paper / Cardboard are also sent to Parry & Evans for recycling
7) Scrap Electronics go to Cara Environmental
8) Inert material goes into our permitted site within out facility
9) Tyres are sent to Crossmore Transport in Limerick for recycling
10) All non recoverable waste goes to the Poolboy Landfill Site in Ballinasloe

Barna Waste requests and keeps on file recycling certificates from all the companies that take material from the premises for recycling / disposal / recovery.

WASTE TYPE	RECYCLING (tonnes per annum)	% OF TOTAL RECYCLING
EWC 200202 Inert	1463.6	5%
EWC 200101 Cardboard	4408.69	15%
EWC 200101 Paper	12221.53	43%
EWC 200103 Plastic	1457.49	5%
EWC 200138 Timber / Wood / Green	6003.09	21%
EWC 150101 Recyclables	1391.82	5%
EWC 160201 Scrap Electronics	14.96	Less than 1%
EWC 160103 Tyres	40.32	Less than 1%
EWC 170407 Metal	1366.35	5%
Other	36.7	Less than 1%
TOTAL	**28404.55**	**43% of total waste in was recycled for 2005**

Table 2.5.3: Breakdown of recycling waste out details for 1st January – 31st December 2005

Waste In / Out Reports for 2006

WASTE IN

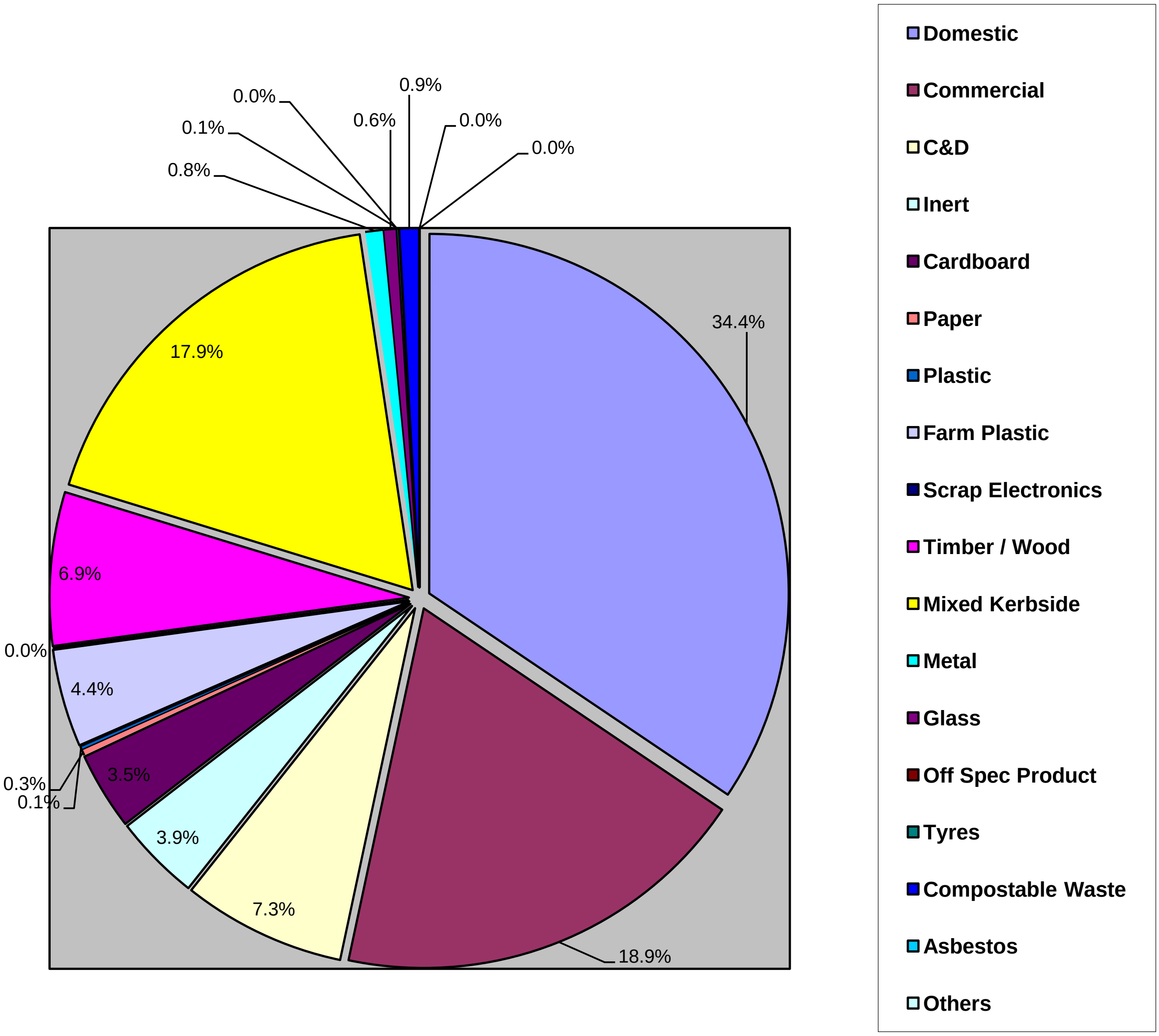


Figure 2.6.0:
Breakdown of Waste Received on site from 1st January 2006 – 31st December 2006

WASTE TYPE	WASTE IN (tonnes per annum)
EWC 200301 Domestic	29328.22
EWC 200100 Commercial	16095.29
EWC 170100 C & D	6234.14
EWC 200202 Inert	3295.65
EWC 200101 Cardboard	2980.02
EWC 200101 Paper	239.55
EWC 200103 Plastic	121.71
EWC 200104 Farm Plastic	3729.12
EWC 160201 Scrap Electronics	6.89
EWC 200138 Timber / Wood / Green	5862.05
EWC 150101 Mixed Kerbside Recyclables	15244.71
EWC 170407 Metal	698.92
EWC 170202 Glass	470.45
EWC 160304 Off Spec Product	15.28
EWC 200108 Food Waste *EWC 200201 Garden & Park Waste* *EWC 200304 Sludge* *Compostable materials*	753.51
EWC 160103 Tyres	59.78
EWC 170605 Asbestos	3.10
Others (Public weighing)	8.45
TOTAL	**85146.84**

Table 2.6.1: Total Wastes Incoming 1st January 2006 – 31st December 2006

Waste Out 2006

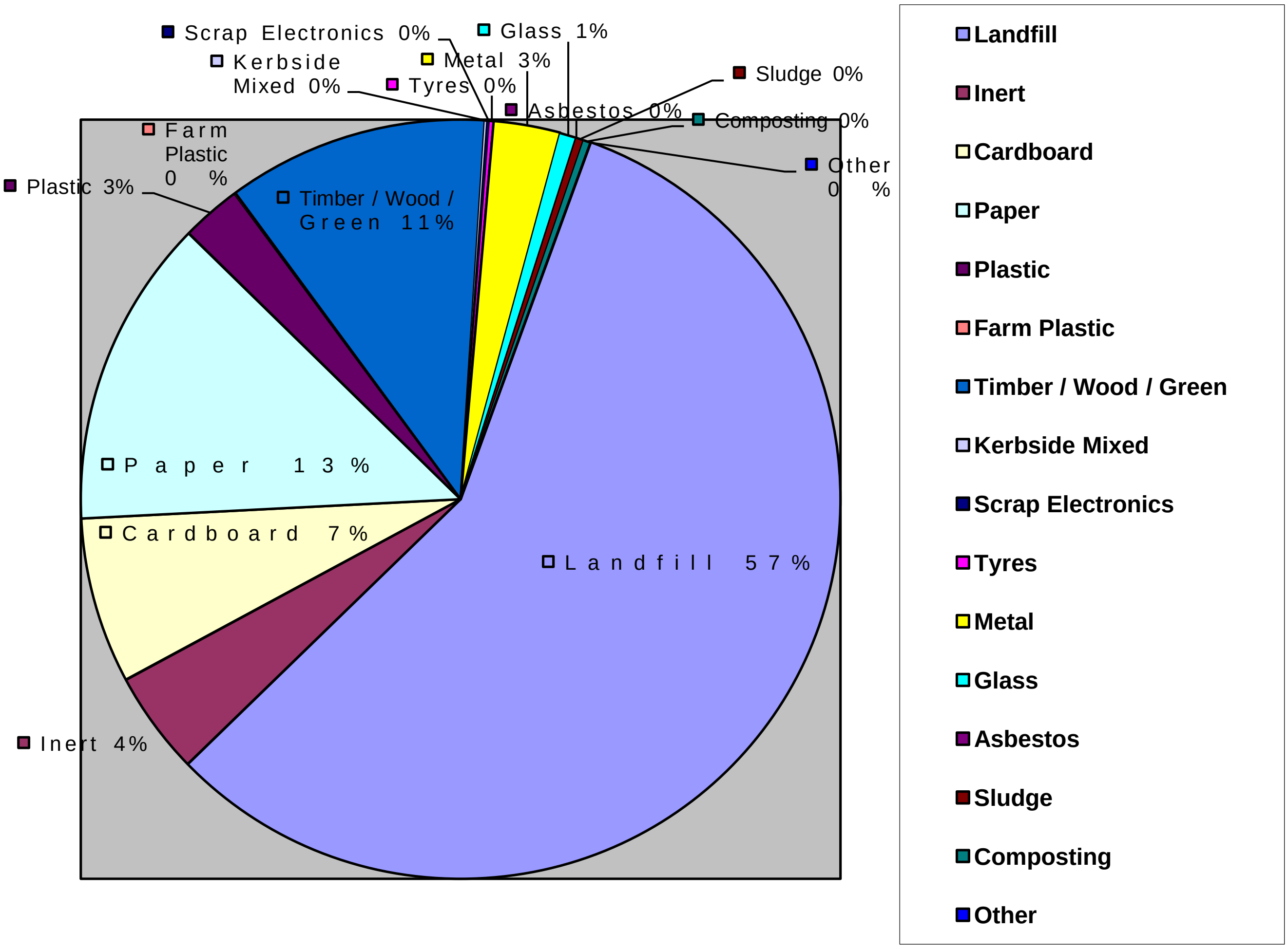


Figure 2.6.2: Breakdown of Waste going off site for Recovery or Disposal from 1st January 2006 – 31st December 2006

WASTE TYPE	WASTE OUT (tonnes per annum)
EWC 191212 Mechanically treated mixed waste for landfill (Commercial / Domestic)	45754.84
EWC 200202 Inert	3518.12
EWC 200101 Cardboard	5660.60
EWC 200101 Paper	10516.62
EWC 200103 Plastic	2023.17
EWC 200104 Farm Plastic	47.12
EWC 200138 Timber / Wood / Green	8875.78
EWC 150101 Recyclables	90.35
EWC 160201 Scrap Electronics	78.44
EWC 160103 Tyres	130.64
EWC 170407 Metal	2267.10
EWC 200102 Glass	559.56
EWC 170605 Asbestos	9.04
EWC 200304 Sludge	258.74
EWC200108 Composting	240.89
Others	1.62
TOTAL	**80,032.63**

Table 2.6.3: Total Wastes Outgoing 1st January 2006 – 31st December 2006

Breakdown of the recycling elements for 2006:

WASTE TYPE	RECYCLING (tonnes per annum)	% OF TOTAL RECYCLING
EWC 200202 Inert	3518.12	10%
EWC 200101 Cardboard	5660.60	17%
EWC 200101 Paper	10516.62	31%
EWC 200103 Plastic	2023.17	6%
EWC 200138 Timber / Wood / Green	8875.78	26%
EWC 150101 Recyclables	90.35	Less than 1%
EWC 160201 Scrap Electronics	78.44	Less than 1%
EWC 160103 Tyres	130.64	Less than 1%
EWC 170407 Metal	2267.10	7%
EWC200108 Composting	240.89	Less than 1%
EWC 200102 Glass	559.56	2%
EWC 200104 Farm Plastic	47.12	Less than 1%
TOTAL	**34008.39 tonnes**	**40% of total waste in was recycled for 2006**

Table 2.6.4: Breakdown of recycling waste out details for 1st January – 31st December 2006

Waste In / Out Reports for 2007

WASTE IN

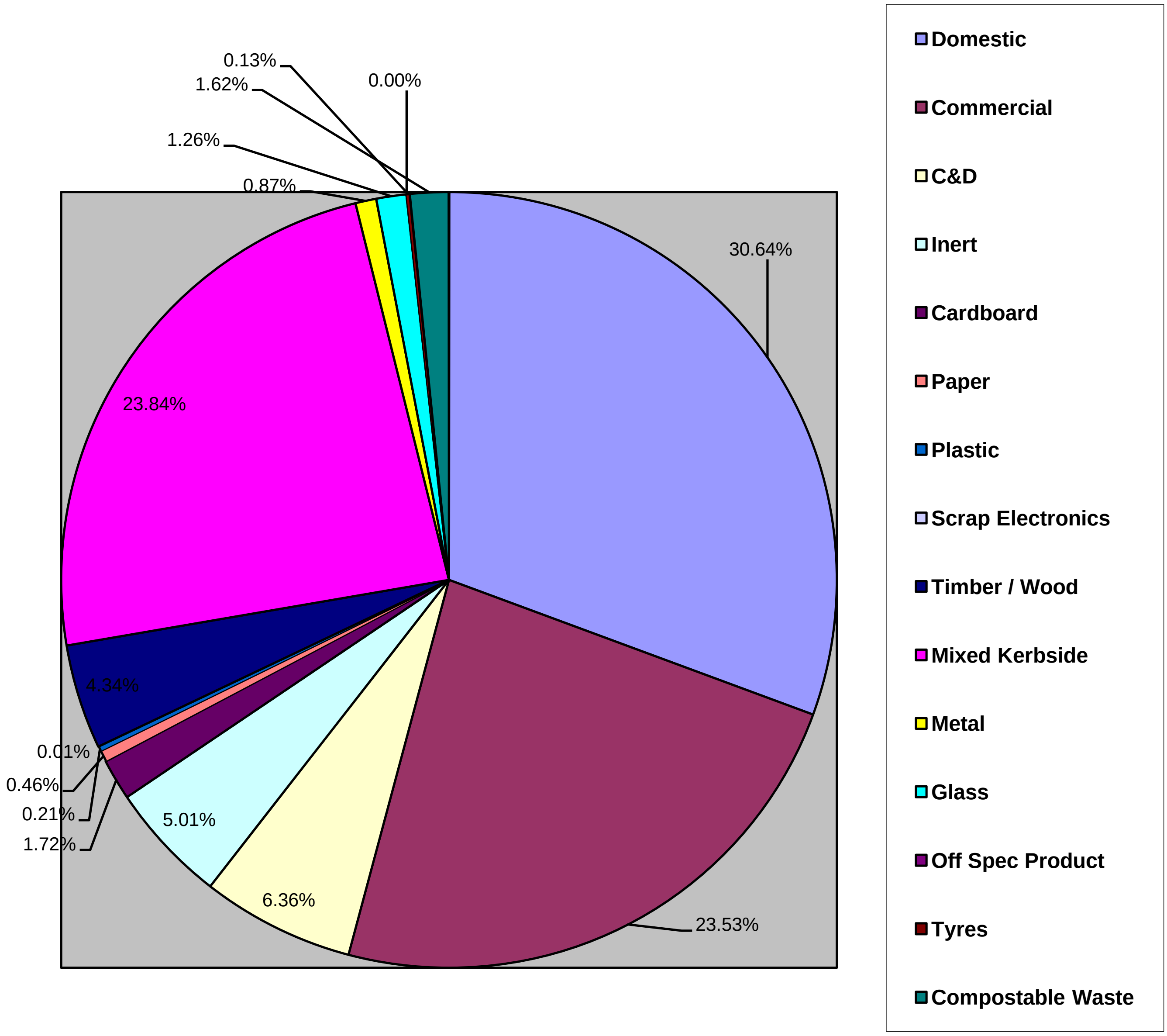


Figure 2.7.0:
Breakdown of Waste Received on site from 1st January 2007 – 31st December 2007

Waste in for 2007: Table of quantities by waste type

WASTE TYPE	WASTE IN (tonnes per annum)
EWC 200301 Domestic	28840.92
EWC 200100 Commercial	22150.64
EWC 170100 C & D	5988.48
EWC 200202 Inert	4720.19
EWC 200101 Cardboard	1621.48
EWC 200101 Paper	436.96
EWC 200103 Plastic	193.75
EWC 160201 Scrap Electronics	5.46
EWC 200138 Timber / Wood / Green	4082.74
EWC 150101 Mixed Kerbside Recyclables	22440.51
EWC 170407 Metal	817.07
EWC 170202 Glass	1181.63
EWC 160304 Off Spec Product	4.60
EWC 200108 Food Waste ***EWC 200201 Garden & Park Waste*** ***EWC 200304 Sludge*** ***Compostable materials***	1525.88
EWC 160103 Tyres	120.96
TOTAL	**94,131.27**

Table 2.7.1: Total Wastes Incoming 1st January 2007 – 31st December 2007

Waste Out 2007

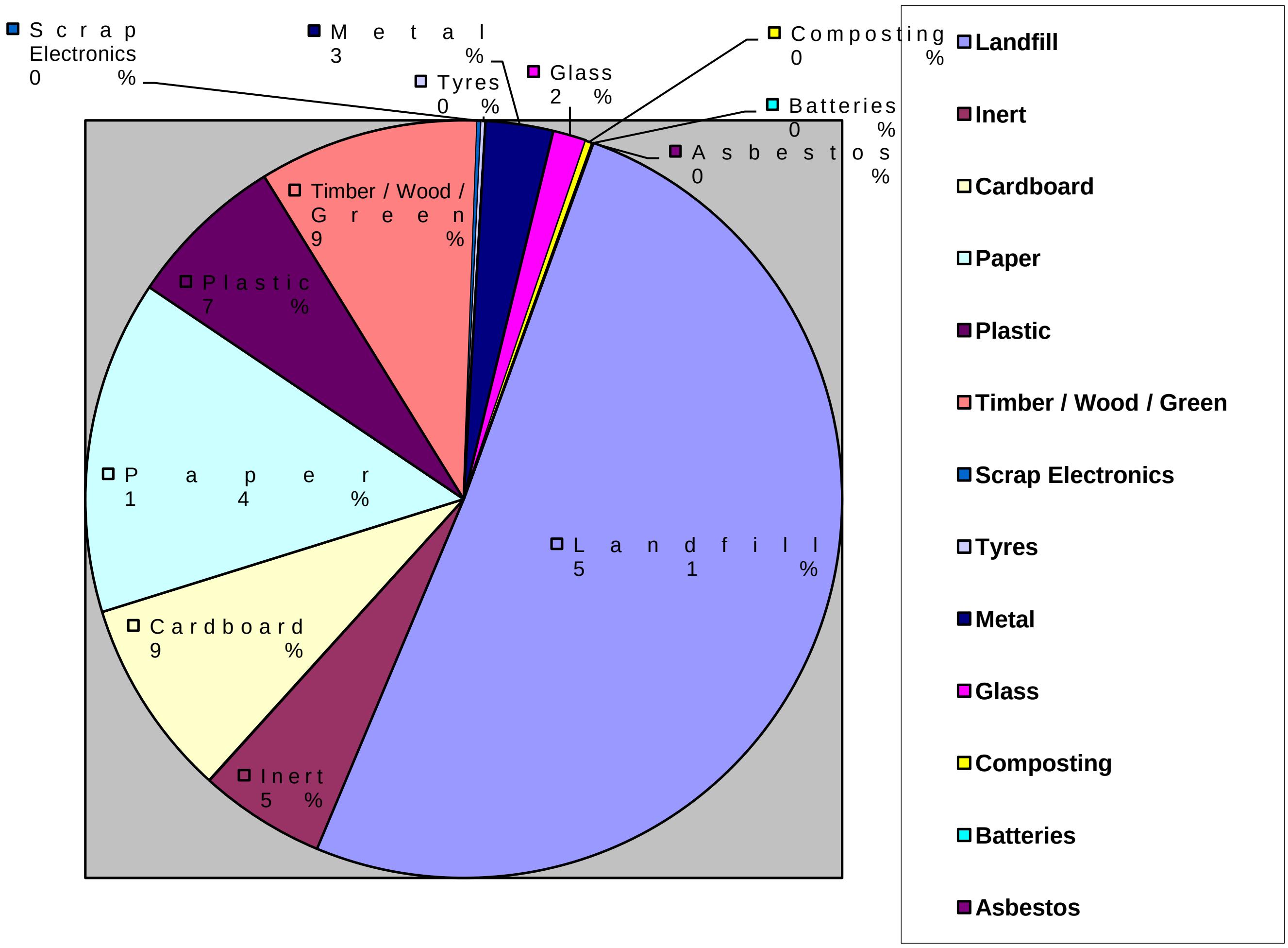


Figure 2.7.2: Breakdown of Waste going off site for Recovery or Disposal from 1st January 2007 – 31st December 2007

Waste out for 2007: Table of quantities by waste type

WASTE TYPE	WASTE OUT (tonnes per annum)
EWC 191212 Mechanically treated mixed waste for landfill (Commercial / Domestic)	44558.56
EWC 200202 Inert	4720.19
EWC 200101 Cardboard	7431.38
EWC 200101 Paper	12512.83
EWC 200103 Plastic	5927.02
EWC 200138 Timber / Wood / Green	8230.50
EWC 160201 Scrap Electronics	154.38
EWC 160103 Tyres	151.76
EWC 170407 Metal	2534.82
EWC 200102 Glass	1253.18
EWC 160601 Batteries	33.34
EWC 170605 Asbestos	3.38
EWC200108 or EWC 200304 Compostable Material	1443.65
TOTAL	**88954.99**

Table 2.7.3: Total Wastes Outgoing 1st January 2007 – 31st December 2007

The following table shows the % breakdown of the recyclable materials sent off site for recovery / recycling during 2007:

WASTE TYPE (Recyclable materials only)	RECYCLING (tonnes per annum)	% OF TOTAL RECYCLING
EWC 200202 Inert	4720.19	10%
EWC 200101 Cardboard	7431.38	17%
EWC 200101 Paper	12512.83	28%
EWC 200103 Plastic	5927.02	13%
EWC 200138 Timber / Wood / Green	8230.50	19%
EWC 160201 Scrap Electronics	154.38	Less than 1%
EWC 160103 Tyres	151.76	Less than 1%
EWC 170407 Metal	2534.82	6%
EWC 200102 Glass	1253.18	3%
EWC 160601 Batteries	33.34	Less than 1%
EWC200108 or EWC 200304 Compostable Material	1443.65	3%
TOTAL	**44,393.05**	**47% of total waste in was recycled for 2007**

Table 2.7.4: Breakdown of recycling waste out details for 1st January 2007 – 31st December 2007

Waste In / Out Reports for 2008

WASTE IN (2008)

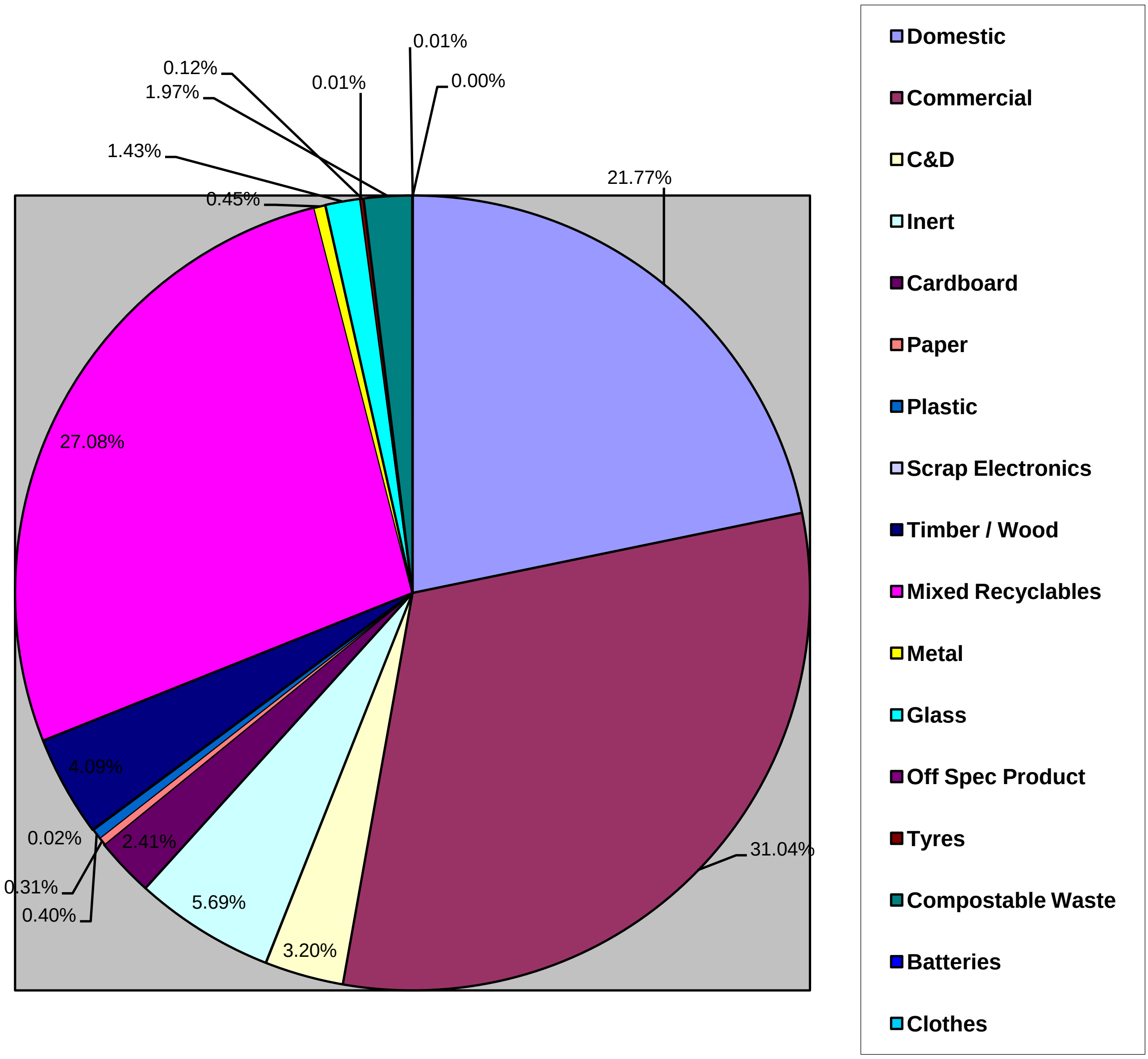


Figure 2.8.0:
Breakdown of Waste Received on site from 1st January 2008 – 31st December 2008

Waste in for 2008: Table of quantities by waste type

WASTE TYPE	WASTE IN (tonnes per annum)
EWC 200301 Domestic	18539.17
EWC 200100 Commercial	26433.11
EWC 170100 C & D	2729.37
EWC 200202 Inert	4846.37
EWC 200101 Cardboard	2055.49
EWC 200101 Paper	267.90
EWC 200103 Plastic	344.76
EWC 160201 Scrap Electronics	16.00
EWC 200138 Timber / Wood / Green	3481.57
EWC 150101 Mixed Kerbside Recyclables	23064.37
EWC 170407 Metal	382.35
EWC 170202 Glass	1216.29
EWC 160304 Off Spec Product	2.56
EWC 200108 Food Waste ***EWC 200201 Garden & Park Waste*** ***EWC 200304 Sludge*** ***Compostable materials***	1674.44
EWC 200110 Clothes	0.10
EWC 160601 Batteries	6.20
EWC 160103 Tyres	100.18
TOTAL	**85,160.23 TONNES**

Table 2.8.1: Total Wastes Incoming 1st January 2008 – 31st December 2008

Waste Out 2008

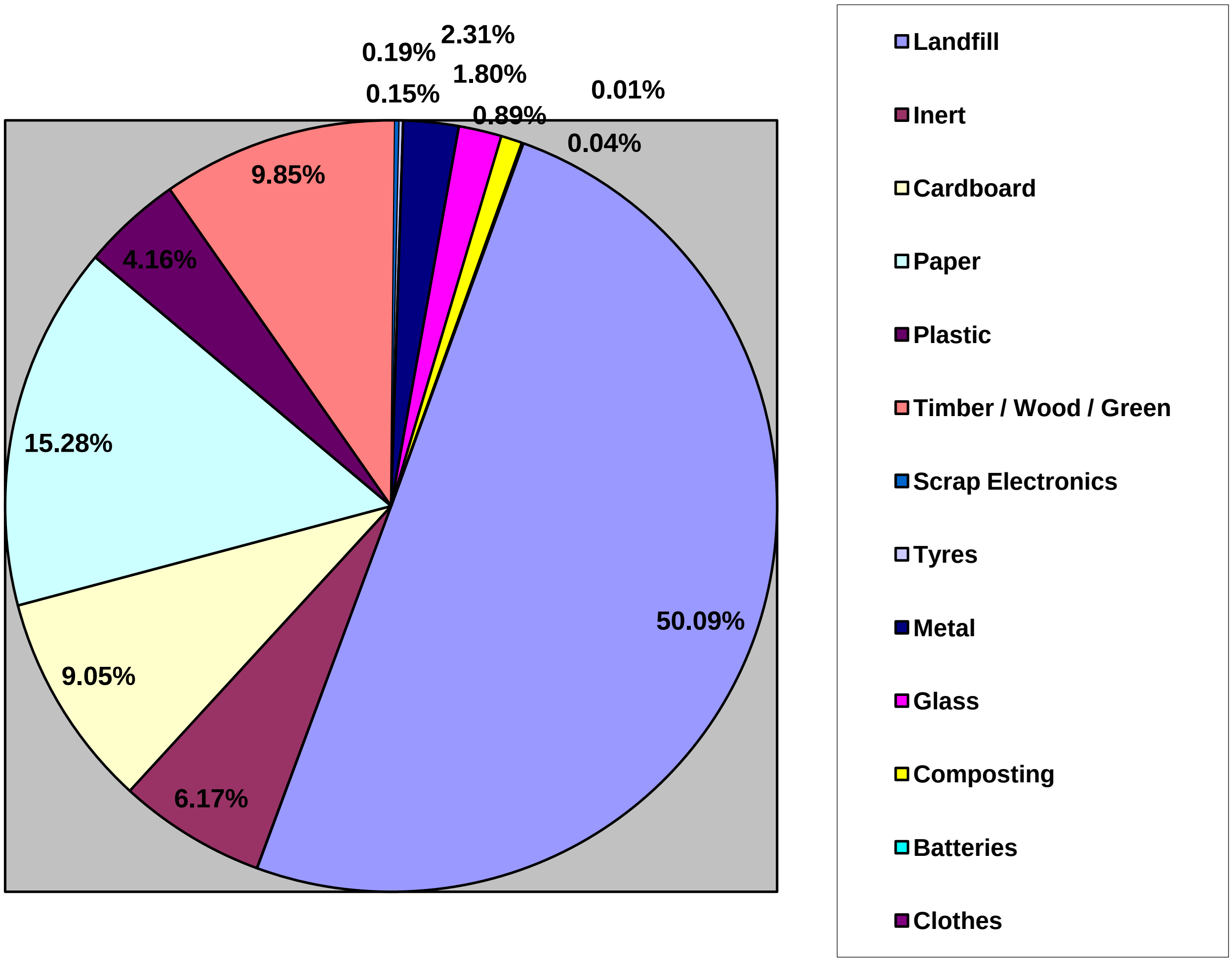


Figure 2.8.2: Breakdown of Waste going off site for Recovery or Disposal from 1st January 2008 – 31st December 2008

Waste out for 2008: Table of quantities by waste type

WASTE TYPE	WASTE OUT (tonnes per annum)
EWC 191212 Mechanically treated mixed waste for landfill (Commercial / Domestic)	39362.81
EWC 200202 Inert	4846.37
EWC 200101 Cardboard	7107.66
EWC 200101 Paper	12008.22
EWC 200103 Plastic	3272.20
EWC 200138 Timber / Wood / Green	7743.46
EWC 160201 Scrap Electronics	150.60
EWC 160103 Tyres	114.99
EWC 170407 Metal	1816.43
EWC 200102 Glass	1411.75
EWC 160601 Batteries	10.82
EWC 200110 Clothes	35.26
EWC 170802 Gypsum / Plasterboard	264.70
EWC200108 or EWC 200304 Compostable Material	699.78
TOTAL	**78845.05**

Table 2.8.3: Total Wastes Outgoing 1st January 2008 – 31st December 2008

The following table shows the % breakdown of the recyclable materials sent off site for recovery / recycling during 2008:

WASTE TYPE (Recyclable materials only)	RECYCLING (tonnes per annum)	% OF TOTAL RECYCLING
EWC 200202 Inert	4846.37	12%
EWC 200101 Cardboard	7107.66	18%
EWC 200101 Paper	12008.22	30%
EWC 200103 Plastic	3272.20	8%
EWC 200138 Timber / Wood / Green	7743.46	20%
EWC 160201 Scrap Electronics	150.60	Less than 1%
EWC 160103 Tyres	114.99	Less than 1%
EWC 170407 Metal	1816.43	5%
EWC 200102 Glass	1411.75	4%
EWC 160601 Batteries	10.82	Less than 1%
EWC 200110 Clothes	35.26	Less than 1%
EWC 170802 Gypsum / Plasterboard	264.70	Less than 1%
EWC200108 or EWC 200304 Compostable Material	699.78	2%
TOTAL	**39,482.24**	**46% of total waste in was recycled for 2008**

Table 2.8.4: Breakdown of recycling waste out details for 1st January 2008 – 31st December 2008

Waste In / Out Reports for 2009

WASTE IN (2009)

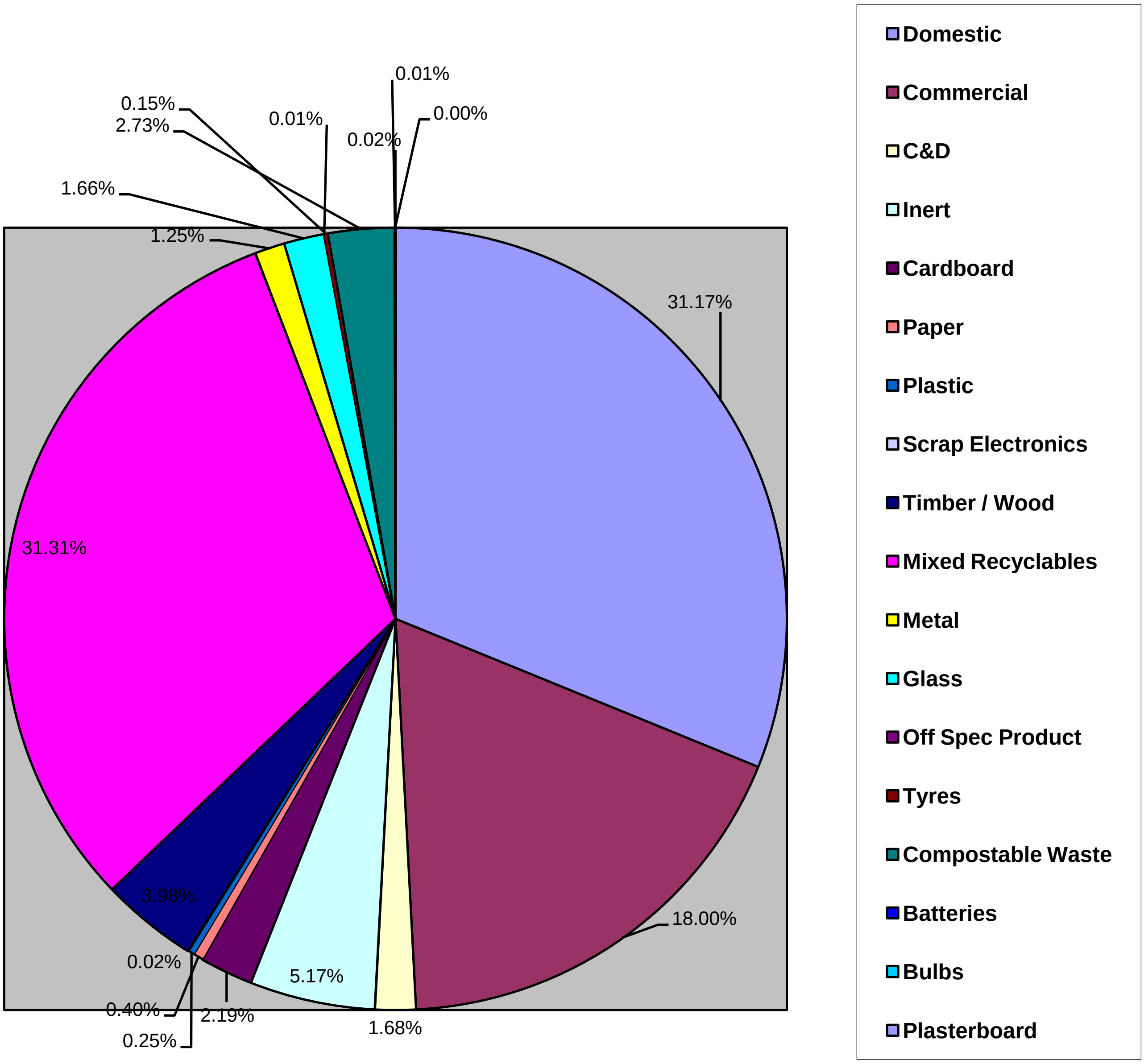


Figure 2.9.0:
Breakdown of Waste Received on site from 1st January 2009 – 31st December 2009

Waste in for 2009: Table of quantities by waste type

WASTE TYPE	WASTE IN (tonnes per annum)
EWC 200301 Domestic	22356.82
EWC 200100 Commercial	12905.46
EWC 170100 C & D	1202.76
EWC 200202 Inert	3708.53
EWC 200101 Cardboard	1570.58
EWC 200101 Paper	289.72
EWC 200103 Plastic	180.09
EWC 160201 Scrap Electronics	14.88
EWC 200138 Timber / Wood / Green	2852.59
EWC 150101 Mixed Kerbside Recyclables	22451.12
EWC 170407 Metal	893.56
EWC 170202 Glass	1189.34
EWC 160304 Off Spec Product	6.70
EWC 200108 Food Waste ***EWC 200201 Garden & Park Waste*** ***EWC 200304 Sludge*** ***Compostable materials***	1960.91
EWC 170802 Plasterboard / Gypsum	16.14
EWC 160601 Batteries	5.52
EWC 200121 Fluorescent Tubes	0.1
EWC 160103 Tyres	110.12
TOTAL	**71,714.94 TONNES**

Table 2.9.1: Total Wastes Incoming 1st January 2009 – 31st December 2009

Waste Out 2009

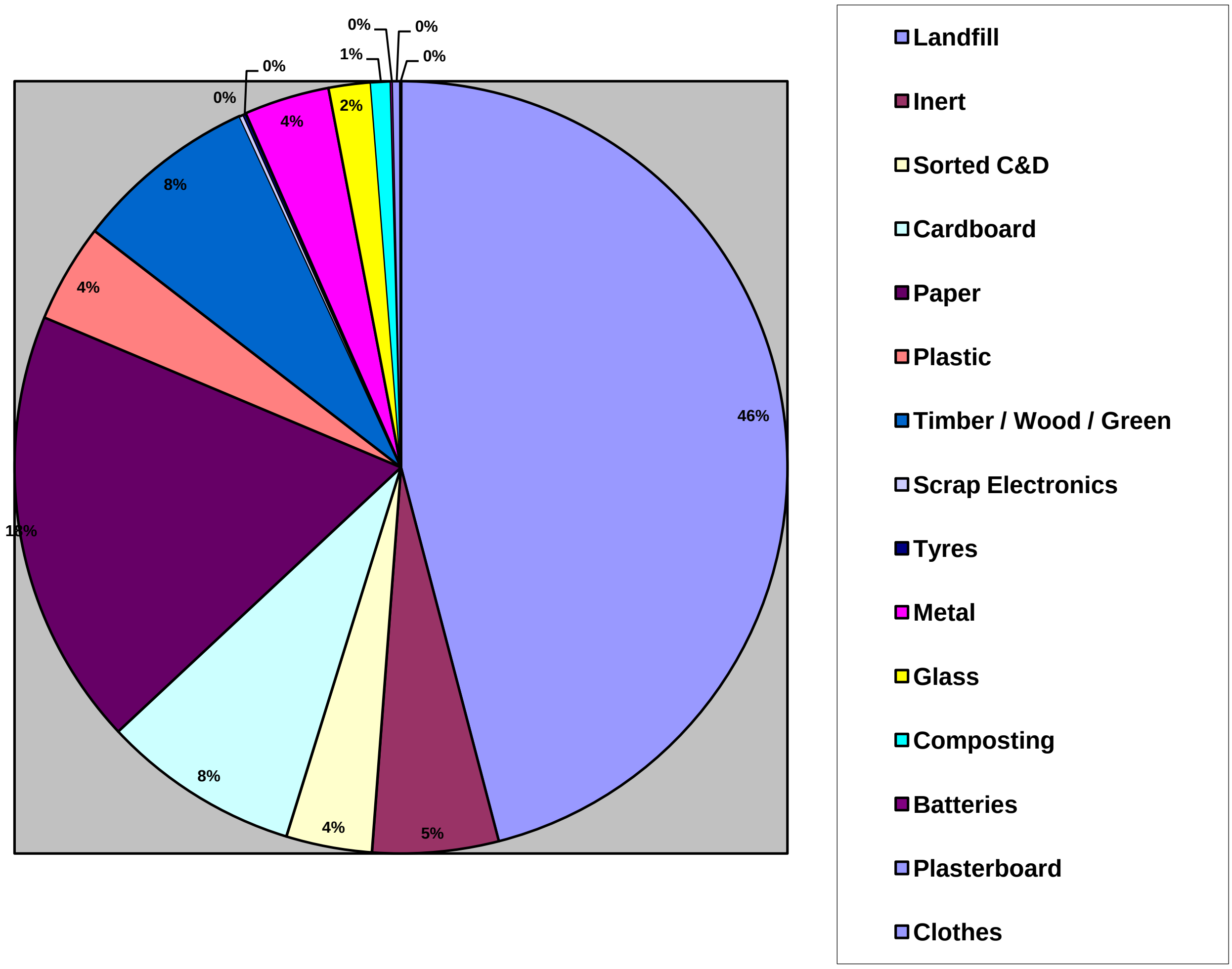


Figure 2.9.2: Breakdown of Waste going off site for Recovery or Disposal from 1st January 2009 – 31st December 2009

Waste out for 2009: Table of quantities by waste type

WASTE TYPE	WASTE OUT (tonnes per annum)
EWC 191212 Mechanically treated mixed waste for landfill (Commercial / Domestic)	32188.23
EWC 200202 Inert	6232.78
EWC 200101 Cardboard	5783.24
EWC 200101 Paper	12849.64
EWC 200103 Plastic	2906.97
EWC 200138 Timber / Wood / Green	5385.64
EWC 160201 Scrap Electronics	121.48
EWC 160103 Tyres	78.14
EWC 170407 Metal	2503.62
EWC 200102 Glass	1245.48
EWC 160601 Batteries	62.82
EWC 200110 Clothes	20.84
EWC 170802 Gypsum / Plasterboard	213.04
EWC200108 or EWC 200304 Compostable Material	575.88
TOTAL	**70167.80 tonnes**

Table 2.9.3: Total Wastes Outgoing 1st January 2009 – 31st December 2009

The following table shows the % breakdown of the recyclable materials sent off site for recovery / recycling during 2009:

WASTE TYPE (Recyclable materials only)	RECYCLING (tonnes per annum)	% OF TOTAL RECYCLING
EWC 200202 Inert	6232.78	16%
EWC 200101 Cardboard	5783.24	15%
EWC 200101 Paper	12849.64	34%
EWC 200103 Plastic	2906.97	8%
EWC 200138 Timber / Wood / Green	5385.64	14%
EWC 160201 Scrap Electronics	121.48	Less than 1%
EWC 160103 Tyres	78.14	Less than 1%
EWC 170407 Metal	2496.44	7%
EWC 200102 Glass	1245.48	3%
EWC 160601 Batteries	62.82	Less than 1%
EWC 200110 Clothes	20.84	Less than 1%
EWC 170802 Gypsum / Plasterboard	213.04	Less than 1%
EWC200108 or EWC 200304 Compostable Material	575.88	2%
TOTAL	**37,972.39**	**53% of total waste in was recycled for 2009**

Table 2.9.4: Breakdown of recycling waste out details for 1st January 2009 – 31st December 2009

Waste In / Out Reports for 2010 (New / Current Reporting Period)

WASTE IN (2010)

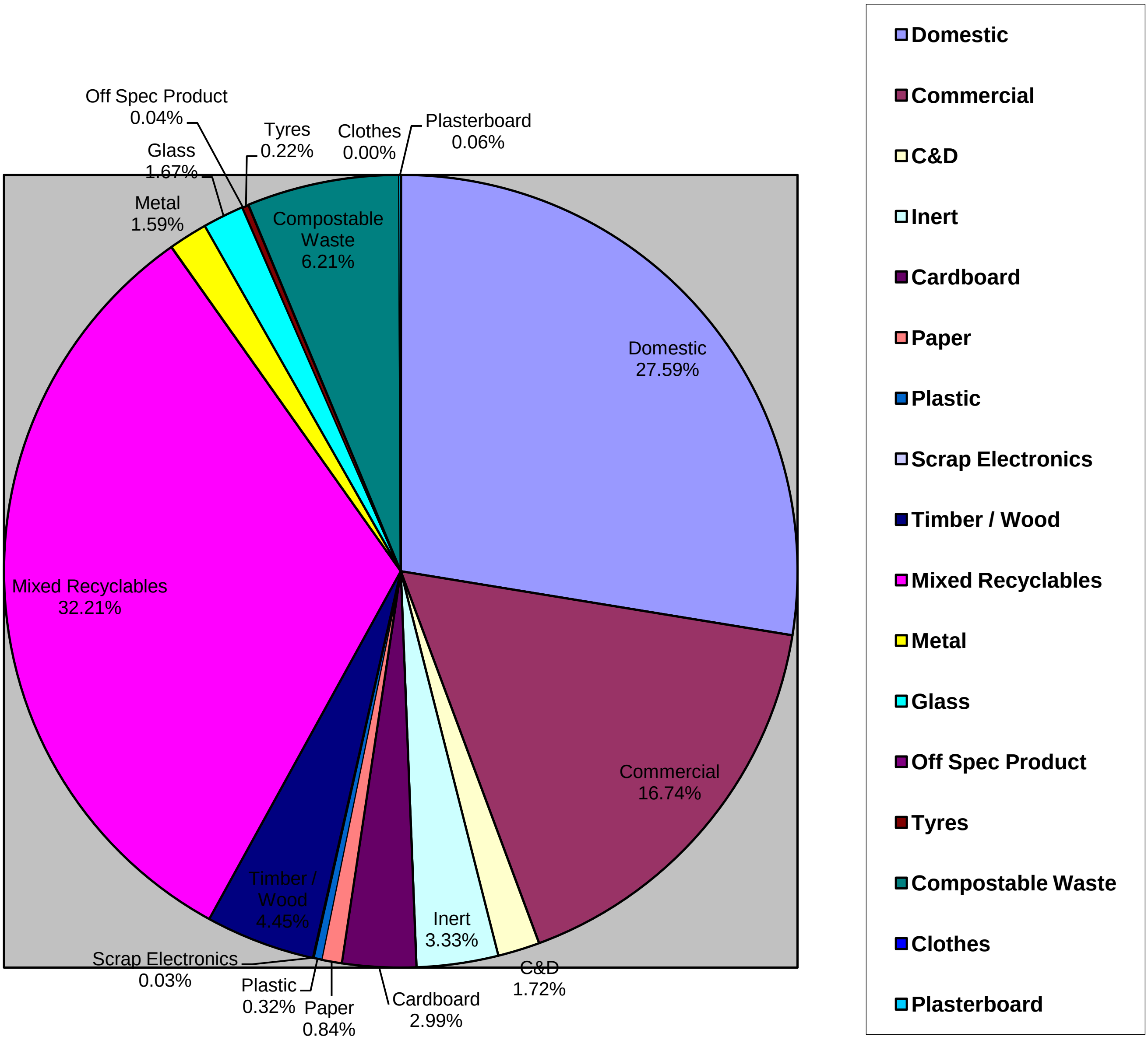


Figure 2.10.0:
Breakdown of Waste Received on site from 1st January 2010 – 31st December 2010

Waste in for 2010: Table of quantities by waste type

WASTE TYPE	WASTE IN (tonnes per annum)
EWC 200301 Domestic	19,140.78
EWC 200301 Commercial	11,609.68
EWC 170904 Mixed C & D	1,191.54
EWC 170107 Inert	2,310.09
EWC 150101 Cardboard	2,076.90
EWC 200101 Paper	580.54
EWC 200103 Plastic	220.34
EWC 160201 Scrap Electronics	19.98
EWC 200138 Timber / Wood / Green	3083.83
EWC 200199 Mixed Kerbside Recyclables	22342.70
EWC 170407 Metal	1101.82
EWC 200102 Glass	1160.39
EWC 160304 Off Spec Product	24.66
EWC 200108 Food Waste **EWC 200201 Garden & Park Waste** **EWC 200304 Sludge** **Compostable materials**	4,309.15
EWC 170802 Plasterboard / Gypsum	42.42
EWC 160103 Tyres	152.54
EWC 200110 Clothes	0.28
TOTAL	**69,367.64 TONNES**

Table 2.10.1: Total Wastes Incoming 1st January 2010 – 31st December 2010

Waste Out 2010

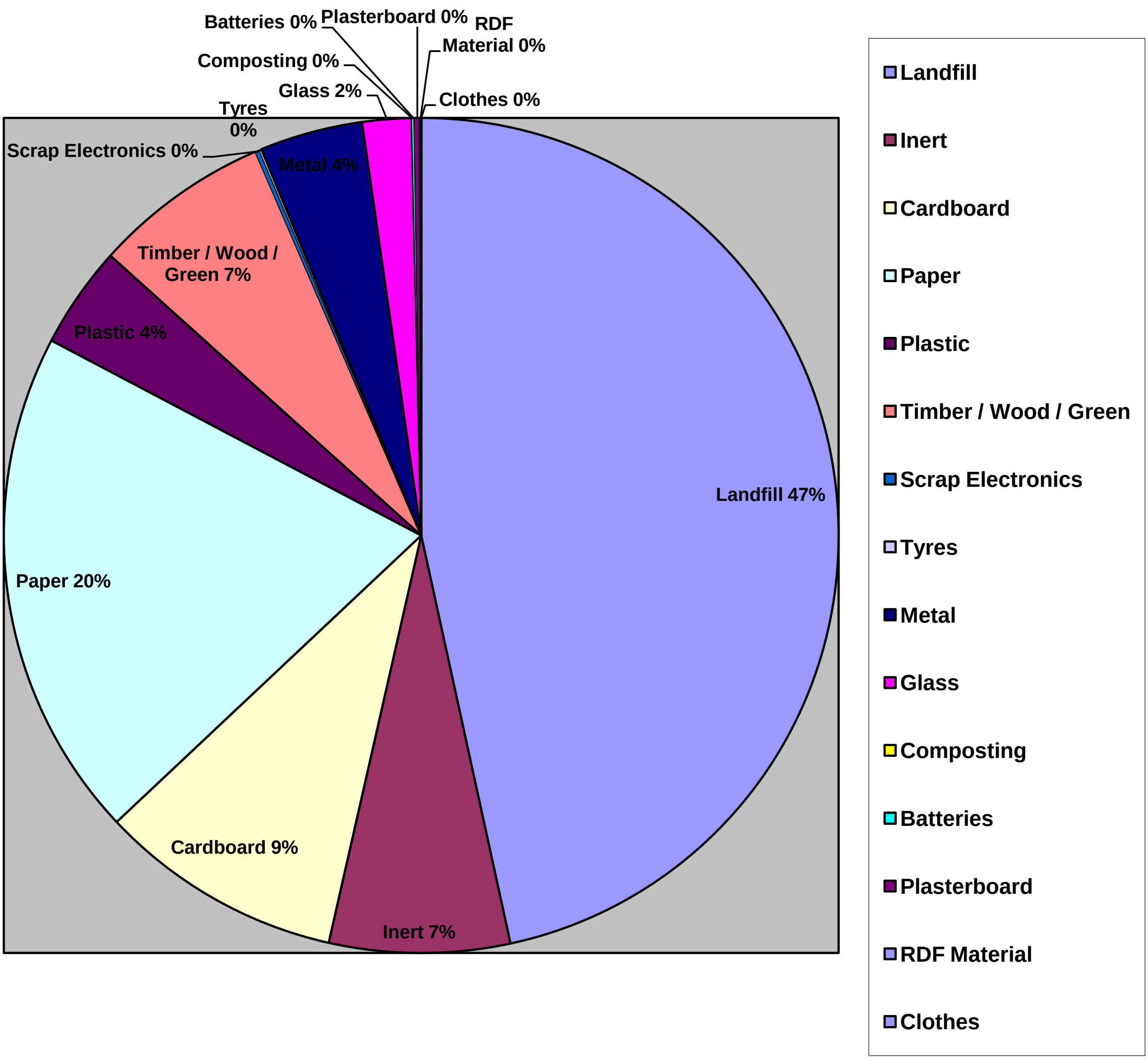


Figure 2.10.2: Breakdown of Waste going off site for Recovery or Disposal from 1st January 2010 – 31st December 2010

Waste out for 2010:   Table of quantities by waste type:-

WASTE TYPE	WASTE OUT (tonnes per annum)
EWC 191212 Mechanically treated mixed waste for landfill	28,115.82
EWC 200202 Inert	4,227.79
EWC 191201 Cardboard	5,692.87
EWC 191201 Paper	11,916.14
EWC 191204 Plastic	2,382.34
EWC 191207 Timber / Wood / Green	4,131.03
EWC 160201 Scrap Electronics	100.92
EWC 160103 Tyres	51.78
EWC 191203 Metal	2402.76
EWC 191205 Glass	1145.88
EWC 160601 Batteries	56.36
EWC 191208 Clothes	8.18
EWC 170802 Gypsum / Plasterboard	122.44
EWC 200108 or EWC 200304 Compostable Material	7.50
EWC 191210 Refuse Derived Fuel	25.34
TOTAL	**60,387.15 TONNES**

Table 2.10.3: Total Wastes Outgoing 1st January 2010 – 31st December 2010

RECYCLING SUMMARY FOR 2010

The following table shows the % breakdown of the recyclable materials sent off site for recovery / recycling during 2010. This table only shows the RECYCLABLE / RECOVERABLE material types and lists the total tonnage recycled during 2010 and the % split that each waste type provides towards the total recycling figure:-

WASTE TYPE (Recyclable materials only)	RECYCLING (tonnes per annum)	% OF TOTAL RECYCLING
EWC 200202 Inert	4,227.79	13%
EWC 191201 Cardboard	5,692.87	18%
EWC 191201 Paper	11,592.04	36%
EWC 191204 Plastic	2,706.44	8%
EWC 191207 Timber / Wood / Green	4,131.03	13%
EWC 160201 Scrap Electronics	100.92	Less than 1%
EWC 160103 Tyres	51.78	Less than 1%
EWC 191203 Metal	2,402.76	7%
EWC 191205 Glass	1,145.88	4%
EWC 160601 Batteries	56.36	Less than 1%
EWC 191208 Clothes	8.18	Less than 1%
EWC 170802 Gypsum / Plasterboard	122.44	Less than 1%
EWC 200108 or EWC 200304 Compostable Material	7.50	Less than 1%
EWC 191210 Refuse Derived Fuel	25.34	Less than 1%
TOTAL	**32,271.33**	**47% of total waste in was recycled for 2010**

Table 2.10.4: Breakdown of recycling waste out for 1st January 2010 – 31st December 2010

Explanation of Tonnage on Site at the end of 2010

As can be seen from the waste in and out records outlined above the following are the annual totals for the Barna Waste site in Carrowbrowne:-

Total Waste In:-	69,367.64 tonnes
Total Waste Out:-	60,387.15 tonnes

This gives a balance of 8980.49 tonnes which must be explained.

A stock take was carried out at the end of 2010 and confirmed that with a combination of processed material awaiting shipment and unprocessed material on site we had a total stock quantity of 4120.00 tonnes at year end. This is not an exact figure however it is a very good estimate carried out by three members of the Management Team on 04/01/2011. Normally we would not hold as much stock at the end of the year but because of material prices which we were told would rise in January of 2011 we decided to hold some baled stock over into the New Year. Normally our company policy would be to ship this material before the Christmas holidays and that decision to hold baled stock contributed to 740 tonnes of the stock material. As a cost saving exercise we cut back to one shift on the picking station for the last quarter of 2011 and that meant mixed recyclables were allowed to stockpile. Mixed Recyclables in stock contributed a total of 1800 tonnes to the total. A two shift pattern was re-introduced at the start of 2011 and stock has steadily reduced through January. Other stock items were normal end of year stock levels. This explains 4120.00 tonnes of the 8980.49 tonnes in the balance leaving another 4860.00 tonnes to explain.

The balance of waste in versus waste out will never be perfect due to water, liquid, dust, moisture etc on the content of waste coming in which is lost, dried out etc before the material is transferred off site again and this difference can often be significant especially in periods of wet weather over the course of a full reporting year.

The rest of the 2010 balance can be explained by our composting facility. We accepted 4,303.09 tonnes of material into the composting facility in 2010 and none of that material has yet been fully processed and transferred off site therefore this total tonnage is still in the composting process. In addition to this the composting process also used approximately 555.90 tonnes of woodchip as a mixer within the process. This woodchip would normally be weighed out and sent for recycling but this material although re-used on site is not part of the official waste out figures as it is not weighed when it moves from the timber area into the composting process. Each load used is logged by the Composting Manager and an estimated weight taken.

Therefore with a total balance of 8980.49 tonnes to be accounted for we have explained that 4120.00 tonnes was in stock tonnages at the end of 2010. In addition 4303.09 tonnes of material was in the composting area still be processed for recycling / recovery and 555.90 tonnes of woodchip was used in the composting process. This bringing an additional 8978.99 tonnes almost fully explaining the balance on site at the end of 2010.

Waste In / Out 2010 Summary

Overall tonnages at the site showed a very slight reduction on the waste into the facility for 2010 when compared to 2009. Total waste in dropped from 71,714.94 tonnes for 2009 to 69,367.64 tonnes in 2010. Overall given the financial situation in the Country and within the waste collection industry this result is satisfactory and we are pleased that tonnage has almost been sustained. The split in relation to the waste types coming in and going out of the facility remain very similar to previous years with general waste and mixed recyclable materials still the main core of our business. The impact of our picking processes in sorting mixed recyclables is shown in our waste out figures where recyclable materials such as paper, cardboard, plastics are prominent. Unfortunately our overall recycling rate for 2010 has dropped back to 47% from last year's result of 53%. This is a correct figure however it can be explained by the opening of our composting facility. Although the composting facility will increase our recycling % over the next few years during this 12 month period we have over 4,000 tonnes of material that have been accepted and are currently being processed within the composting building. However due to the issues at the back end of this process no material has come through the far end and has not been counted towards our recycling figures. Therefore we have in excess of 4,000 tonnes of material that cannot be counted towards our recycling figures for 2010 because it is still in process. In addition the composting process also used around 550 tonnes of woodchip during 2010 to help mix the material and this material is not shown in the timber out figure because it is not weighed out due to the fact it is used internally. Therefore when you consider these two factors and given normal circumstances that the compostable material would now be processed and through the facility and by including this woodchip our recycling % would be up around 54% which is realistic. We will benefit from this material coming through the process in next year's figures and are very confident our recycling % can push towards 60% by the end of 2011.

The information provided for the purpose of these reports is backed up and supported by our weighbridge and are an exact match on the data pulled directly from the weighbridge software.

Report on Composting Quality

As per our EPA licence we are required to include as part of the Annual Environmental Report a summary report on the quantity / quality of compost material be produced through our production process. The process opened in January of 2010 and two composting aisles are in operation. The compost facility is still in the plant validation stage. As with requirements from the Department of Agriculture Fisheries and Food, six batches must be processed and the plant must be approved before any material can leave the site. The one batch that we attempted to put through the final pasteurisation stage of the process failed to meet the temperature requirements. The batch was tested using the solvita test kit. This gives a good indication of stability by measuring evolution of carbon dioxide (CO_2) and ammonia (NH_3), the two most prominent gaseous emissions of active composts. Both tests showed low levels of CO_2 and NH_3 indicating that the material is stabilised. This lack of microbial activity may have caused the batch to fail reaching the required temperature for pasteurisation. On-going tests are still being carried out on the material. Since the plant has not yet been approved no compost has been sold or distributed from the site and therefore there is no actual data to include in this section of the report.

As soon as material is successfully put through the final stage of the production process and approved for shipment by DAFF we will produce a summary report of the details and it will be made available to the Agency.

We expect the first batch of compost to be approved and ready for transfer off site in Q1 2011.

2.10.5 Summary of Recycling Outlets used in 2010

Barna Waste are committed to finding new recycling markets in Ireland, Europe and Worldwide to ensure materials produced from the picking station and the other areas in our waste transfer station are sent to the best possible recycling outlets. All outlets for the materials going out have been approved in advance by the EPA. A summary of the major recycling outlets used for 2010 is included below:

MATERIAL / COMMODITY	MARKET / TYPE
Metal	Leo Van Leeuwen (Holland) – recycler Galway Metal (Galway) – recycler SIMMS Metal (England) - recycler
Steel Cans	AWS (Newcastle) – broker Leo Van Leeuwen (Holland) – recycler WRC Recycling (Scotland) – broker Marwin Environmental Trading (Ireland) - broker
Aluminium Cans	Leo Van Leeuwen (Holland) – recycler
Timber (shredded)	Finsa Forest Products (Ireland) – end user Greenstar (Galway) – end user Galway City Council Composting Site – end user Local Farmers – end users
Paper / Cardboard / Newspaper	Highlander International (Glasgow) – broker Peute Papier Recycling (Holland) – end user Boost Recycling (England) – broker Global Material Recycling (Galway) – broker Recycling UK (England) – broker Irish Packaging Recycling (Panda, Ireland) - broker
Plastics	AWS (Newcastle) – broker Leinster Environmentals (Dundalk) – broker Global Materials Recycling (Galway) – broker WRC Recycling (Scotland) – broker WF Recycling (Cork) – end user / broker Jayplas (England) – end user Recyfin (Belgium) – broker Polymer Recovery (Ireland) – end user CGreen (Ireland) – end user JFC (Ireland) – end user Cherry Polymers (Ireland) – end user
WEEE and Scrap Electronics	Electrical Waste Management (Ireland) - broker
Glass	Glassdon Recycling (Antrim, Northern Ireland)
Tyres	Credential Environmental (England) – end user
Inert Materials	Barna Waste (permitted site – Headford Road)
Landfill Material	Connacht Residual Regional Landfill - Kilconnell Ballaghadereen Landfill – Roscommon Inagh Landfill – Co Clare Drehid Landfill – Co Kildare
Batteries	ENVA (Portlaoise) Global Material Recycling (Galway)
Gypsum / Plasterboard	Gypsum Ireland (Dublin)
Clothing / Textiles	Textile Recycling Ireland (Dublin)

Table 2.10.5: Major recycling markets used in 2010

Paperwork / Certification for Recyclable Loads & National TFS Office

Recycling certificates are requested and kept on file for most of the companies who take recyclable material from our site. These are requested on a monthly basis and are all on file in our offices. Details of all individual transactions of waste going off site are also available from our offices and paperwork for any individual load can be viewed on request. This paperwork includes weighbridge tickets, laydown / transfer documents and the annex vii forms which are required to accompany each waste movement. Loading pictures are normally available for materials loaded into containers for the export markets.

Barna Waste are registered as a shipper of green list material with the TFS office in Dublin and our broker's registration number currently is:- **IRE/G086/11.**

The National TFS Office monitor, track and inspect loads of waste / recyclables being shipped from Ireland to destinations worldwide. This process has been welcomed by Barna Waste and ensures that everyone who we sell material to is also registered as an approved broker with the TFS office and that the end destinations which they use for our material are also registered and checked by the National TFS Office. The process of checking random containers at ports in Ireland means it is essential that we produce a good quality material via our picking station to ensure inspections are passed and no materials are rejected. The introduction of the National TFS Office has regulated the business of shipping recyclable material and everyone now works to the same process. All outlets used by Barna Waste are registered with the National TFS Office and therefore ensures all our material is looked after properly and by reputable companies.

As part of our internal procedures we do not sell material to any destination / broker unless that person makes an effort to personally visit our facility. This is done for two reasons, one to ensure that they see the material they propose to purchase in person and can confirm they are happy with the quality on show and in the way the material is processed. Secondly this gives us a feel for the proposed partner and how they work. We do not ship to anyone who does not make the effort to visit the facility even if they offer the best price and we feel this is the best way to ensure long term sustained partners, reliable payment and the avoidance of using companies who may not look after the material in a proper manner.

3.0 Report on the achievement of targets set out for:

- **Biodegradable waste**
- **Packaging waste**
- **Recovery of C&D Waste**
- **Recovery of Household, Industrial and Commercial waste.**

This section is included to update on the progress Barna Waste have made during the 2010 reporting period with regards to meeting our environmental targets. As stated in previous years it is the aim of the company to meet the targets set out by the "Waste Management - Changing Our Ways" Policy Document which was published by the Department of the Environment and Local Government in 1998. The relevant targets set out in this document are as follows:

- A diversion of 50% of overall household waste from landfill within the next 15 years
- A minimum 65% reduction in biodegradable waste consigned to landfill within the next 15 years
- The development of waste recovery facilities employing environmentally beneficial technologies, as an alternative to landfill, including the development of composting and other feasible biological treatment facilities capable of treating up to 300,000 tonnes of biodegradable waste per annum within the next 15 years
- Recycling of 35% of municipal waste within the next 15 years
- Recycling at least 50% of C&D Waste within a five year period, with a progressive increase to at least 85% over the next 15 years

As can be seen from the results above the overall percentage for waste recycled is 47% of the total waste into our facility across the weighbridge for the reporting period. This is 6% down on our performance in 2009. This is mainly due to the fact that we have around 4,000 tonnes of material in our composting facility which is for recycling that has not yet come through the back end of the process and therefore could not be officially counted in our recycling figures. Once this material is processed and through the process this will bring the recycling figure for 2010 up over 50% where we want it to be. This should be reflected in the end of year results for 2011. Therefore although the official report shows recycling % for 2010 is down actually once all material is processed and transferred off site there would actually be a small rise in the figures.

In relation to domestic composting in 2010 Barna Waste started the process of introducing a 3 bin system to domestic customers. To date we have around 2,500 domestic customers switched to a 3 bin collection system which includes organic waste collections. The uptake on the bins has been almost 100% and has been well received and supported by the customers. This process will be rolled out further during 2011 and we hope to have almost all of our domestic customers on a 3 bin system by the end of this year. All material collected from these brown bins is / will be delivered to our own composting facility for processing.

In relation to compost for commercial customers Barna Waste has implemented a 3 bin collection system for almost all commercial customers who have compostable material. New legislation came into effect in July of 2010 which insisted that commercial customers who place this type of waste onto the market 'must' have it collected in a segregated manner where it will be diverted from landfills. Our Sales team contacted all our commercial customers and almost all customers affected have now signed up to the 3 bin collection system. As a result Barna Waste have established food waste collection routes throughout Connacht as a result. Our pricing structure for these collections has and will remain structured in a manner that will encourage customers to make the effort to recycle.

Due to the hard work put into these composting initiatives during 2010 we have managed to bring in excess of 4,000 tonnes of compostable material to our facility for processing. This is 4,000 tonnes of material that would previously have gone to landfill and as our process develops then our collection quantities will grow and can only result in having a positive impact on recycling figures. By the end of the next reporting year we will have a much better idea of just how positive the introduction of composting can be in relation to our recycling figures but we already know that we are headed in the right direction to achieve the target of diverting 50% of household waste away from landfill and in total 65% of biodegradable waste away from landfill over the next few years. In fact we hope by providing the facility we have invested in we can be an outlet for other operators in the area to implement segregated collections which we can process for them at our facility and therefore assist them with meeting these targets also.

In summary although 2010 results do not fully show progress towards meeting the targets for biodegradable waste we are fully confident that 2011 results will show that we are well on course to achieve the required results and that our composting process will be successful.

In relation to the national target for the development of waste recovery facilities employing environmentally beneficial technologies, as an alternative to landfill, including the development of composting and other feasible biological treatment facilities capable of treating up to 300,000 tonnes of biodegradable waste per annum within the next 15 years we have already demonstrated our commitment. As outlined earlier in this report Barna Waste opened our own composting facility on 1st January 2010 which is licenced to process up to 40,000 tonnes of compostable material per annum and 20,000 tonnes in its current set-up. During 2010 more than 4,000 tonnes of material was accepted into the process and is currently going through the production phase. The investment in this facility has been significant and has taken a number of years to complete the project but shows our own commitment to meeting the above targets. This composting process will run alongside our existing picking station for the processing of mixed dry recyclables and we believe that both processes fully equip our company to meet the targets outlined above by providing state of the art facilities to sort and process both recyclable waste streams within a 3 bin system (dry recyclables and biodegradable materials). If other companies can carry out the same level of investment in there infrastructure and commitment to recycling then the country should achieve its target of providing these facilities. As a company we believe we have done our part in helping to achieve this goal. We are committed to ongoing investment in the best available technologies that will assist our business and we will continue to develop our site as we move forward.

The target set out to divert 35% of municipal waste from landfill over the next 15 years is also one we are striving to achieve. The achievement of this target will require further investment on our part and we have yet to determine the best course of action in relation to this. The 3 bin system we have implemented will assist with the removal of the biodegradable content of municipal waste and that will have a positive impact on helping to achieve this goal but in order to fully achieve the targets we believe this will have to be supported by the addition of a new process which will allow us to supply an RDF (Refuse Derived Fuel) or MBT (Mechanical Biological Treatment) plant with treated MSW. The other possible option is incineration as an alternate to landfill. Our Managing Director spent the second half of 2010 looking at equipment and consulting with people who operate similar processes on the continent to establish what investment would be required in either of these technologies and the positives & negatives for / against each one. The current situation is that he has asked our consulting engineers to draft up plans for each option and then we will sit down and finalise what option we will chose to implement.

Additionally we are working closely with the team responsible for sourcing material for the incinerator in Co Meath which will be operated by Indaver. We are working with them to establish what tonnage may be available to us for that facility and of course the financial package they can offer and this will impact on our decision on whether to implement either of the above processes or whether the incinerator may be a suitable alternative. A decision on this strategy will be finalised in the first half of 2011 and implementation of our decision will begin in the second half of the year and current indications are that this will result in us implementing a new process on site in Carrowbrowne to treat MSW. Once a final decision has been reached internally it will be submitted to the EPA for approval prior to any work commencing on the project. We are absolutely confident that whatever process we chose will ensure that above target is met and our waste material will be sorted / treated in a manner that will allow us to use an alternative recovery route for the material other than landfill where it goes at present.

The targets in relation to C&D type waste have become difficult to monitor due to the significant drop in tonnages in relation to this type of waste. Tonnages of this material have dropped significantly in the past 3 years due to the major downturn in this industry and therefore trends are hard to establish due to the lack of volume. The only thing we can confirm for certain is that before the downturn the builders were all showing a willingness to separate waste at their sites both to help increase recycling and to save money. As a company our pricing structure for builders is designed to encourage recycling and we had seen a good increase in inert, timber and metal tonnages coming from building sites in recent years and therefore there is no reason to think that if the building trade picks up then recycling rates will only increase due to the costs the builders will be looking to save. The targets above are achievable assuming the trends that we did see continue when things get back to normal. We are not in a position to predict construction waste tonnages moving into 2011 but tonnages will have to increase so that trends can be properly analysed. We will monitor and report on this through 2011 and in next year’s annual environmental report.

Summary

In general the above updates show that Barna Waste are making good progress towards achieving the National and European recycling targets set out in 1998. We recognise that 2011 is going to be an important year in relation to the achievement of these targets. During this year we will transfer our first batches of compostable material out of the composting process for recovery which will have a significant impact on our recycling figures. The process currently has approximately 4,000 tonnes in production which could not be officially counted towards recycling % for 2010. The tonnages through this process will only increase beyond this 4,000 tonnes as we expand collections through 2011 and the significant investment we have made in this area should see us achieve the targets in relation to biodegradable waste. The decision to be made in 2011 regards making a significant new investment in relation to implementing a process which will allow us to treat our landfill material and find alternative recovery routes for this material will also have a very positive impact on our recycling / recovery figures. This investment is something as a company we are completely committed to and only the type of process we invest in is to be finalised before we start the project. We are comfortable that trends in the segregation and recycling of construction related waste will be achieved as / when this industry starts to grow again and significant tonnages of this type of material are being produced.

Overall we are confident that with the investments we have made and will make moving forward along with the supporting infrastructure in terms of staff, plant & equipment will ensure we will meet our own obligations in relation to the achievement of the National and European targets. We expect to report significant progress on these items in the 2011 annual environmental report when the full impact of our new processes will be known.

The following are our projected waste quantities for next year:

Table 3.0.1 outlines some projected waste quantities for the next reporting year and onwards.

Table 3.0.1: Actual and Projected Waste Quantities

WASTE TYPE	**TONNES PER ANNUM**			
	2004	**2005**	**2006**	**2007**
Household	19796.62	22134.78	29328.22	28840.92
Commercial	17691.68	17874.97	16095.29	22150.64
Construction and Demolition	12690.92	4594.86	6234.14	5988.48
Others	19981.8	21526.33	33,489.19	35625.35
Biowaste	0	0	0	1525.88
Total	**71193.08**	**66130.94**	**85146.84**	**94,131.27**

WASTE TYPE	**TONNES PER ANNUM**			
	2008	**2009**	**2010**	**2011**
Household	18539.17	22356.82	19,140.78	20,000
Commercial	26433.11	12905.46	11,613.86	10,000
Construction and Demolition	2729.37	1202.76	1,192.84	1,000
Others	35784.14	33288.99	33,117.07	30,000
Biowaste	1674.44	1,960.91	4,303.09	7,500
Total	**85,160.23**	**71,714.94**	**69,367.64**	**68,500**

4. Site Infrastructure and Operations

4.1 Existing Facility & Operations

This section of the report is designed to give the reader an overview of our facility in relation to how it is set-up, the plant machinery available to us, the facilities on site and our key operational areas. Therefore the infrastructure and set-up of the existing Barna Waste facility is outlined below:-

The site has been continually developed over the past ten years and at the end of the current reporting period was laid out as follows:

- **Site Accommodations:**

1) **Canteens –** five staff canteens at various locations on site

2) **Administration Offices –** comprises of a weighbridge office adjacent to our two weighbridges supported by a larger administration office building housing administration staff including Facility Manager, Operations Manager, Transport Manager and all Accounts and Sales staff, meeting rooms and storage

3) **Toilet Facilities –** toilet facilities in place at the front and rear of the facility

4) **Changing Facilities –** locker rooms, changing & washing facilities available for all staff on site both in Operations and Administration

5) **First Aid Room –** fully stocked first aid room and trained first aiders at the site

- **Site Infrastructure:**

- Two calibrated weighbridges (weigh in / weight out) system at the entrance of the facility which are equipped with weighbridge software

- Transfer building incorporating separate areas for:

Section 1: NON RECOVERABLE LANDFILL WASTE STORAGE
Section 2: MIXED RECYCLABLES STORAGE (pre-picking station)
Section 3: PICKING STATION
Section 4: BALING AREA
Section 5: WASTE QUARANTINE AREA
Section 6: BACK UP BALING AREA
Section 7: PAPER SHREDDING AREA

- The transfer building is equipped with adequate floor space to cope with the volume of waste and/or recyclables being handled at the facility. The building is split into two imaginary halves one side which handles the mixed general (non recoverable) waste and the other side of the building is used for managing the recyclable materials. Mixed general waste materials are sorted by hand and grab machine or loading shovel to ensure any materials that can be recovered are salvaged before the load is sent to landfill. In normal circumstances the floor is cleared at the end of each working day.

- Our picking station is equipped at the front end with ballistic separators which pre-sort the material before the sorting process. Once through the front end of the process material is manually sorted by our picking operators who use the positive and negative picking process to sort material by grade. The picking process is supported by a magnet and edicurrent for sorting metal / aluminium grades. Generally mixed recyclables are the only material type fed through the picking station for sorting. Material sorted from the picking station is then baled directly in the adjacent balers.

- Steel and Timber processing areas - steel and timber are processed within the new composting building in separate bays. A member of staff is now designated to process these materials and maintain the machinery on a daily basis. This change has increased the efficiency of the facility greatly. Small amounts of steel and timber are still stored in the main transfer station because they are picked out of mixed deliveries and taken to the appropriate area at the end of each day. These changes have meant that no stockpiles of metal / timber have been allowed to build up on site in normal circumstances and the material is processed on a regular basis to a transferrable product.

- End product storage shed – an enclosed building for storing products which are produced via our picking station which keeps them dry and in the best possible condition for selling to potential buyers. Baling wire stock is also kept in this area.

- Maintenance building and maintenance yard for carrying out maintenance work and storing equipment. This section has a full time on site mechanic, fitter and support team.

- Paint shop – this area is used for the maintenance and upkeep of our trucks and equipment

- Civic Amenity Site – located at the front of our facility next to our weighbridge office. The site is staffed during operational hours and allows the segregation of general waste, mixed recyclables, cardboard, glass, timber, stones, metal, clothes, batteries and all types of white goods and electrical items for members of the public.

- A temporary area outside for the processing of construction and demolition waste is currently being upgraded and construction of a building has commenced in this area

- Composting Building – for the acceptance and processing of biodegradable material to a European Standard. This process is equipped with fans, scrubbers, curtains, air supplies and mobile plant to ensure composting can be produced at the back end of the facility.

- Wash Bay – this area is used for the washing of all trucks and mobile fleet, mobile plant and machinery within the facility and other equipment (such as bins / skips).

- Dock loading bays – the facility is equipped with loading bays which allow containers to be backed up to the entrance of our storage shed for loading. This has almost halved the loading times of containers at the site and significantly reduced litter at this area of the site

This current set-up allows us to accept and process the volumes and types of waste / recycling that we currently collect. The plant and equipment we have in place is adequate to support these processes and we have a good quality support staff in place to ensure our operations are able to be carried out as required. Changes to the facility and new investments are always being considered but the current site is equipped with the technology and equipment we require to manage the materials we have today.

EMS System

The operation of our facility is supported by our EMS system as required by our EPA licence. The documents within our EMS outline how we carry out our daily operations and contains the forms used to record information from our processes / activities. This system is constantly under review and every document is fully reviewed on at least an annual basis.

This system is ISO 14001 accredited by the NQA. Barna Waste were audited during 2010 and successfully retained the ISO14001 certification for another year. Details of the audit result are available on request from Barna Waste.

The following is a list of the names / titles of all procedures and documents used at the facility at the end of 2010. This is included to give the reader of this report an overview of the policies / procedures we use internally and to provide evidence that an adequate and detailed EMS system is in place:

BARNA WASTE - EMS Contents Listing

1. BW/EMS/001	E.M.S. Manual
2. BW/EMS/002	Environmental Policy
3. BW/EMS/003	I.E.R
4. BW/EMS/004	Document Control Procedure
5. BW/EMS/005	Document Issuance Form
6. BW/EMS/006	Document Review Form
7. BW/EMS/007	Programme Review Form
8. BW/EMS/008	Aspects Register
9. BW/EMS/009	Records Management Procedure
10. BW/EMS/010	Env. Management Rep. Job Description
11. BW/EMS/011	Management Review Schedule
12. BW/EMS/012	Revision History Form
13. BW/EMS/013	Training Course Attendance Record
14. BW/EMS/014	Emergency Preparedness & Response Proc.
15. BW/EMS/015	Communications Procedure
16. BW/EMS/016	Waste Handling & Disposal Procedure
17. BW/EMS/017	Accident Report Form
18. BW/EMS/018	Health and Safety Equipment Issue Form
19. BW/EMS/019	Training Procedure
20. BW/EMS/020	Env. Records Index
21. BW/EMS/021	Employee Env. Feedback Form
22. BW/EMS/022	Approved Supplier Control Procedure
23. BW/EMS/023	OBSOLETE – Approved Supplier List
24. BW/EMS/024	EMS Programme List
25. BW/EMS/025	EMS Programme Management Procedure
26. BW/EMS/026	Emergency Response Team Seniority List
27. BW/EMS/027	Register of Environmental Legislation
(NOTE:- The above document is stored in its own folder)	
28. BW/EMS/028	Register of Legislation Management Proc.
29. BW/EMS/029	EMS Audit Procedure
30. BW/EMS/030	Internal Audit Report Form
31. BW/EMS/031	Non Conformance Form
32. BW/EMS/032	Employee Details Form
33. BW/EMS/033	EMS Audit Schedule
34. BW/EMS/034	Emergency Contacts Listing
35. BW/EMS/035	Safety Statement Declaration Form
36. BW/EMS/036	Internal Environmental Checklist
37. BW/Ops/001	Organisation Chart
38. BW/Ops/002	Monitoring and Recording Schedule
39. BW Ops/003	Foul Water Discharge Meter Reading Form
40. BW/Ops/004	Waste Inspection Check Sheet

41. BW/Ops/005	Waste Processing Procedure
42. BW/Ops/006	Housekeeping/Nuisance Inspection Procedure
43. BW/Ops/007	Housekeeping/Nuisance Check Sheet
44. BW/Ops/008	General Monitoring Procedure
45. BW/Ops/009	Waste Profiling Form
46. BW/Ops/010	OBSOLETE – Bund Testing Results Form
47. BW/Ops/011	Bund Integrity Test Procedure
48. BW/Ops/012	Drainage, Bunds & Interceptor Check Sheet
49. BW/Ops/013	Env. Incident Investigation Form
50. BW/Ops/014	Env. Incident Investigation & Reporting Proc.
51. BW/Ops/015	Env. Complaints Form
52. BW/Ops/016	Env. Non-Compliance Form
53. BW/Ops/017	Env. Non-Compliance Procedure
54. BW/Ops/018	Residuals Management Procedure
55. BW/Ops/019	Incoming Checklist
56. BW/Ops/020	Outgoing Checklist
57. BW/Ops/021	Equipment Maintenance Procedure
58. BW/Ops/022	Equipment Maintenance Schedule/Checklist
59. BW/Ops/023	Picking Station Procedure
60. BW/Ops/024	Boston Scientific Procedure
61. BW/Ops/025	Medtronic AVE Materials Procedure
62. BW/Ops/026	Toolbox Training Document for Forklift Safety
63. BW/Ops/027	BBT Battery Charging (Health and Safety) Procedure
64. BW/Ops/028	Weekly Preoperational Checklist for Excavator Grab
65. BW/Ops/029	Weekly Preoperational Checklist for Forklifts
66. BW/Ops/030	Daily Preoperational Checklist for Loading Shovels
67. BW/Ops/031	BBT Noise Health and Safety Policy
68. BW/Ops/032	Permit to Dig Form
69. BW/Ops/033	Manual Handling Policy Procedure
70. BW/Ops/034	Number to be re-used no document
71. BW/Ops/035	Barna Waste Construction Works Safety Checklist
72. BW/Ops/036	Number to be re-used no document
73. BW/Ops/037	Barna Waste Facility Health and Safety Guidelines
74. BW/Ops/038	OBSOLETE - Barna Waste Fire Drill Guidelines
75. BW/Ops/039	Barna Waste Weekly Fire Equipment Checksheet
76. BW/Ops/040	Barna Waste First Aid Equipment Checklist
77. BW/Ops/041	Barna Waste Weekly Health and Safety Checklist
78. BW/Ops/042	Hot Works Permit Form
79. BW/Ops/043	Hot Works Procedure
80. BW/Ops/044	Machine – Permit to Work Form
81. BW/Ops/045	Still to be used missed in error
82. BW/Ops/046	Health and Safety Records Index
83. BW/Ops/047	Induction List for Visitors to Barna Waste
84. BW/Ops/048	Composting Waste Acceptance Form
85. BW/TRA/001	Training Versatility Chart
86. BW/TRA/002	BW Induction Process
87. BW/TRA/003	OBSOLETE - Employee Roll Call Listing
88. BW/TRA/004	OBSOLETE - Approved Forklift Drivers Listing
89. BW/TRA/005	Bin Lorry Lifting Equipment Training Procedure
90. BW/TRA/006	Health & Safety Equipment - Ear Muffs Fitting Instructions
91. BW/TRA/007	Health & Safety Equipment - Foam Plugs Fitting Instructions

4.2. Plant & Machinery / Road Fleet

This section of the report details the plant and equipment available for use both on site and in relation to the collection of waste / recyclables. The plant and fleet are under constant review to ensure they meet the requirements of our business.

The current plant either in use or available for use on site consists of the following which demonstrates that we have the appropriate back-up equipment in place should any of the day to day equipment we have on site break down.

This is the current list of equipment for the end of the 2010 reporting period:-

- 3 x large loading shovels for managing waste in the transfer area
- 2 x mini loading shovels for managing waste in the picking station bays or main transfer station
- 3 x track machine excavators
- 3 x Liebherr grab machines for loading trucks and managing movements of waste
- 1 x Kabelco grab machine
- 3 x forklifts
- 2 x JCB Teletrucks (with clamps for lifting bales)
- 1 x Teleporters
- 2 x Electric Scissor Lift
- 1 x Finger Screener
- 2 x mobile trommels
- 1 x Extec Stone Shredder/Crusher
- 1 x Pre Shredder / Waste Reducing machine
- 1 x Shredder fitted with magnetic separator
- 2 x EXCEL Baler (1 with bottle piercer)
- 1 x Harris Twin-Ram Baler
- 1 x Metal baling machine
- 2 x Paper Shredding machines
- 2 x Picking Station Conveyers and 6 x Material Bunkers
- 2 x Ballistic Separating Machines
- 2 x Mobile road sweeper
- 2 x Fire Engines
- 1 x Diesel Tanker (used to fill all plant / machinery on site)
- 2 x Weighbridges with Computer system and software
- 1 x Power Washing Jetter Van
- 1 x Mobile Power Washer
- 3 x Cherry Pickers
- 1 x Hoist
- 10 x 45ft storage containers
- 1 x Daewoo Clamp Loading Forklift

The following is a list of our road fleet:

- 11 x artic trucks
- 2 x rigid tankers
- 20 x skip lorries
- 7 x hook bin loaders
- 7 x curtainsider collection / delivery vehicles
- 65 x rear end loaders (standard bin lorries)
- 40 x collection delivery vans / jeeps
- 22 x trailers
- 8 x 30m^3 ejector trailers for the transfer of waste
- 1 x sludge treatment tanker / dewatering unit
- 2 x glass collection vehicle
- 2 x food collection vehicle
- Container lift
- Tractor unit with Crane Attachment

The above list of plant / machinery provides us with the equipment to manage our busy waste transfer station and waste collections. The above list is not all in use 100% of the time and some of the equipment acts as backup in times where we suffer breakdowns to ensure where possible there is no impact on production or collections. A Transport Manager is in place to ensure the collection fleet are well maintained and our Operations Manager is responsible for ensuring maintenance and proper use of the machinery within the transfer station. The management team are backed up by an onsite mechanic who repairs most defects in house. A washing programme for all trucks, machinery and equipment is in place to ensure the appearance of our equipment / fleet is always of a high standard. Only is cases of a serious malfunction would our collections or production be seriously affected. Barna Waste try to invest some of our annual budget each year towards the upgrading of the above list of plant and equipment and this was evident again in 2010. We will continue to implement this policy. We are comfortable that the above list of machinery / plant is able to manage the volumes of waste we are collecting and processing while providing the appropriate level of backup in the case of breakdown.

4.3. Proposed Future Developments

The Barna Waste Facility in Carrowbrowne has been in an almost constant state of change over the past 10 years. We want the facility to continually develop to meet the demands of our customers and the ever changing legislation that affects us as well as being responsive to new technologies which come onto the market.

During the next 12 months we have further plans to develop the site and make changes to improve our processes / facilities for the future.

The major process we hope to undertake is not a construction process that will affect the size / layout of the site but more the introduction of a new process to help us develop future markets for our current landfill material. This process would be introduced within the existing composting building in the area that is currently used to process the timber or metal. The process would involve treatment of the landfill material to remove organic fines and treat it to a standard that would allow it to be stabalised and sent to an alternative waste facility and diverted for landfill. The possibilities and options are currently being reviewed by our Managing Director and Engineering Consultants to finalise the best possible option in terms of cost and quality of product that we can implement. Our Managing Director spent time in Germany and Holland in 2010 reviewing similar production lines.

A decision on the best solution for us will be made in the first half of 2011 with a view to implementing and starting a process in the second half of the year. The Agency are already aware of our plans to implement a process and details will be forwarded for approval prior to any work commencing. The Management of Barna Waste are fully committed to making this investment as we believe it is essential to have a process in place to treat landfill waste and find alternate, more sustainable, affordable and environmentally friendly outlets for this material.

In addition to the above process we will construct a building on the permitted area of our site. The permitted area of our site is currently not part of the EPA licenced facility but an application will be submitted to have this area integrated into the existing EPA licence as soon as this building has been constructed. The building being constructed was initially planned to be an enclosed building to process construction & demolition waste which was being processed outside. However due to the downturn in this industry the initial plan to put in a C&D processing line has been abandoned as it is no longer economically viable but due to lack of volume. Planning permission for the building was granted and therefore we have decided to go ahead as scheduled with the construction. No final plan has been devised in relation to what the building will be used for but the current 'draft' suggests we will move the timber and / or metal processing into this new shed and replace that process with the new landfill treatment process outlined above in its existing location. This plan is only a draft but more than certain one of those processes will move into this new building. No waste / recycling processes will begin in the new building until the site is integrated officially into the EPA licence.

Finally for 2011 sometime in Q1 we will construct and open an additional production line in our picking station. This will be done to add capacity to the picking station and allow us the comfort of processing all our material on a one shift pattern rather than operating at the extended hours we currently work. The aim of the new production line is to raise the throughput capacity from its existing 9 tonnes per hour to 15 tonnes per hour after the new line is implemented. All material such a conveyor belts, sheeting, additional ballistic separators, bunkers, doors etc have been purchased and construction will begin early in Q1 on this project. This will be a significant and positive upgrade on the current set-up.

The three projects outlined above demonstrate Barna Waste's ongoing commitment to improving our facility to ensure we can manage the volumes of material accepted at the site. The projects also show our willingness to invest in new technology and implement new processes to divert waste from landfill. Given the current financial climate we will continue to review our facility and the investments required carefully before we implement them but we are 'totally' committed to the three projects above for 2011 and they will be completed before the end of the year.

The Agency will be provided with updates on these projects as they develop throughout 2011.

5. Incidents and Complaints Summary

All environmental incidents and complaints are documented through the Environmental Management System (EMS) procedures on the following documents:

- Environmental Complaints Form (BW-OPS-015)
- Environmental Incidents Form (BW-OPS-013)

Any environmental non-compliances are recorded and documented by the EPA via audits / site visits and are the responsibility of the Management Team to fix and ensure the appropriate corrective and preventive actions are put in place.

Internal audits are also carried out as part of our ISO 14001 certification and continual improvement plans. Internal audits are carried out by the Facility Manager who is qualified to conduct them. Results of these are recorded on:

- Environmental Non-Compliances Form (BW-OPS-016)

All results are on file and available for review via the Facility Manager.

All documented Complaints, Incidents or Non Compliances are recorded and kept on file as part of the EMS System and a file maintained of all open and closed records. Any complaints received will immediately be assigned to a member of the management team to find a solution / corrective action. They will be taken seriously and dealt with as a priority.

In relation to the 2010 AER we can confirm the following:-

- **There were no complaints submitted to the company of an environmental nature during this reporting period and therefore we have nothing to detail in this section of the report.**

- **There were no major environmental incidents to report during the reporting period and therefore we have nothing to detail in this section of the report.**

6. Nuisance and Emission Controls

Nuisance inspections are carried out on a daily basis by the Facility Manager or a delegate. Results are logged and are available for review at all times. These nuisance checks verify that there are no issues at the facility with regards to vermin, birds, flies, dust, housekeeping or odours.

In relation to the 2010 results for nuisance checks there are no major issues to report. Reports were carried out as required on a daily basis giving a full and comprehensive set of results to review. On individual days there were of course issues logged that were reported to Management and fixed but these were normal minor issues that were fixed on the same day and did not need any serious action to be taken. In relation to vermin: nuisance checks did not show up any problem and this is backed up by the full set on annual results carried out by our third party contractor Ecolab which confirm vermin at the site is not a problem. Birds and flies are most prominent obviously in the summer months but we have no issues during 2010 with accumulations of flies or birds at the site. As detailed in earlier sections of the report dust emissions have significantly improved during 2010 and this is supported by the annual monitoring results. A daily road sweeping programme is in place to ensure external dust does not accumulate in periods of dry weather and daily nuisance checks confirmed this programme was very successful in controlling and maintaining dust levels at the site.

Housekeeping at the site is an ongoing issue and we are always striving to make the site better in relation to housekeeping but overall it is not a major problem and the nuisance results for 2010 reflect this. In relation to odours the opening of our composting facility early in 2010 made us even more aware of managing odours at the site. In general the smell from the composting facility was minimal and of no major concern. There was the odd occasion throughout the year when we had to report the smell to the Composting Manager but this was normally during the turning process when the pile was being moved or disturbed. Generally there is no issue with odour at the site apart from the odd occasion and certainly no complaints have been received from neighbours, customers or members of the public in relation to smell.

Overall results for 2010 were positive and brought nothing major to light that required extensive investigation or action. Nuisance checks will continue on a daily basis throughout 2011.

In relation to emission controls the processing areas are enclosed in most areas with the exception of the main transfer building but no waste processing is carried out in the immediate area adjacent to the open area. The enclosed nature of our processes ensures that emissions are kept to a minimum. Dust emissions were the major concern during 2009 but these controls were significantly upgraded during 2010 with the addition of a dust misting system in the timber processing area, the dust pumps working in the external areas of the site and the daily road sweeping programme. Noise from our processes has never been an issue and that continues to the be the case. Emissions from our composting process are controlled and managed via the scrubbers and fans within that process. Water emissions to the adjacent stream were clean both upstream and downstream and therefore we have no major concerns at the site in relation to emission controls.

7. Environmental Monitoring

The required monitoring programme at the Barna Waste Facility is set out in Schedule E of the Waste Licence. The reporting frequencies of reporting environmental monitoring data are indicated in Schedule C and D. The following monitoring was carried out for the reporting period:

- Surface & Foul Water Monitoring (carried out by Complete Lab Solutions) on the 28/01/2010

- Surface & Foul Water Monitoring (carried out by Complete Lab Solutions) on the 23/04/2010

- Surface & Foul Water Monitoring (carried out by Complete Lab Solutions) on the 15/07/2010

- Surface & Foul Water Monitoring (carried out by Complete Lab Solutions) on the 12/10/2010

- Dust Monitoring (carried out by Euro Environmental Services) in periods 15/07/2010 to 13/08/2010, 13/08/2010 to 13/09/2010 and 13/09/2010 to 12/10/2010. Dust pots left on site and lids taken away by contractor for a period of approximately 30 days.

- Noise Monitoring (carried out by Euro Environmental Services) on 11/03/2010

All monitoring was carried out as per the requirements of our EPA waste licence.

Complete Lab Solutions are employed as part of the Environmental Management Team to carry out and report on the Surface and Foul Water monitoring. We have on file all the relevant names and qualifications held by the people carrying out the testing on our behalf.

Euro Environmental Services are employed as part of the Environmental Management Team to carry out and report on the Dust and Noise levels on site. We have on file all the relevant names and qualifications held by the people carrying out the testing on our behalf.

The selection and appointment of contractors to carry out these duties is awarded based on a tender programme being carried out each year. Up to 10 companies are invited to submit quotations and proposals for the environmental monitoring and Barna Waste review the tenders in relation to price, ability to carry out the work required, willingness to provide the detail and structure of reporting we require and on reputation within the field. The tender is coordinated by the Facility Manager and he makes the decision on the awarding of the contracts. Barna Waste recognise the importance of appointing the best possible contractor to ensure the environmental monitoring programme is carried out on schedule using the proper equipment / methods and that the reports supplied for submission to the EPA are of a high standard.

Both companies Complete Laboratory Solutions and Euro Environmental Services will continue to monitor our facility during 2011.

7.1. Summary of Surface and Foul Water Results

Water Monitoring – Annual Summary

All surface and foul water monitoring was carried as per the schedule set out in EPA licence WL106-2 for 2010. The dates of the collection of the samples are as listed above. In addition to this schedule the Agency also take their own samples at periodic times during the year. Our main areas of concern in relation to water emissions would be the water that discharges from our site to the stream at the back of our facility. This waterway is a public waterway which is home to fish and other wildlife and many plants which must be protected and therefore emissions in this area are monitored closest. The sample at location SD1 is taken in the middle of our site at a collection point just before the water enters the stream and then monitoring points SW1 and SW2 are upstream and downstream of our site and samples are taken directly from the stream water itself. In relation to locations SW1 and SW2 for 2010 there were no problems to report in the readings taken at either of these locations and results were of no concern. No contamination was evident in the water readings that would suggest no issues arising from our facility in relation to our water emissions. Visual checks are carried out on the stream also on a daily basis to check for visual evidence of contamination, dead plants, dead fish etc and these visual checks also showed no sign of any contamination in the stream water. No chemicals, oils, litter or any type of contamination you would associate with our facility were evident in any of the stream samples. However the reports did show issues in relation to monitoring point SD1. These samples were taken directly from the underground pipe at monitoring point SD1 located just before the water goes into the stream at the back of the facility and after it passes through our oil interceptor. All four quarterly reports show different levels of mineral oil were detected in the pipe at location SD1. The oil is not visible in the pipe or in the samples taken from the pipe in the collection bottles, no discoloration of the sample or scum in the collection bottle . The oil interceptor has been checked and thoroughly cleaned internally and no issues were found with the functionality of the interceptor. As a precautionary measure we have taken the step of surrounding the pipe which discharges this water to the stream with a bund to ensure any traces of oil that do escape the pipe are contained in the immediate area outside of the pipe and can be identified during the daily visual checks. This bund is replaced at regular intervals to ensure its effectiveness.

In addition visual checks are carried out on a daily basis morning, midday and evening time to check the quality of the water and no visual evidence has EVER been apparent to suggest oil was leaking into the stream. This bund remains in place within the stream and will continue to be monitored on a daily basis. In addition to bunding the area we invested some money asking Complete Laboratory Solutions to carry out a check on the results at this location (SD1) over the past 18 months to see if further in depth analysis would shed any light on possible causes. The results of this investigation into SD1 were communicated to us in May of 2010. The findings were summarised as follows: "The results have been reviewed back to May 2009 for Mineral Oil. The extractable hydrocarbons C8 to C14 range from 168 to 962 ug/l (parts per billion) which is carried out initially prior to reporting mineral oil. There is similar hydrocarbon pattern which usually repeats for each time point. Interpretation indicates an unknown pattern. It is unlikely that the pattern is petroleum related which rules out products such as kerosene, JA1, white spirits, diesel, gasoil, HFO and lube oils. Finally the mineral oil result, although extremely low in part per billion is caused by extractable hydrocarbons which are unknown and unlikely to be petroleum related". This confirmed for us that even though oil had been detected in the results it was not likely to be any of the above materials that could possibly have been coming from our site drains and that our oil interceptor was doing its job successfully. Since visual checks show no visual trace of oil we can only assume that the results are from something within the water itself possibly the volume of plant life or water running off the adjacent bog land. Upstream and downstream monitoring results support the theory there is no major cause for concern in this area. Having done everything possible to find a cause and having the results of this investigation to support us we are positive these results are not as a result of our own emissions. We will be diligent and continue to monitor the area on a daily basis until such times as results show an improvement. The other water monitoring point is at location FW1 where our foul water is discharged. There are no major concerns as this water is discharged directly to the adjacent leachate treatment lagoon operated by Galway City Council in the redundant landfill site and the water is treated before being discharged. However we do recognise that monitoring results for 2010 are not within specification for certain elements at FW1. Only in Q3 all results were within specification. The company wash bay which is operated daily for washing trucks and bins is adjacent to our FW holding tank and because the waste water from the wash bay is drained directly to the FW tank the readings in the tank for ammonium, sulphate and suspended solids have shown increased levels. This would be common for the type of material being washed in the area. These results have been communicated to the Agency but because these are all stored and treated in the adjacent landfill lagoon there has been no major concerns over these results. However the fact that they are outwith our licence specification means we should implement corrective action. We had planned to do work in 2010 but it was not implemented therefore during Q1 2011 we will install a treatment area / interceptor into our wash bay so that the water from this area is pre-treated before being discharged to the FW tank and this should eliminate these results. Overall we have no major concerns with water monitoring results for 2010 although we recognise the need to improve moving forward into 2011 and we have a plan / budget in place to do that.

Water Sampling – Quarter 1 2010

Samples were collected by Complete Lab Solutions on 28/01/2010 as per the conditions of EPA licence WL106-2. Having studied the results and discussed them with Complete Lab Solutions the results at FW1 are over the specified limits from COD and BOD but as this water is treated in the leachate treatment lagoon there and no concerns with these results. Locations SW1 and SW2 in the stream were clear and within the specifications set out in our licence. Location SD1 showed a high reading of mineral oil but no contamination in the stream where it discharges and investigation into this result showed no obvious reason. We continue to monitor the area on a daily basis and a bund is in place in case any problem arises from this pipe. The investigation done by CLS supports our view that this is not being caused by issues from our site however we are unable to properly explain these results. All other parameters at SD1 were within specification during Q1.

Water Sampling – Quarter 2 2010

Samples were collected by Complete Lab solutions on 23/04/2010 as per the conditions of EPA licence WL106-2. Having studied the results and discussed them with Complete Lab Solutions the results at FW1 are over the specified limits from COD and BOD but as this water is treated in the leachate treatment lagoon there and no major concerns with these results. However we recognise the need to make changes and upgrade the drainage in the site wash bay to improve on these results. The results were similar to Q1 results. Locations SW1 and SW2 in the stream were clear and within specification. Location SD1 showed a reading for a level of mineral oil in the pipe. Again even although this reading was evident and confirmed by lab testing there was absolutely no visual evidence of any contamination or any oil in the stream itself. The area is under constant inspection and is bunded to contain any problem.

Water Sampling – Quarter 3 2010

Samples were collected by Complete Lab Solutions on 15/07/2010 as per conditions of waste licence WL106-2. This month showed a significant improvement at location FW1 and all results that had previously been outwith the specification were within specification. COD and BOD levels were well within the licence limits and these were positive results as the wash bay had been extremely busy during this quarter. Locations SW1 and SW2 upstream and downstream were also within specification which is our main area of concern in relation to emissions from our site and these samples were clean. However once again at location SD1 and level of mineral oil was detected in the sample by CLS. This area is still bunded and under daily observation which it has been over the past 12 months and nothing is apparent either in the stream where the pipe discharges or in the pipe itself where the sample is taken from. We still cannot find a cause for these readings. Overall results in Q3 were positive and apart from this unexplainable issue at SD1 results were within specification.

Water Sampling – Quarter 4 2010

Samples were collected by Complete Lab Solutions on 12/10/2010 as per the conditions of EPA licence WL106-2. Barna Waste have reviewed the results and discussed them with Complete Lab Solutions the results at FW1 are over the specified limits for parameters COD, BOD and Suspended Solids. As this water is discharged to the leachate treatment lagoon adjacent to our site and not to a waterway they are not causing environmental harm but we must upgrade the drainage set-up in our wash bay as it is clearly waste water from this location draining into FW1 that is causing these results and not emissions from our general work in the transfer station. This work has been budgeted to be carried out in Q1 of 2011 and we are sure that treating / managing the waste water from the wash bay will ensure these results are within specification. This was a disappointing result as Q3 results had been within specification. On a positive note results in the adjacent stream at SW1 and SW2 upstream and downstream were clean and no issues were detected from the water emissions from the site. Due to the frost / dry weather no sample was collected at SD1. Complete Lab Solutions visited the site on four occasions to get this sample but were unable to get a flow in the pipe on either occasion due to the heavy frost. Overall results in Q4 highlighted the need to upgrade the drainage network at our wash bay and ensure water at FW1 is within specification even although it goes to the treatment lagoon. All other results were within specification.

7.2. Summary of Dust Monitoring Results

Dust Monitoring – Annual Summary

Dust monitoring was carried out on the dates listed above during 2010. The frequency and number of samples were all carried out as per the requirements of our EPA licence WL106-2. Over previous years we have had issues in relation to dust at the site and readings at some locations were outwith specification. We agreed with the Agency to implement corrective actions in relation to dust and we made improvements during 2010. We installed a modern dust misting system in our timber processing area which is the major source of dust at the site. In addition during periods of dry weather we use our water pumps which dose the roads at the site with water to ensure traffic does not rise and spread dust. Finally we introduced a daily road sweeping programme at the site which is managed by our Operations Manager which results in the main areas of the site being swept on a daily basis using our road sweeper. We hoped that these changes introduced in the first half of 2010 would have a positive effect when dust monitoring was carried out over the summer months. Monitoring results that came back to us were excellent and demonstrated that the work we carried to improve dust controls had made a significant impact on the dust levels at the site in a positive manner. All dust results at all monitoring location D1, D2, D3 and D4 were within specification for all three periods they were sampled even during the summer months of dry weather. As a result no corrective actions were required. Although these improvements have ensured we are within the limits specified in our licence we will continue to carry out the programmes outlined above during 2011 to ensure dust levels are maintained at this acceptable level. Dust is no longer a major area of concern at the site.

Dust Monitoring – JULY / AUGUST 2010

Dust Monitoring was carried out by Complete Laboratory Solutions for this period and dust pots were left in the stands on 15/07/2010 and collected again on 13/08/2010. Pots were left in stands at the monitoring locations and lids were removed and taken away by CLS. Results for this period at all locations D1, D2, D3 and D4 were within specification with the highest level of dust recorded at location D1 of 119 mg/sqm/day which is well within the licence limit of 350. As a result no investigation / corrective action was required. Programmes of daily road sweeping, switching on of dust pumps and the misting system within the timber processing area will continue to be followed on a daily basis to maintain dust at these levels.

Dust Monitoring – AUGUST / SEPTEMBER 2010

Dust Monitoring was carried out by Complete Laboratory Solutions for this period and dust pots were left in the stands on 13/08/2010 and collected again on 13/09/2010. Pots were left in stands at the monitoring locations and lids were removed and taken away by CLS. Results for this period at all locations D1, D2, D3 and D4 were within specification with the highest level of dust recorded at location D3 of 96 mg/sqm/day which is well within the licence limit of 350. As a result no investigation / corrective action was required. Programmes of daily road sweeping, switching on of dust pumps and the misting system within the timber processing area will continue to be followed on a daily basis to maintain dust at these levels.

Dust Monitoring – SEPTEMBER / OCTOBER 2010

Dust Monitoring was carried out by Complete Laboratory Solutions for this period and dust pots were left in the stands on 13/09/2010 and collected again on 12/10/2010. Pots were left in stands at the monitoring locations and lids were removed and taken away by CLS. Results for this period at all locations D1, D2, D3 and D4 were within specification with the highest level of dust recorded at location D1 of 92 mg/sqm/day which is well within the licence limit of 350. As a result no investigation / corrective action was required. Programmes of daily road sweeping, switching on of dust pumps and the misting system within the timber processing area will continue to be followed on a daily basis to maintain dust at these levels.

7.3. Summary of Noise Monitoring Results

Noise Monitoring Results - Annual

Noise Monitoring was carried out by Euro Environmental Services as per the requirements of EPA licence WL106-2. This year's survey was carried out on 11th March 2010. As required by the licence we monitored noise levels at two sensitive locations one on the site boundary nearest the major processing area and the second at the nearest residence to our facility. Locations are known as N1 and N2. Our licence limit for noise levels is set at 55 dB(A)Laeq and readings found at location N1 on site were found to exceed the licence limit with an average reading over the period of 73 dB(A). We confirmed via on site checks that nothing unusual took place during the time of sampling and general activities were taking place at the site. Traffic on site looking at weighbridge records for that day was normal and nothing out of the ordinary. We also spoke to members of the Travelling Community who live adjacent to our site boundary and spoke to two families residing there and nobody raised any issues in relation to noise at the site. We only have one open part of our transfer station and that is where the monitoring point is located. Apart from the unloading of a glass vehicle which can be loud when bottles break on the ground and the movement of skips onto / off trucks to the ground level there is no other significant noise at the site. Internally employees although recommended to wear ear protection as a policy most of them do not and have no issues working with noise levels at the facility. Results at monitoring location N2 were within specification. Overall investigations have shown we have no major noise issue at the site and we are not concerned that the result at location N1 was slightly over the limit. We will continue to monitor this and most important respect our immediate neighbours in relation to noise levels and to date no issues have been revealed or complaints received.

7.4. Compost Monitoring Results

As a requirement of EPA Licence WL106-2 we are required to monitor the performance of our scrubbers and keep records of these for review. Our Composting Manager monitors the process and logs the results. As these results are not submitted to the Agency on a regular basis we have included the results as an appendix to this report in full for 2010. A summary of the results is included below.

Report on the actual removal efficiency of the scrubbers at the facility based on actual on-site monitoring results.

Scrubbers

Two wet scrubbers are co-located on site and are used to treat the bio aerosols released from processing aisles 1 and 2. Scrubber 1 is used to treat aisle 1 and scrubber 2 aisle 2. Scrubber 1 has been operational since mid February 2010. Attached are the results obtained from monitoring pH, Redox and chemical quantities. Also monitored are the stack inlet and outlet gasses as well as inlet and outlet temperatures.

The Scrubbers are performing very well and are within our emission limits based on our licence. However we are still examining alternatives to extracting the fog from the processing aisles in a more efficient manner to reduce our energy consumption.

The monitoring results for scrubber 2 have not been included since it only became operational in January 2011.

Reference appendix C for full details of the actual readings / results.

7.5. Monitoring Locations

A map of the monitoring locations at the site is attached as an appendix to this report.

8.0. Foul Water Discharge

As required by schedule G of our EPA waste licence this section details the foul water emission levels for the current reporting period. Readings of foul water emissions are taken on a daily basis by the Facility Manager and results are logged and kept on file. Details of the volumes of surface water discharged during the reporting period are below.

Total wastewater discharged via FW1 for 2010 (approximately): 7,520,570 litres

These results are available for review on request and are recorded on a daily basis.

9. Resource and Energy Consumption Summary

The main resources consumed at the facility during the reporting period were electricity, diesel fuel and water. A summary of the significant resources consumed are tabulated below with a summary of the principal resource consumption.

Table 9.1: Principal Areas of Resource Consumption

Area of Use	**Purpose**	**Principal Resource Consumed**
Site Plant	Moving and processing of wastes and our fleet of on the road vehicles used for the collection and disposal of waste	Diesel, hydraulic oils
Site Operations	Road sweeper for maintenance of road surfaces and wash bay hose for washing bins, trucks	Water
Odour Controls	Used on an as required basis if any odours are detected at the facility	Chemical – diluted with water
Offices	Administration & Management of the facility usage of electricity for computers, phones etc	Electricity

Table 9.2: Usage of Energy and Resources, 1st January 2010 – 31st December 2010

Resource	**Consumption for Reporting Period**
Site Management	
Odour Control Chemicals	Approximately 25 litres
Electricity	2010: 1,327,372 (KW) 2009: 1,392,552 (KW) 2008: 1,304,972 (KW) 2007: 817,982 (KW) 2006: 71,689 (KW) 2005: 117,174 (KW) 2004: 120,900 (KW)
Diesel Fuel	2,307,253 (litres approx) including our fleet of on the road vehicles and on site plant / equipment
Hydraulic Oils	12,800 (litres approx)

10. Tank, Pipeline and Bund Testing and Inspection Report

This work was carried out during 2008 and details were included in the 2009 AER submission and there was no requirement to carry out a survey again during this reporting period however due to the problem highlighted in the water monitoring results as a company and in discussion with the EPA we decided to carry out this survey again. The job was undertaken by DynoRod in December of 2010 and the survey is 95% complete. There is one pipeline that could not be surveyed at the time of the others due to construction in the area. This pipleline will be available again to access during February of 2011 therefore DynoRod will come back then to fully complete the survey and produce the final DVD. So far in the survey no issues have been detected in the underground pipes, tanks. The pipeline outstanding in the survey is outside of the transfer station and very unlikely to have any issues but for completeness we would like to finish the survey 100% and then submit the results to the Agency. At this moment we are sure the final result will show no issues or problem in relation to the underground drainage network at the site.

11. Financial Provision for the Facility

Financial provision for the company is outlined in our Environmental Liabilities Risk Assessment report which was prepared by Tobin Consulting Engineers. This was submitted and accepted by the EPA. There were no changes to the Financial Provision of the site during this reporting period.

Full details of the calculations carried out to reach the final figure are detailed in the report but were made using the formulae outlined in our EPA licence WL106-2.

The final bond figure agreed under the new financial provision is €430,000 and is in place in the unlikely event that it may be required.

12. Management Structure at the Facility

A up to date company organisation chart is included in the company EMS system and a current copy is attached to this report as an appendix as required by our licence. There have been no significant changes to the Management Structure at the company during this reporting period. We believe the structure we have in place to be adequate for running an operation of this size and we have Managers in place responsible for all key areas of the business. All members of the Management Team play an important role in the decision making at the company at that is even more important during these tough financial times. Any major changes in the Management Structure at the site will be advised to the agency immediately.

Reference attached organisation chart for full details.

13. Public Information / Site Visits

All official records kept by Barna Waste under the terms of our EPA licence or in relation to any of our activities from either the collection service or at the transfer station are available to any member of the public on request from our offices.

The Facility Manager is the contact person for any requests for information in relation to company records.

All reasonable requests by the public or any other interested party for information will be answered as a priority.

Barna Waste also operate an 'open door policy' in relation to our site and all customers, partners, members of the public or any interested party are welcome to visit our facility by arrangement to tour the facilities, carry out inspections or get answers to any issues they may have in relation to our operations / activities.

14. Environmental Management Plan & Targets / Objectives

It is the purpose of the Environmental Management Plan (EMP) to set out the procedures necessary to meet the licence conditions. Specifically, the EMP is designed to:

1) Detail the methods by which the objectives and targets will be achieved in the coming year and the designation of responsibility for targets

2) Any other items required by written guidance issued by the agency

Barna Waste have produced a new EMP for 2011 which is a combined document along with our Schedule of Targets and Objectives. These updates are being submitted to the EPA alongside this Annual Environmental Report. The EMP details clearly the progress Barna Waste has made in all areas during this reporting period and outlines the major tasks ahead during the new reporting period.

This will show the Agency or reader of the document what progress was made in key elements of the business over the past 12 months and what targets have been set out for the next 12 months as a priority. Long term goals for the next five years are also included to ensure the long term progress of the company in relation to our products, services and the legislation we are governed by.

15. AER / PRTR Emissions Data for 2010

The EPA requires Barna Waste to complete an annual return called an AER / PRTR Emissions Data report where we declare both emissions data from our facility for the reporting period and declare tonnages of waste received at our facility. The tonnage data is already included in full in section two of this report.

This report is to be included in the company's full AER for the reporting period starting from 2008 onwards and therefore a full copy of the 2010 AER / PRTR Emissions Report Database which has been verified as acceptable by the agency via an automatic e-mail response has been added to this report as appendix D.

16. Full PDF AER

The EPA's new reporting requirements introduced for 2008 have been designed to ensure public access to information is improved and therefore a full copy of this AER in PDF format will be updated to the Agency website as soon as the full report including the AER / PRTR is included which will be before end March 2011 as required by the Agency.

Access to the PDF version of the full report will then be available via the EPA website or on request directly to Barna Waste.

Final Comments

This year's Annual Environmental Report has been compiled in the same format as previous years to keep it consistent. All figures and updates quoted are specifically for the 2010 reporting period unless otherwise stated in the particular section of the report. All information listed in schedule G of our EPA Waste Licence WL106-2 has been included somewhere in this report.

The intention of this report is to give the reader a detailed outline of the activities carried out by Barna Waste during 2010 in all areas of the business. We believe the report in its current format achieves this successfully. However Barna Waste welcomes constructive feedback on this report from any source and will endeavour to make any changes requested by customers, the Agency or members of the public in order to improve the reports for future submissions.

Updates on any of Barna Waste's activities are available at anytime during the year from our main offices in Carrowbrowne. Contact should be made with the Facility Manager.

A full copy of this report will also be made available on request to any person who requests it and as stated above will be made available in full in a downloadable format from the Agency website before end of March 2011.

Appendices

The following documents have been requested by the Agency and are attached to this document and form part of the final report:

Appendix A:	Company Organisation Chart
Appendix B:	Map of site monitoring locations
Appendix C:	Composting Scrubber Monitoring Results
Appendix D:	Barna Waste PRTR Database Report for 2010

Next Submission

The next submission of this report is due on 31st January 2012.

Contacts

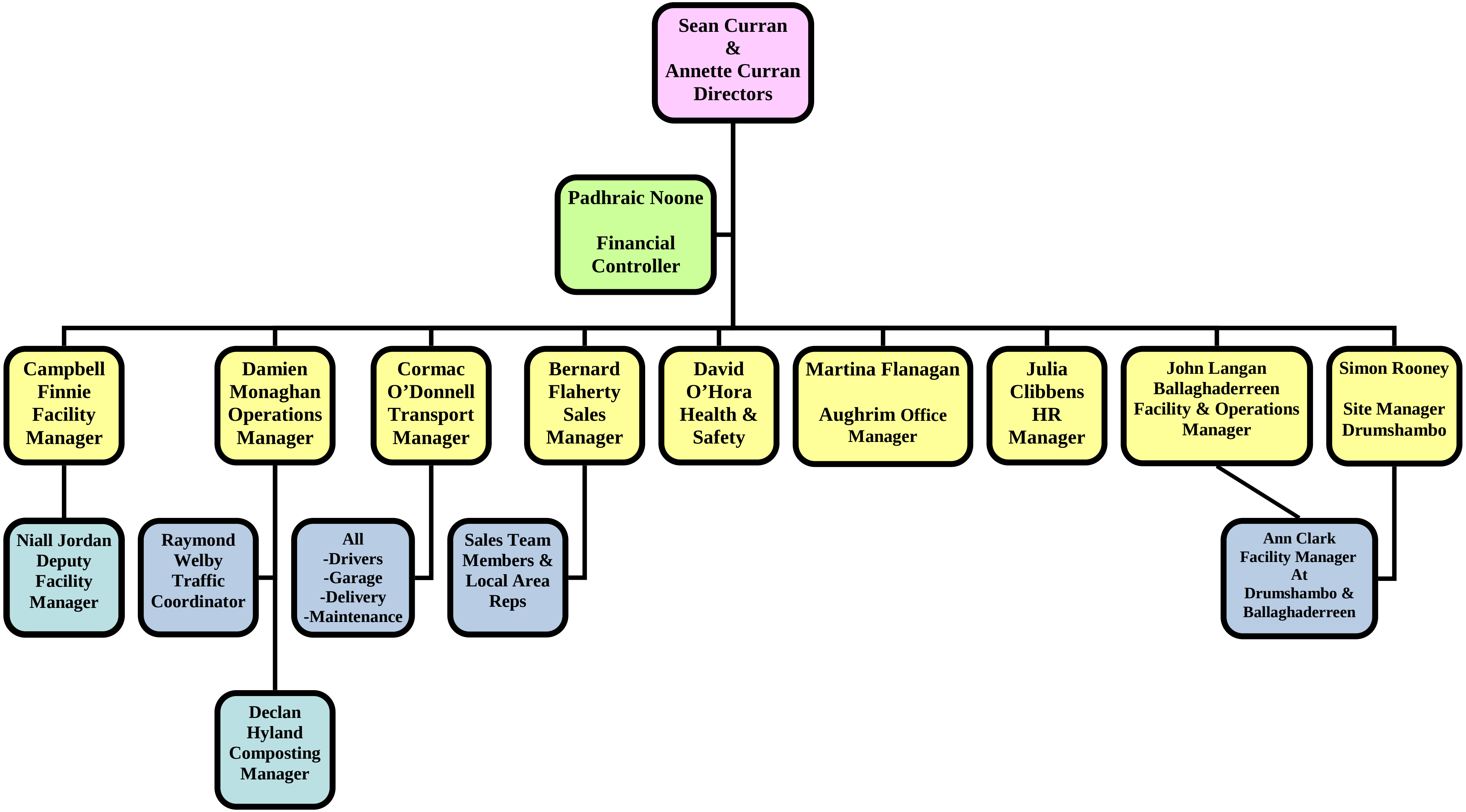
Any issues, questions or requests for additional information with regards to this report can be requested from Campbell Finnie (Facility Manager).

APPENDIX A:

Barna Waste Company Organisation Chart

BARNA WASTE

Company Management Structure



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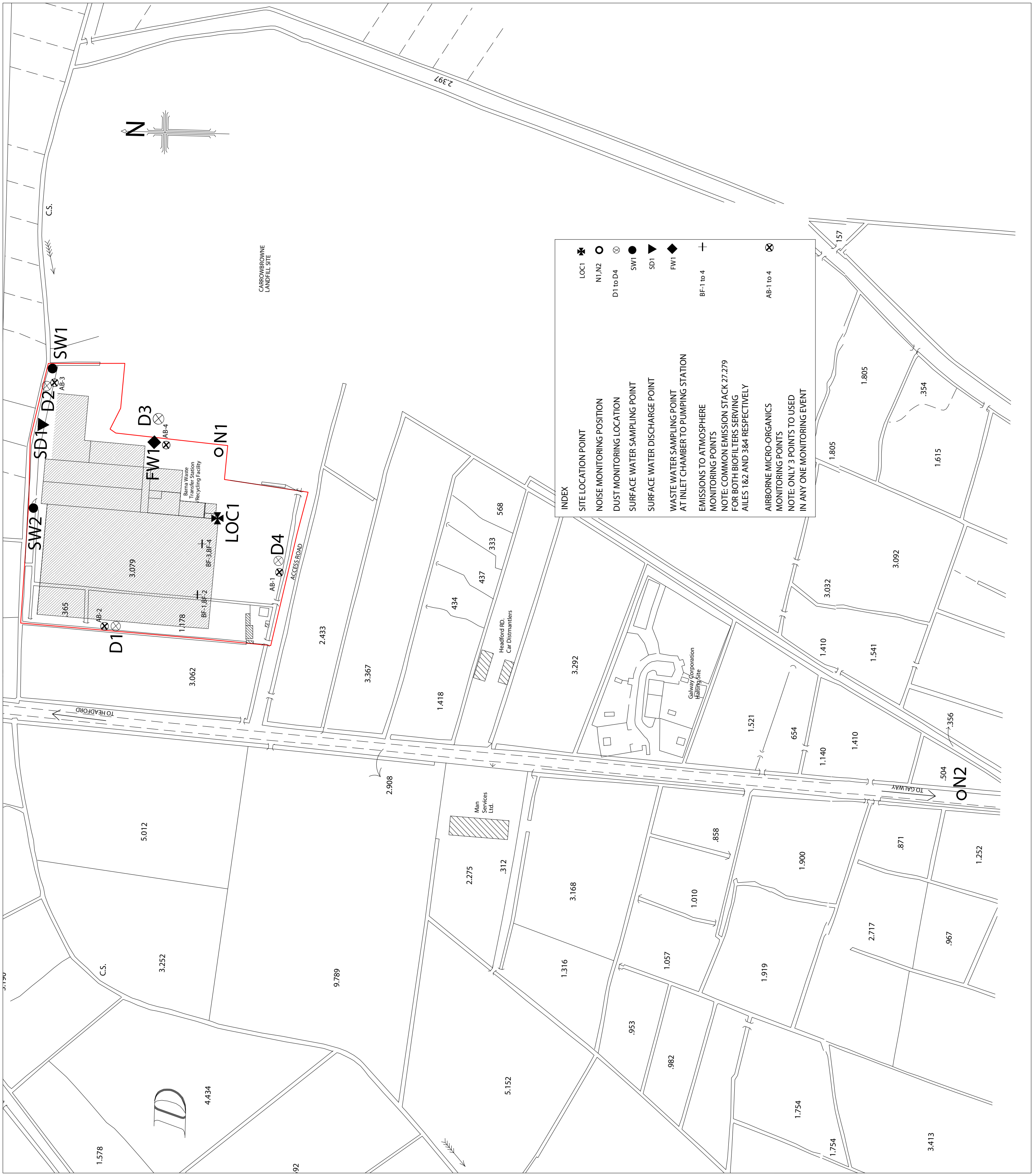
18/05/2010

APPENDIX
B:

Barna Waste Map of Site Monitoring Locations



Issu	Date	Des	By	Chk
A	July 2005	Issued to EPA	K.G.	E.McP.

Client: BARNA WASTE LTD.	Prepared by: K.G.	TOBIN Patrick J. Tobin & Co. Ltd.	Consulting, Civil and Structural Engineers, Fairgreen House, Fairgreen Road, Galway, Ireland. tel: +353-(0)91-565211 fax:+353-(0)91-565398 e-mail: info@tobin.ie www.tobin.ie
Project: Recycling depot & composting plant Carrowbrowne, Co. Galway	Checked: E.McP		
	Date: JULY 2005		Issue:
Title: LOCATION OF MONITORING POINTS	Project Director: J.P.KELLY	Drawing No.: 1015-6001	A
	Scale @ A2: 1:2500		

APPENDIX C:

Barna Waste Composting Scrubber Monitoring Results

COMPOSTING BUILDING - Monitoring Results for Scrubber 1 2010

Date	Time Powered on*/0ff**	Caustic Soda 30%		Sodium Hypochlorite 14%		Sulphuric Acid 30%		Potassium Permanganate	
		Litres	pH	Litres	Redox	Litres	pH	Litres	Redox
02/03/2010	13:00*	50	8.71	55	203	15	4.19	50	576
	18:00**	50	8.49	38	461	10	3.89	20	605
03/03/2010	09:00*	"	"	"	"	"	"	"	"
	16:00**	50	8.66	30	436	8	4.22	15	533
	17:25*	"	"	"	"	"	"	"	"
	18:25**	50	8.62	29	451	6	4.35	10	454
04/03/2010	09:00*	"	"	"	"	"	"	"	"
	12:00**	50	8.63	26	389	6	4.91	0	433
	14:50*	"	"	"	"	"	"	30	"
	19:00**	50	8.57	15	416	6	5.04	20	440
05/03/2010	9:00*	"	"	"	"	"	"	"	"
	11:00**	49	8.75	10	406	6	5.09	5	506
	13:00*	"	"	"	"	"	"	"	"
	18:00**	25	10.4	5	155	6	5.76	0	390
06/03/2010	14:00*	25	"	30	"	6	"	50	"
	15:30**	25	9.96	27	182	5	5.74	40	408
08/03/2010	8:15*	"	9.91	"	277	"	"	"	379
	11:15**	25	9.71	15	236	5	5.81	20	395
09/03/2010	8:15*	"	"	"	320	"	"	20	392
	11:15**	"	9.56	15	276	5	8.34	30	406
	15:30*	"	"	"	"	"	"	"	"
	18:00**	"	9.25	8	260	"	8.22	20	410
10/03/2010	09:30*	"	"	"	"	"	"	"	"
	11:30**	"	9.08	8	238	"	8.14	0	460
11/03/2010	8:30*	25	9.21	30	203	5	8.23	50	401
	12:10**	25	9.2	20	317	5	8.33	25	397
12/03/2010	8:15*	"	"	"	"	"	"	"	"
	10:00**	25	9.16	15	341	5	8.26	15	393
15/03/2010	8:40*	"	"	"	"	"	"	50	"
	10:40**	25	9.37	10 (50%)	222	5	8.53	30	342
15/03/2010	13:00*	25	9.27	9	192	5	8.46	30	339
	17:00**	"	"	5	"	5	"	5	"
16/03/2010	8:50*	25	9.29	18	192	5	8.46	30	323

Scrubber Operation Data

COMPOSTING BUILDING - Monitoring Results for Scrubber 1 2010

Date	Time Powered on*/0ff**	Caustic Soda 30%		Sodium Hypochlorite 14%		Sulphuric Acid 30%		Potassium Permanganate	
		Litres	pH	Litres	Redox	Litres	pH	Litres	Redox
Note:	Scrubber switched itself off at 9:00. Bad connection with a contactor. Downtime - two days.								
19/03/2010									
22/03/2010	8:30*	30	9.71	25	159	5	8.23	30	318
	12:30**	25	10.04	10	303	5	8.24	12	388
24/03/2010	10:00*	27	10.01	20	371	50	8.27	50	429
	11:00**	26	10.02	28	393	49	7.83	50	455
25/03/2010	10:00*	"	"	"	"	"	"	50	"
	14:00**	26	10.08	8	264	38	4.14	50	758
29/03/2010	8:45*	22	9.97	48	167	38	4.27	50	456
	15:45**	20	10.02	19	411	20	3.97	40	795
30/03/2010	9:00*	20	10.02	19	437	20	4.07	40	762
	11:15**	20	10.03	10	408	15	3.94	40	789
	13:00*	20	10.03	35	421	15	4.11	40	785
Note:	Fault with circuit board on Lph Controller. Its not displaying a redox reading for sodium hypo.								
05/04/2010	9:00*	20	10.03	18	?	15	4.1	40	750
	18:00**	17	10.04	18	?	15	4.41	40	645
12/04/2010	9:00*	39	9.95	18	?	25	7.75	50	272
	12:00**	39	9.92	18	?	15	7.02	35	540
13/04/2010	8:30*	39	9.88	18	?	15	7.03	35	322
	14:00**	31	10.08	18	?	11	7.72	21	316
14/04/2010	8:30*	31	10.08	18	?	11	7.72	21	316
	9:15**	31	10.08	18	?	10	7.59	20	468
16/04/2010	9:00*	30	10.02	18	?	9	7.79	19	283
	11:00*	28	9.99	18	?	5	7.88	8	269
19/04/2010	8:45*	28	9.99	18	?	5	7.88	8	269
Note:	Replaced pcb board from scrubber 1 with redox pcb board from scrubber 2. Sent board to the uk for repair.								
	10:30**	28	9.97	10	136	5	7.9	5	264
20/04/2010	08:30 (filled)	28	9.97	10	136	5	7.9	5	264
21/04/2010	8:30*	21	9.98	10	355	5	7.76	39	486
	10:40**	19	10.04	10	277	5	7.71	24	546
21/04/2010	16:45 (filled)	49	10.03	50	326	50	7.71	50	537
22/04/2010	8:15*	48	10.02	47	328	43	6.69	49	590

Scrubber Operation Data

COMPOSTING BUILDING - Monitoring Results for Scrubber 1 2010

Date	Time Powered on*/0ff**	Caustic Soda 30%		Sodium Hypochlorite 14%		Sulphuric Acid 30%		Potassium Permanganate	
		Litres	pH	Litres	Redox	Litres	pH	Litres	Redox
	13:20**	48	9.99	28	2.47	15	4.07	32	808
23/04/2010	8:10*	48	10	28	3.49	15	4.15	32	712
	9:30**	45	10.06	22	3.26	12	4.04	32	774
23/04/2010	11:00*	45	10	22	3.49	12	4.15	32	712
	13:30**	43	10.04	11	3.72	8	4.05	32	738
26/04/2010	9:00*	43	10.02	11	417	8	4.32	31	694
	12:00**	43	10.01	10	343	8	7.47	18	411
28/04/2010	13:15*	41	9.98	10	226	8	7.73	8	390
	16:15**	41	9.97	10	168	8	7.62	5	372
04/05/2010	15:55*	41	9.7	49	111	49	7.31	50	384
	18:00**	32	9.96	32	344	41	6.75	45	509
05/05/2010	8:30*	32	9.96	32	344	41	6.75	45	509
	11:00**	30	9.99	18	374	30	4.03	44	792
	15:15*	"	"	"	"	"	"	"	"
	17:30**	30	9.96	18	300	23	5.17	44	675
06/05/2010	15:15*	30	9.95	18	208	20	7.3	41	417
	17:15**	30	9.97	18	235	20	7.33	40	413
10/05/2010	8:50*	29	9.93	18	210	19	7.38	39	402
	10:50**	25	10	10	324	15	7.31	31	427
	15:10*	"	"	"	"	"	"	"	"
	16:00**	25	10.03	10	237	13	7.47	30	402
11/05/2010	8:30*	25	9.99	10	288	12	7.49	30	402
	11:00**	25	9.96	10	196	12	7.67	20	373
12/05/2010	10:00*	24	9.95	10	225	11	7.65	20	374
	11:45**	20	10.02	10	171	11	7.69	10	368
13/05/2010		20	9.98	10	175	11	7.69	10	366
14/04/2010		50	9.97	50	153	50	7.46	50	380
17/05/2010	17:00*	50	9.96	50	149	50	7.5	50	359
	18:00**	48	10.01	48	216	49	5.46	45	618
18/05/2010	8:30*	48	9.97	48	265	49	5.45	45	623
	11:30**	41	10.05	35	324	41	4.57	45	755
	16:10*	41	10.05	35	324	41	4.57	45	755

COMPOSTING BUILDING - Monitoring Results for Scrubber 1 2010

Date	Time Powered on*/0ff**	Caustic Soda 30%		Sodium Hypochlorite 14%		Sulphuric Acid 30%		Potassium Permanganate	
		Litres	pH	Litres	Redox	Litres	pH	Litres	Redox
	18:20**	41	10.01	30	271	39	4.46	45	758
19/05/2010	8:40*	41	10	30	330	39	4.62	45	714
	13:00**	39	10.02	30	158	21	6.33	40	511
20/05/2010	8:50*	39	10.02	30	158	21	6.33	40	511
	12:00	31	10.06	24	278	10	7.33	21	410
21/05/2010	Filled	50	10.08	48	300	50	6.88	50	472
24/05/2010	8:40*	50	10.08	48	298	50	7.01	50	453
	11:10**	50	10.09	38	297	39	6.97	38	479
25/05/2010	8:30*	50	10.06	38	301	39	6.99	38	472
	10:45**	50	10.02	30	279	30	6.62	25	553
26/05/2010	8:40*	50	10	28	272	28	7.03	21	506
	11:00**	48	10.02	20	310	15	4.71	21	725
27/05/2010	9:45*	48	10.04	20	316	15	4.64	21	734
	12:00**	48	10.01	17	268	8	4.43	21	761
28/05/2010	9:45*	48	10.02	18	319	9	4.52	21	742
	11:30**	48	10.02	10	8	8	7.25	19	445
31/05/2010	8:30*	50	9.98	50	365	47	7.22	19	457
	12:15**	50	10.06	40	250	30	6.6	10	567
	17:00*	"	"	"	"	"	"	"	"
	18:00**	50	10.03	39	328	29	6.05	10	626
02/06/2010	9:00*	50	10.03	39	342	29	6.08	50	609
	12:45**	50	9.98	30	289	19	6.05	50	588
03/06/2010	09:00*	50	9.98	30	289	19	6.05	50	588
	10:30**	49	10.04	29	365	15	5.83	50	604
04/06/2010	09:00*	49	10.05	29	285	15	5.91	50	614
	11:45**	49	10.02	25	223	9	7.01	49	483
08/06/2010	08:15*	49	10	25	190	9	7.11	40	446
	10:00**	45	10.07	20	261	8	7.33	35	463
09/06/2010	10:10*	45	10.05	50	316	50	7.25	33	492
	14:10**	45	10.05	42	191	46	6.68	32	541
09/06/2010	16:00*	45	10.04	42	208	48	6.77	22	551
	18:00**	45	10.03	41	185	38	6.54	22	549

Scrubber Operation Data

COMPOSTING BUILDING - Monitoring Results for Scrubber 1 2010

Date	Time Powered on*/0ff**	Caustic Soda 30%		Sodium Hypochlorite 14%		Sulphuric Acid 30%		Potassium Permanganate	
		Litres	pH	Litres	Redox	Litres	pH	Litres	Redox
10/06/2010	09:10*	45	10	41	257	38	6.56	21	547
	11:00**	40	10.02	32	270	25	6.4	21	546
11/06/2010	10:00*	40	10.06	32	299	25	6.71	21	546
	12:30**	40	10.01	26	324	16	5.75	21	648
14/06/2010	8:50*	40	9.99	25	370	16	5.9	21	604
	11:00**	38	10.06	17	323	9	7.05	21	6.04
15/06/2010	08:45	38	10.03	17	366	9	7.04	21	491
16/06/2010	10:30	38	10.05	"	375	"	702	"	490
17/06/2010	14:30	38	"	10	323	"	7.26	19	485
18/06/2010	12:15 (filled)	38	9.98	49	262	50	6.91	17	508
21/06/2010	8:15*	38	9.94	"	263	"	6.99	"	480
	9:30**	32	10.04	43	270	46	6.56	15	524
22/06/2010	9:10*	32	10	43	290	46	6.59	15	543
	11:00**	32	9.97	38	288	38	4.54	15	759
	14:45*	32	"	"	324	"	4.61	"	747
	15:30**	32	9.99	31	283	32	4.53	"	759
23/06/2010	8:40*	32	9.96	31	338	32	4.63	"	739
	11:00**	30	10.03	18	223	19	5.07	12	697
24/06/2010	8:10*	30	9.98	18	331	19	505	12	677
	9:30**	30	9.96	9	298	12	5.03	11	694
25/06/2010	Filled	50	9.99	50	252	47	5.42	50	635
	10:00*	50	"	"	"	"	"	"	"
	11:10**	49	10.01	50	190	41	5.61	50	610
	15:40*	49	"	"	"	"	"	"	"
	17:00**	49	10	40	289	35	6.09	50	532
28/06/2010	8:20*	49	"	"	"	"	"	"	"
	10:00**	45	10.08	33	273	26	6.52	45	527
29/06/2010	8:30*	42	10.06	30	307	21	6.63	21	514
	10:30**	42	10	22	304	15	6.64	40	516
30/06/2010	9:30*	39	"	"	"	"	"	"	"
	11:20**	39	10.07	18	265	8	6.29	39	551
01/07/2010	8:30*	39	10.05	"	336	"	6.34	"	555

Scrubber Operation Data

COMPOSTING BUILDING - Monitoring Results for Scrubber 1 2010

Date	Time Powered on*/0ff**	Caustic Soda 30%		Sodium Hypochlorite 14%		Sulphuric Acid 30%		Potassium Permanganate	
		Litres	pH	Litres	Redox	Litres	pH	Litres	Redox
	10:00**	39	10.06	10	298	8	7.14	32	451
	16:30*	39	"	"	322	"	"	"	458
	17:40**	39	10.06	"	216	"	7.18	29	449
02/07/2010	10:00*	39	10.04	50	224	50	7.2	29	442
	12:30**	39	"	45	250	45	6.45	26	532
	16:30*	39	"	"	288	"	"	"	552
	17:30**	39	"	40	342	40	6.18	27	574
05/07/2010	8:40*	"	10.03	40	353	40	6.18	27	574
	10:00**	"	10.09	35	312	34	6.88	22	496
06/07/2010	11:45*	39	10.03	30	346	30	6	22	604
	12:45**	35	10.05	28	335	28	5.01	22	707
	13:30*	"	"	"	"	"	"	"	"
	14:50**	32	10.08	21	342	22	4.98	"	721
07/07/2010	9:30*	"	10.07	21	389	22	5.03	"	699
	10:30**	"	10.08	19	345	19	5.05	21	690
08/07/2010	9:00*	32	10.09	19	363	19	5.05	21	685
	10:30**	"	10.13	12	304	12	6.81	20	479
12/07/2010	8:30*(filled)	50	10.02	50	239	50	6.83	12	471
	10:30**	"	10.08	49	184	40	7.14	48	465
14/07/2010	13:00*	49	10.05	49	261	39	6.89	48	465
	18:00**	40	10.04	40	194	30	6.59	40	522
15/07/2010	11:20*	40	"	40	194	"	"	"	"
	14:00**	40	10.04	30	306	20	5.26	40	674
19/07/2010	08:45	"	10.05	"	"	"	"	"	"
20/07/2010	9:45*	"	"	"	330	"	5.3	40	659
	11:45**	"	10.08	23	239	8	7.04	39	470
21/07/2010	10:00*(filled)	40	10.04	48	313	49	7.03	39	470
26/07/2010	10:00*	"	10.01	48	312	49	7.03	"	470
	18:00**	"	10.02	39	330	40	5.97	38	588
27/07/2010	9:30*	"	"	"	"	"	"	"	"
	18:30**	38	10.03	25	360	26	5.6	38	580
28/07/2010	8:30*	"	"	"	"	"	"	"	"

Scrubber Operation Data

COMPOSTING BUILDING - Monitoring Results for Scrubber 1 2010

Date	Time Powered on*/0ff**	Caustic Soda 30%		Sodium Hypochlorite 14%		Sulphuric Acid 30%		Potassium Permanganate	
		Litres	pH	Litres	Redox	Litres	pH	Litres	Redox
	16:45**	36	10.05	10	321	10	5.05	"	711
29/07/2010	9:45*	"	9.97	50	301	49	5.69	"	689
	16:50**	29	10.01	36	322	41	5.05	37	523
03/08/2010	8:30*	"	"	"	"	"	"	"	"
	18:00**	"	10.02	12	267	20	5.51	35	634
04/08/2010	13:30* (filled)	52	"	48	318	52	5.57	"	640
	18:00**	50	"	"	253	47	5.13	35	656
05/08/2010	11:50*	"	9.99	48	244	"	5.2	35	"
	16:30**	49	10.03	39	295	37	5.05	35	694
06/08/2010	10:15*	48	"	"	356	"	5.1	"	670
	17:15**	"	"	29	339	27	5.07	35	701
09/08/2010	09:00*	"	10.03	"	378	"	5.36	"	636
	17:00**	"	"	19	283	13	5.85	35	597
10/08/2010	8:45*	"	10.01	"	335	12	5.91	35	597
	17:45**	48	10.01	15	361	10	5.08	35	676
11/08/2010	9:00*	"	"	"	"	"	"	"	"
	15:30**	48	10.01	6	355	5	5.36	35	676
12/08/2010	10:30*	"	10.01	50	324	50	6.38	35	676
	17:30**	40	10.03	42	293	40	5.07	31	702
13/08/2010	13:00*	"	10.02	"	"	"	"	"	"
	15:15**	40	10.01	31	359	32	5.06	31	678
16/08/2010	9:15*	"	"	"	298	"	5.07	19	670
	17:30**	39	9.99	29	207	29	5.04	19	668
17/08/2010	08:20	"	9.97	"	"	"	"	"	"
18/08/2010	11:30	39	9.96	29	190	"	5.1	19	650
19/08/2010	08:30*	39	"	29	165	29	5.7	19	635
	12:00**	39	9.97	20	234	20	5.08	15	468
23/08/2010	09:00	"	"	"	"	"	"	"	"
24/08/2010	08:15*	"	9.96	20	245	20	5.12	15	476
	12:30**	32	9.99	11	197	11	4.98	8	515
26/08/2010	09:00*	"	"	"	"	"	"	"	"
	11:30**	28	10.01	5	123	7	5.52	8	480

COMPOSTING BUILDING - Monitoring Results for Scrubber 1 2010

Date	Time Powered on*/0ff**	Caustic Soda 30%		Sodium Hypochlorite 14%		Sulphuric Acid 30%		Potassium Permanganate	
		Litres	pH	Litres	Redox	Litres	pH	Litres	Redox
30/08/2010	8:15*	"	"	"	"	"	"	"	"
	15:30**	28	10.01	5	92	5	6.5	8	434
	16:45 (filled)	50	10	50	88	48	6.77	50	423
31/08/2010	09:00*	50	9.99	50	34	48	6.83	50	423
	16:45**	43	10.02	50	88	48	693	28	407
01/09/2010	8:00*	43	10.02	50	40	48	693	28	407
	16:30**	43	10.03	47	206	48	694	20	414
02/09/2010	8:00*	43	10	47	240	48	695	20	414
	16:45**	43	10.01	34	304	48	689	8	477
03/09/2010	8:00*	43	10	34	324	48	690	8	473
	16:45** (filled)	43	10.01	30	320	42	528	50	646
06/09/2010	8:00*	"	9.97	16	3.37	30	5.08	"	662
	12:30**	38	10.04	9	348	26	5.07	50	665
07/09/2010	17:30	"	"	"	"	"	"	"	"
08/09/2010	08:30	"	"	"	"	"	"	"	"
09/09/2010	9:00* (filled)	38	10.04	49	346	26	5.13	50	643
	10:30**	"	"	44	343	21	5.1	"	645
10/09/2010	09:00*	"	"	44	343	21	5.07	"	649
	10:00**	38	10.04	40	346	20	5.03	50	626
13/09/2010	8:30*	"	10.04	"	"	"	"	"	"
	18:00**	"	10.06	39	345	18	5.04	"	658
15/09/2010	10:00* (filled)	"	"	"	"	50	5.11	"	643
	17:00**	"	"	35	351	49	5.08	"	668
16/09/2010	9:00*	"	"	35	351	"	5.05	"	684
	17:00**	"	"	28	271	38	5.05	"	684
17/09/2010	8:45*	38	10.06	"	"	"	"	"	650
	18:00**	34	10.01	"	237	32	5.08	50	630
20/09/2010	8:30*	"	9.95	"	218	"	5.11	"	612
	10:00**	31	10.01	28	172	22	5.11	"	616
21/09/2010	8:30*	31	10.01	28	172	22	5.11	50	616
	12:30**	30	9.98	"	130	12	5.07	"	617
23/09/2010	8:15*	30	9.93	"	"	"	"	"	"

Scrubber Operation Data

COMPOSTING BUILDING - Monitoring Results for Scrubber 1 2010

Date	Time Powered on*/0ff**	Caustic Soda 30%		Sodium Hypochlorite 14%		Sulphuric Acid 30%		Potassium Permanganate	
		Litres	pH	Litres	Redox	Litres	pH	Litres	Redox
	11:00**	30	"	"	120	"	6.6	40	433
24/09/2010	8:30*	"	"	"	"	"	"	"	"
	12:00**	20	10.02	22	191	10	5.15	39	606
28/09/2010	9:00*	"	"	"	"	"	"	"	"
	14:00**	"	"	0	189	"	6.66	35	476
29/09/2010	08:20	20	10.02	0	"	10	"	"	"
30/09/2010	08:45	"	10	0	158	"	6.68	"	427
04/10/2010	09:30	"	"	"	"	"	"	"	"
05/10/2010	8:30*(filled)	20	9.98	40	-79	40	6.62	35	400
	11:00**	20	9.99	30	122	35	6.05	35	400
06/10/2010	8:30*	"	"	"	"	"	"	"	"
	10:00**	20	"	25	190	30	5.8	30	510
07/10/2010	9:00*	"	"	"	"	"	"	"	"
	11:00**	18	10.04	21	230	28	5.1	30	515
08/10/2010	9:00*	"	"	21	"	"	5.05	"	505
	12:15**	"	10.02	15	275	25	4.9	"	"
11/10/2010	8:30*	"	"	"	"	"	"	"	"
	11:00**	18	10.02	10	290	23	4.7	30	500
12/10/2010	10:00	"	"	"	"	"	"	"	"
14/10/2010	9:00*	18	9.99	10	265	23	4.75	30	510
	11:30	14	10.03	5	250	18	4.3	28	490
15/10/2010	12:00	14	10.02	5	245	18	4.35	28	485
19/10/2010	8:30*(filled)	14	9.93	40	220	40	4.64	28	460
	12:00**	10	9.97	30	294	38	4.7	28	475
20/10/2010	8:30*	"	"	"	"	"	"	"	"
	10:00**	10	9.98	24	310	35	4.4	29	500
22/10/2010	9:40*	10	"	"	"	"	"	"	"
	10:30**	10	"	22	320	35	4.5	29	"
26/10/2010	8:30*	"	9.96	22	315	35	4.6	29	490
	10:00**	6	10.06	17	354	35	4.75	25	585
27/10/2010	09:00	6	10.04	17	352	35	4.7	25	570
28/10/2010	8:15*	6	10.02	17	352	35	4.65	25	570

Scrubber Operation Data

COMPOSTING BUILDING - Monitoring Results for Scrubber 1 2010

Date	Time Powered on*/0ff**	Caustic Soda 30%		Sodium Hypochlorite 14%		Sulphuric Acid 30%		Potassium Permanganate	
		Litres	pH	Litres	Redox	Litres	pH	Litres	Redox
	12:00**	6	10.02	10	390	35	4.95	25	560
29/10/2010	11:00	6	10.02	"	390	35	4.95	25	560
02/11/2010	8:30*	6	10.01	10	355	35	5.1	25	555
	11:30**	6	10.01	5	315	30	4.93	25	504
04/11/2010	8:30*	"	"	"	"	"	"	"	"
	10:15**	5	9.99	5	240	30	5.1	25	468
05/11/2010	08:30* (filled)	50	9.98	45	240	50	5.25	50	450
	15:00**	46	10.01	38	310	47	4.6	45	560
08/11/2010	8:30*	46	"	"	"	"	"	"	"
	11:00**	"	"	32	365	41	5	45	610
11/11/2010	9:00*	"	9.99	"	350	"	4.98	"	615
	11:00**	41	10.03	26	382	37	4.26	45	620
12/11/2010	10:00	"	"	"	315	37	4.15	45	620
15/11/2010	9:00*	"	"	26	"	37	"	"	606
	11:30**	38	10.01	20	330	35	4.87	39	575
16/11/2010	9:00*	"	"	"	325	"	"	"	557
	10:00**	"	"	17	310	33	4.61	37	550
18/11/2010	10:30	38	10.01	17	305	33	4.58	37	560
19/11/2010	9:30*	"	"	"	"	"	"	"	"
	11:00**	38	10.01	14	310	30	4.5	37	545
Note:	Flow meter not registering flow, replaced with flow meter from Scrubber 2 as its not yet in operation.								
23/11/2010	8:30*	38	10	14	310	30	4.66	37	530
	11:00**	38	10.01	10	300	26	4.51	35	545
24/11/2010	8:00*	38	10.01	10	290	26	4.52	35	540
	11:00**	35	10.03	6	277	26	4.72	35	509
	14:00*	"	"	"	"	"	"	"	"
	16:30**	35	10.02	6	253	26	4.75	35	495
25/11/2010	09:00	35	10.02	6	253	26	4.75	35	495
29/11/2010	8:30*	35	10.02	6	236	26	4.82	35	490
	11:30**	35	10.01	5	187	21	4.58	35	563
30/11/2010	8:30*	35	10.01	5	162	18	4.91	35	522
	12:00**	29	10.05	5	120	14	5.23	32	476

COMPOSTING BUILDING - Monitoring Results for Scrubber 1 2010

Date	Time Powered on*/0ff**	Caustic Soda 30%		Sodium Hypochlorite 14%		Sulphuric Acid 30%		Potassium Permanganate	
		Litres	pH	Litres	Redox	Litres	pH	Litres	Redox
01/12/2010	8:30*	29	10.04	5	115	14	5.6	32	462
	11:30**	28	10.03	5	90	8	5.81	32	490
02/12/2010	8:30*	28	10.03	40	90	50	5.81	32	490
	14:00**	28	10.02	22	210	44	4.93	28	572
03/12/2010	10:00*	28	10.02	22	235	44	4.93	28	580
	12:30**	25	9.98	17	250	44	4.95	28	590
06/12/2010	09:00	25	9.99	17	250	44	5.12	28	580
07/12/2010	8:30*	25	9.99	17	240	44	5.1	28	585
	12:15**	22	10.02	13	274	38	4.23	28	615
08/12/2010	8:30*	22	10.01	13	270	38	4.23	28	610
	12:00**	19	10.03	8	182	38	4.56	28	591
09/12/2010	09:00	19	10.03	8	182	38	4.56	28	591
10/12/2010	8:30*	19	10.03	"	"	"	"	"	580
	10:30**	19	10	5	116	33	4.25	25	568
13/12/2010	09:15*	19	10.01	5	111	33	4.26	25	565
	12:00**	19	10.01	5	96	33	4.84	25	515
	14:00*	"	"	"	"	"	"	"	"
	16:00**	15	10.02	5	68	28	5.2	22	488
16/12/2010	09:00	15	10.01	5	55	28	5.34	22	470
	14:30*	"	"	"	"	"	"	"	"
	17:00**	13	9.96	5	25	21	5.96	22	435
17/12/2010	09:00	13	9.96	5	25	21	6.11	22	435
20/12/2010	8:30*	13	9.96	5	25	21	6.11	22	430
	10:30**	9	9.99	5	-15	17	5.85	18	464
	11:00	40	9.99	45	-15	40	5.85	50	470
21/12/2010	8:30*	40	"	"	-20	"	"	"	"
	15:00**	37	10.04	35	195	36	5.2	45	520
22/12/2010	8:30*	37	10.03	35	190	36	5.25	45	510
	10:00**	37	10.03	30	235	32	5.06	45	540
	14:00*	"	"	"	"	"	"	"	"
	17:30**	37	10.03	26	254	28	4.8	45	535
23/12/2010	10:30	37	10.02	26	265	28	4.83	45	520

Note: Monthly data is measured and recorded on the last working day of every month

Scrubber 1

Month	March	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260	80	35
Hydrogen Sulphide	ppm	0.5 - 40	0	0
Mercaptans	ppm	0.5 - 10	0	0
Temperature	°C	0°C- 120°C	13	24

Month	April	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260	120	40
Hydrogen Sulphide	ppm	0.5 - 40	0	0
Mercaptans	ppm	0.5 - 10	0	0
Temperature	°C	0°C- 120°C	12	26

Month	May	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260	80	30
Hydrogen Sulphide	ppm	0.5 - 40	0	0
Mercaptans	ppm	0.5 - 10	0	0
Temperature	°C	0°C- 120°C	10	23

Month	June	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260	80	40
Hydrogen Sulphide	ppm	0.5 - 40	0	0
Mercaptans	ppm	0.5 - 10	0	0
Temperature	°C	0°C- 120°C	13	21

Month	July	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260	90	35
Hydrogen Sulphide	ppm	0.5 - 40	0	0
Mercaptans	ppm	0.5 - 10	0	0
Temperature	°C	0°C- 120°C	15	23

Month	August	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260	110	40
Hydrogen Sulphide	ppm	0.5 - 40	0	0
Mercaptans	ppm	0.5 - 10	0	0
Temperature	°C	0°C- 120°C	17	24

Month	September	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260	35	20
Hydrogen Sulphide	ppm	0.5 - 40	0	0
Mercaptans	ppm	0.5 - 10	0	0
Temperature	°C	0°C- 120°C	15	22

Month	October	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260	30	20
Hydrogen Sulphide	ppm	0.5 - 40	0	0
Mercaptans	ppm	0.5 - 10	0	0
Temperature	°C	0°C- 120°C	11	23

Monthly Measurements 2010

Month	November	Parameters	Inlet Gas	Outlet Gas
Ammonia	**ppm**	**5 - 260**	45	25
Hydrogen Sulphide	**ppm**	**0.5 - 40**	0	0
Mercaptans	**ppm**	**0.5 - 10**	0	0
Temperature	°C	**0°C- 120°C**	13	21

Month	December	Parameters	Inlet Gas	Outlet Gas
Ammonia	**ppm**	**5 - 260**	20	10
Hydrogen Sulphide	**ppm**	**0.5 - 40**	0	0
Mercaptans	**ppm**	**0.5 - 10**	0	0
Temperature	°C	**0°C- 120°C**	13	22

Scrubber 2

Month	March	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260		
Hydrogen Sulphide	ppm	0.5 - 40		
Mercaptans	ppm	0.5 - 10		
Temperature	°C	0°C- 120°C		

Month	April	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260		
Hydrogen Sulphide	ppm	0.5 - 40		
Mercaptans	ppm	0.5 - 10		
Temperature	°C	0°C- 120°C		

Month	May	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260		
Hydrogen Sulphide	ppm	0.5 - 40		
Mercaptans	ppm	0.5 - 10		
Temperature	°C	0°C- 120°C		

Month	June	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260		
Hydrogen Sulphide	ppm	0.5 - 40		
Mercaptans	ppm	0.5 - 10		
Temperature	°C	0°C- 120°C		

Month	July	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260		
Hydrogen Sulphide	ppm	0.5 - 40		
Mercaptans	ppm	0.5 - 10		
Temperature	°C	0°C- 120°C		

Month	August	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260		
Hydrogen Sulphide	ppm	0.5 - 40		
Mercaptans	ppm	0.5 - 10		
Temperature	°C	0°C- 120°C		

Month	September	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260		
Hydrogen Sulphide	ppm	0.5 - 40		
Mercaptans	ppm	0.5 - 10		
Temperature	°C	0°C- 120°C		

Month	October	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260		
Hydrogen Sulphide	ppm	0.5 - 40		
Mercaptans	ppm	0.5 - 10		
Temperature	°C	0°C- 120°C		

Monthly Measurements 2010

Month	November	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260		
Hydrogen Sulphide	ppm	0.5 - 40		
Mercaptans	ppm	0.5 - 10		
Temperature	°C	0°C- 120°C		

Month	December	Parameters	Inlet Gas	Outlet Gas
Ammonia	ppm	5 - 260		
Hydrogen Sulphide	ppm	0.5 - 40		
Mercaptans	ppm	0.5 - 10		
Temperature	°C	0°C- 120°C		

APPENDIX

D:

Barna Waste PRTR Database for 2010

| PRTR# : W0106 | Facility Name : Bruscar Bhearna Teoranta | Filename : Barna Waste AER PRTR 2010.xls | Return Year : 2010 |

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.11

REFERENCE YEAR	2010

1. FACILITY IDENTIFICATION

Parent Company Name	Bruscar Bhearna Teoranta
Facility Name	Bruscar Bhearna Teoranta
PRTR Identification Number	W0106
Licence Number	W0106-02

Waste or IPPC Classes of Activity

No.	class_name
3.13	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.
3.11	Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.
3.12	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
4.12	Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.
4.13	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.
4.2	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
4.3	Recycling or reclamation of metals and metal compounds.
4.4	Recycling or reclamation of other inorganic materials.
Address 1	Carrowbrowne
Address 2	Headford Road
Address 3	Galway
Address 4	
Country	Ireland
Coordinates of Location	-9.01825 53.3301
River Basin District	IEWE
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Campbell Finnie
AER Returns Contact Email Address	cfinnie@barnawaste.com
AER Returns Contact Position	Facility Manager
AER Returns Contact Telephone Number	091-771619
AER Returns Contact Mobile Phone Number	087-7408568
AER Returns Contact Fax Number	091-771735
Production Volume	69367.0
Production Volume Units	Tonnes
Number of Installations	1
Number of Operating Hours in Year	3796
Number of Employees	280
User Feedback/Comments	
Web Address	www.barnawaste.com

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(c)	Installations for the disposal of non-hazardous waste
5(c) 50.1	Installations for the disposal of non-hazardous waste General

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

Is it applicable?	
Have you been granted an exemption ?	
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

4.1 RELEASES TO AIR Link to previous years emissions data | PRTR# : W0106 | Facility Name : Bruscar Bhearna Teoranta | Filename : Barna Waste AER PRTR 2010.xls | Return Year : 2010 | 31/03/2011 10:41

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Bruscar Bhearna Teoranta

Please enter summary data on the quantities of methane flared and / or utilised	T (Total) kg/Year	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Facility Total Capacity m3 per hour	
Total estimated methane generation (as per site model)	0.0				N/A	
Methane flared	0.0				0.0	(Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				N/A	

4.2 RELEASES TO WATERS Link to previous years emissions data | PRTR# : W0106 | Facility Name : Bruscar Bhearna Teoranta | Filename : Barna Waste AER PRTR 2010.xls | Return Year : 2010 | 31/03/2011 10:41

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as th

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data

| PRTR# : W0106 | Facility Name : Bruscar Bhearna Teoranta | Filename : Barna Waste AER PRTR 2 31/03/2011 10:40

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used		FW1			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
314	Fats, Oils and Greases	M	ALT	ISO 17025 - Standard Methods for the Examination of Water and Wastewater" , 21ed, 2005	231.258	231.258	0.0	0.0
306	COD	M	ALT	ISO 17025 - Based on USEPA approved Hach Method 8000	42385.933	42385.933	0.0	0.0
303	BOD	M	ALT	ISO 17025 - Standard Methods for the Examination of Water and Wastewater" , 21ed, 2005	22084.154	22084.154	0.0	0.0
343	Sulphate	M	ALT	Based on Sulphate in Waters Effluents and Soils, 2nd Edition (1988), Method E	820.419	820.419	0.0	0.0
240	Suspended Solids	M	ALT	ISO 17025 - Standard Methods for the Examination of Water and Wastewater" , 21ed, 2005	4339.369	4339.369	0.0	0.0
238	**Ammonia (as N)**	M	ALT	Salicylate method based on Methods for the examination of water and associated materials, Ammonia in waters, 1981	1689.83	1689.83	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.4 RELEASES TO LAND Link to previous years emissions data | PRTR# : W0106 | Facility Name : Bruscar Bhearna Teoranta | Filename : Barna Waste AER PRTR 2010.xls | Return Year : 2010 | 31/03/2011 10:40

SECTION A : PRTR POLLUTANTS

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE | PRTR# : W0106 | Facility Name : Bruscar Bhearna Teoranta | Filename : Barna Waste AER PRTR 2010.xls | Return Year : 2010 | 31/03/2011 10:39

Please enter all quantities on this sheet in Tonnes 95

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used: M/C/E	Method Used: Method Used	Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
Within the Country	19 12 07	No	692.6	Shredded Wood	R3	M	Weighed	Offsite in Ireland	Finsa Forest Products ,EPA IPC Licence Number 22	Finsa Forest Products ,Scariff,County Clare,.,Ireland		
To Other Countries	19 12 01	No	5618.68	Mixed Paper	R12	M	Weighed	Abroad	Peute Papier Recycling (End User) ,DO 02.2017 MDO	Peute Papier Recycling ,Veerplaat 40 3313 LJ ,Dordrecht ,.,Netherlands		
To Other Countries	20 01 39	No	48.94	Mixed Industrial Plastics	R12	M	Weighed	Abroad	WRC Recycling ,IRE/G068/08	WRC Recycling ,Auchans Road ,Houston Johnstone Renfrewshire ,PA6 7EE ,United Kingdom		
Within the Country	19 12 12	No	12017.79	General Waste - Landfill	D15	M	Weighed	Offsite in Ireland	Connacht Residual Regional Landfill ,EPA Licence Number 178/1	Connacht Residual Regional Landfill ,Kilconnell ,County Galway,.,Ireland		
To Other Countries	16 01 03	No	51.78	End of Life Tyres	R12	M	Weighed	Abroad	Breighton Tyre Recycling,Site licence number 60915	Breighton Tyre Recycling,Breighton Airfield,Howden Road,Nr Selby Yorishire YO8 6DH,United Kingdom		
Within the Country	19 12 05	No	1145.88	Glass Bottles/Jars	R12	M	Weighed	Offsite in Ireland	Glassddon Recycling,Licence LN/06/08	52 Creagh Rd,Toombridge,Co.Antrim,.,Ireland		
Within the Country	19 12 03	No	1319.31	Mixed Metal	R12	M	Weighed	Offsite in Ireland	Galway Metal Recycling ,WR/05	Galway Metal Recycling Oranmore Co.Galway Ireland,Oranmore,County Galway,.,Ireland		
To Other Countries	17 04 11	No	21.52	Electric Cable	R12	M	Weighed	Abroad	SIMS Metal Management,DP3995VA	Crown Works,Anne Road,Smethwick West Midlands, B66 2NZ,United Kingdom		
Within the Country	20 02 02	No	4227.79	Rubber/Inert Materials	R5	M	Weighed	Onsite in Ireland	Barna Waste,Permit WR/156	Carrowbrowne,Headford Road,Galway,.,Ireland		
Within the Country	15 01 04	No	24.48	Steel Cans	R12	M	Weighed	Offsite in Ireland	Marwin Environmental (Broker) ,WMP 926	Marwin Environmental Trading Ltd ,Rubicon Centre ,CIT Campus ,Bishopstown County Cork,Ireland		
Within the Country	16 06 01	Yes	31.58	Lead Acid Batteries	R12	M	Weighed	Offsite in Ireland	ENVA Ireland Ltd ,WL184-1	ENVA Ireland Ltd ,Clonminam Industrial Estate ,Portlaois ,Co.Laois,Ireland	ENVA Ireland Ltd ,EPA Waste Licence No. WL184-1 ,ENVA Ireland Ltd ,Clonmainham Industrial Estate ,Portlaois ,Co. Laois ,Ireland	ENVA Ireland Ltd ,Clonmainham Industrial Estate ,Portlaois ,Co. Laois ,Ireland
Within the Country	20 01 11	No	8.18	Clothing/Textiles	R12	M	Weighed	Offsite in Ireland	Textile Recycling Ltd,Permit Number WPR-014	Glen Abbey Complex,Belgard Road,Tallaght,Dublin 24,Ireland		
Within the Country	17 08 02	No	122.44	Gypsum/Plasterboard	R12	M	Weighed	Offsite in Ireland	Gypsum Recycling Ireland Ltd,Permit No. WPT95	.,.,Navan,County Meath,Ireland		
Within the Country	19 12 10	No	25.34	RDF Material for Recovery	R1	M	Weighed	Offsite in Ireland	Indaver Ireland,W36-02	Indaver (Dublin) Tolka Quay Road Dublin Port Hazardous Waste Facility Dublin 1,.,.,.,Ireland		
To Other Countries	19 12 03	No	67.18	Aluminium	R12	M	Weighed	Abroad	Leo Van Leeuwen ,Licence Number 340257	Leo Van Leeuwen ,Waalhaven ,o.z. No. 20 3087 BN ,Rotterdam ,Netherlands		

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used M/C/E	Method Used	Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
Within the Country	20 01 08	No	7.5	Compostable Material - Food Waste	R12	M	Weighed	Offsite in Ireland	Galway City Council - Carrowbrowne Site,EPA Licence Number 13-1	Carrowbrowne Site,Carrowbrowne ,Headford Road,Galway ,Ireland		
To Other Countries	19 12 03	No	16.0	Aluminium	R12	M	Weighed	Abroad	SIMS Metal Management,DP3995VA	SIMS Metal Management,Crown Works Anne Road ,Smethwick West Midlands ,B66 2NZ,United Kingdom		
Within the Country	16 06 01	Yes	24.78	Lead Acid Batteries	R12	M	Weighed	Offsite in Ireland	Global Material Recycling,Licence Number WFP-DS-090012-01	Global Material Recycling,648 Jordanstown Drive,Greenogue Rathcoole,County Dublin,Ireland	Global Material Recycling (Electrical Waste Management Site),Licence Number WFP-DS-090012-01,Global Material Recycling, 648 Jordanstown Drive ,Greenogue Rathcoole,County Dublin,Ireland	Global Material Recycling, 648 Jordanstown Drive ,Greenogue Rathcoole,County Dublin,Ireland
Within the Country	19 12 07	No	2637.34	Shredded Wood	R3	M	Weighed	Offsite in Ireland	Connacht Residual Regional Landfill ,Licence Number EPA 178/1	Connacht Residual Regional Landfill ,Kilconnell ,County Galway ,.,Ireland		
Within the Country	19 12 07	No	235.16	Shredded Wood	R3	M	Weighed	Offsite in Ireland	Galway City Council Composting Site ,Licence Number EPA 13-1	Galway City Council ,Carrowbrowne Landfill,Headford Road,County Galway,Ireland		
Within the Country	19 12 07	No	555.9	Shredded Wood	R3	M	Weighed	Onsite in Ireland	Barna Waste,Licence Number 106-2 (Barna Waste)	Barna Waste ,Carrowbrowne ,Headford Road ,County Galway,Ireland		
To Other Countries	20 01 39	No	16.66	Mixed Industrial Plastics	R12	M	Weighed	Abroad	Peute Papier Recycling,DO 02.2017 MDO	Auchans Road Houston Johnstone Renfrewshire PA6 7EE United Kingdon,Peute Papier Recycling ,Veerplaat Dordrecht ,40 3313 LJ ,Netherlands		
Within the Country	19 12 12	No	15047.49	General Waste - Landfill	D15	M	Weighed	Offsite in Ireland	Ballyaghadereen Landfill ,EPA Licence Number 59/2	Ballyaghadereen Landfill ,Aghalustia Townland ,Ballaghaderreen ,County Roscommon ,Ireland		
Within the Country	19 12 12	No	1026.46	General Waste - Landfill	D15	M	Weighed	Offsite in Ireland	Central Waste Management Facility ,EPA Licence Number 109/2	Central Waste Management Facility ,Ballyduffbeg,Inagh ,County Clare,Ireland		
Within the Country	19 12 12	No	24.08	General Waste - Landfill	D15	M	Weighed	Offsite in Ireland	Derrinumera Landfill Facility,EPA Licence Number 21/03	Derrinumera Landfill Facility ,Newport ,County Mayo,.,Ireland		
To Other Countries	15 01 04	No	24.16	Steel Cans	R12	M	Weighed	Abroad	Highlander International,SCO/044794/CB	Highlander International Ltd,Highlander House 1 Teign Grove ,East Kilbride Glasgow ,G75 8UZ ,United Kingdom		

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used M/C/E	Method Used	Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
To Other Countries	15 01 04	No	73.54	Steel Cans	R12	M	Weighed	Abroad	Alternative Waste Solutions (AWS) ,YNA/838807/CB	AWS ,Unit 2 Britannia Business Park ,Point Pleasant Industrial Estate Wallsend Newcastle-Upon-Tyne,NE28 6HA,United Kingdom		
To Other Countries	15 01 04	No	99.12	Steel Cans	R12	M	Weighed	Abroad	Leo Van Leeuwen ,Licence Number 340257	Leo Van Leeuwen Waalhaven,Waalhaven ,o.z.,No. 20 3087 BN Rotterdam,Netherlands		
To Other Countries	15 01 04	No	107.32	Aluminium Cans	R12	M	Weighed	Abroad	Leo Van Leeuwen ,Licence Number 340257	Leo Van Leeuwen Waalhaven,Waalhaven ,o.z.,No. 20 3087 BN Rotterdam,Netherlands		
Within the Country	19 12 03	No	274.19	Mixed Metal	R12	M	Weighed	Offsite in Ireland	Hegarty Metal Recycling ,WP05-04	Hegarty Metal Recycling,Ballysimon Road ,County Limerick,.,Ireland		
To Other Countries	19 12 03	No	18.06	Mixed Metal	R12	M	Weighed	Abroad	SIMS Metal Management ,DP3995VA	SIMS Metal Management ,Crown Works Anne Road,Smethwick West Midlands,B66 2NZ ,United Kingdom		
Within the Country	19 12 03	No	115.12	Mixed Metal	R12	M	Weighed	Offsite in Ireland	Wilton Waste Recycling,Licence Number 06/03b	Wilton Waste Recycling,Kiffa,Crosserlough ,Ballyjamesduff County Cavan,Ireland		
To Other Countries	19 12 01	No	1978.26	Mixed Paper	R12	M	Weighed	Abroad	Highlander International (Broker) ,SCO/044794/CB	Highlander International Ltd ,1 Teign Grove,East Kilbride Glasgow,G75 8UZ ,United Kingdom		
To Other Countries	19 12 01	No	386.92	Mixed Paper	R12	M	Weighed	Abroad	Boost Recycling (Broker) ,IRE/G082/08	Boost Recycling,47Swaffham Road,Burwell Cambridgeshire ,CB25 0AN,United Kingdom		
To Other Countries	19 12 01	No	415.18	Mixed Paper	R12	M	Weighed	Abroad	Recycling UK Ltd (Broker),NSO/544843/B - Broker Number & IRE/G069/08 TFS Registration No	Recycling UK Ltd,11 Alvaston Business Park Middlewich Road,Nantwich Cheshire ,CW5 6PF ,United Kingdom		
To Other Countries	19 12 01	No	1894.02	Newspaper	R12	M	Weighed	Abroad	Peute Papier Recycling (End User) ,DO 02.2017 MDO	Peute Papier Recycling ,Veerplaat 40 3313 LJ ,Dordrecht ,.,Netherlands		
To Other Countries	19 12 01	No	1092.26	Newspaper	R12	M	Weighed	Abroad	Highlander International (Broker) ,SCO/044794/CB	Highlander International Ltd ,1 Teign Grove,East Kilbride Glasgow,G75 8UZ ,United Kingdom		
To Other Countries	19 12 01	No	25.48	Newspaper	R12	M	Weighed	Abroad	Recycling UK Ltd (Broker),NSO/544843/B - Broker Number & IRE/G069/08 TFS Registration No	Recycling UK Ltd,11 Alvaston Business Park Middlewich Road,Nantwich Cheshire ,CW5 6PF ,United Kingdom		
To Other Countries	19 12 01	No	2814.17	Cardboard	R12	M	Weighed	Abroad	Peute Papier Recycling (End User) ,DO 02.2017 MDO	Peute Papier Recycling ,Veerplaat 40 3313 LJ ,Dordrecht ,.,Netherlands		
To Other Countries	19 12 01	No	392.02	Cardboard	R12	M	Weighed	Abroad	Highlander International (Broker) ,SCO/044794/CB	Highlander International Ltd ,1 Teign Grove,East Kilbride Glasgow,G75 8UZ ,United Kingdom		

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used M/C/E	Method Used Method Used	Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
To Other Countries	19 12 01	No	1422.38	Cardboard	R12	M	Weighed	Abroad	Boost Recycling (Broker) ,IRE/G082/08	Boost Recycling,47Swaffham Road,Burwell Cambridgeshire ,CB25 0AN,United Kingdom		
To Other Countries	19 12 01	No	645.7	Cardboard	R12	M	Weighed	Abroad	Recycling UK Ltd (Broker),NSO/544843/B - Broker Number & IRE/G069/08 TFS Registration No	Recycling UK Ltd,11 Alvaston Business Park Middlewich Road,Nantwich Cheshire ,CW5 6PF ,United Kingdom		
To Other Countries	19 12 01	No	78.18	Cardboard	R12	M	Weighed	Abroad	Parry & Evans (Broker) ,Broker Licence NOW/268322	Parry & Evans ,Severn Farm Industrial Estate ,WelshpoolPowys ,SY21 7DF Wales,United Kingdom		
Within the Country	19 12 01	No	123.66	Cardboard	R12	M	Weighed	Offsite in Ireland	Irish Packaging Recycling (Broker),Broker Registration IRE/G079/08 & Licence Number WPR/021/2	Irish Packaging Recycling Ballymount Road ,Ballymount Road ,Walkinstown ,Dublin 12 ,Ireland		
Within the Country	19 12 01	No	117.64	Cardboard	R12	M	Weighed	Offsite in Ireland	AVT International Pty Ltd (Brokers),Broker Registration IRE/AG074/08	AVT International Pty Ltd ,13 Finnsview Finnstown ,Cloisters Lucan ,County Dublin,Ireland		
To Other Countries	19 12 01	No	99.12	Cardboard	R12	M	Weighed	Abroad	Anthon B Nilsen UK Ltd (Broker) ,Broker Licence IRE/G100/08 (Anthon B Nilsen UK Ltd)	Anthon B Nilsen UK Ltd,65 Carter Lane,London,EC4V 5HF,United Kingdom		
To Other Countries	19 12 01	No	129.88	Shredded Paper	R12	M	Weighed	Abroad	Highlander International (Broker) ,SCO/044794/CB	Highlander International Ltd ,1 Teign Grove,East Kilbride Glasgow,G75 8UZ ,United Kingdom		
To Other Countries	19 12 01	No	24.08	Shredded Paper	R12	M	Weighed	Abroad	Recycling UK Ltd (Broker),NSO/544843/B - Broker Number & IRE/G069/08 TFS Registration No	Recycling UK Ltd,11 Alvaston Business Park Middlewich Road,Nantwich Cheshire ,CW5 6PF ,United Kingdom		
To Other Countries	19 12 01	No	150.02	Multigrade Printing Paper	R12	M	Weighed	Abroad	Highlander International (Broker) ,SCO/044794/CB	Highlander International Ltd ,1 Teign Grove,East Kilbride Glasgow,G75 8UZ ,United Kingdom		
To Other Countries	19 12 01	No	77.24	Multigrade Printing Paper	R12	M	Weighed	Abroad	Recycling UK Ltd (Broker),NSO/544843/B - Broker Number & IRE/G069/08 TFS Registration No	Recycling UK Ltd,11 Alvaston Business Park Middlewich Road,Nantwich Cheshire ,CW5 6PF ,United Kingdom		
To Other Countries	19 12 01	No	75.04	Multigrade Printing Paper	R12	M	Weighed	Abroad	Peute Papier Recycling (End User) ,DO 02.2017 MDO	Peute Papier Recycling ,Veerplaat 40 3313 LJ ,Dordrecht ,.,Netherlands		
To Other Countries	19 12 04	No	223.54	Plastic Bottles - PET	R12	M	Weighed	Abroad	Alternative Waste Solutions (AWS),EA/WML/73274	AWS ,Hemswell Business Park Hemswell ,Lincolnshire ,DN21 5TU ,United Kingdom		
To Other Countries	19 12 04	No	257.16	Plastic Bottles - PET	R12	M	Weighed	Abroad	WRC Recycling ,IRE/G068/08	WRC Recycling ,Auchans Road,Houston Johnstone Renfrewshire,PA6 7EE Scotland,United Kingdom		

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	19 12 04	No	61.34	Plastic Bottles - PET	R12	M	Weighed	Offsite in Ireland	Global Material Recycling (Broker) ,IRE/G013/08	Global Material Recycling Limited ,Mullaghadrum ,Corrandulla ,County Galway,Ireland		
Within the Country	19 12 04	No	23.7	Plastic Bottles - PET	R12	M	Weighed	Offsite in Ireland	Cherry Polymers ,Waste Licence Number ROC 3014 & TFS Registration IRE/G037/08	Cherry Polymers,Unit 5 Nutts Corner Business Park ,Dundrod Road Crumlin County Antrim,BT29 4SR,Ireland		
Within the Country	19 12 04	No	20.38	Plastic Bottles - PET	R12	M	Weighed	Offsite in Ireland	Leinster Environmental (Broker),WP 2004/30 (Leinster Environmental)	Leinster Environmentals ,Clermont Business Park,Haggardstown Dundalk ,County Louth,Ireland		
To Other Countries	19 12 04	No	43.04	Plastic Bottles - PET	R12	M	Weighed	Abroad	Peute Papier Recycling ,DO 02.2017MDO	Peute Papier Recycling ,Veerplaat ,.,40 3313 LJ Dordrecht ,Netherlands		
To Other Countries	19 12 04	No	20.74	Plastic Bottles - PET	R12	M	Weighed	Abroad	Recycfin (Broker) , TFS Registration IRE/G177/08	Recycfin International ,NV Sniederspad 78 Halle Zoersel ,Belgium ,2980,Belgium		
To Other Countries	19 12 04	No	169.26	Plastic Bottles - HDPE	R12	M	Weighed	Abroad	Alternative Waste Solutions (AWS),EA/WML/73274	AWS ,Hemswell Business Park Hemswell ,Lincolnshire ,DN21 5TU ,United Kingdom		
To Other Countries	19 12 04	No	24.18	Plastic Bottles - HDPE	R12	M	Weighed	Abroad	WRC Recycling ,IRE/G068/08	WRC Recycling ,Auchans Road,Houston Johnstone Renfrewshire,PA6 7EE Scotland,United Kingdom		
Within the Country	19 12 04	No	46.34	Plastic Bottles - HDPE	R12	M	Weighed	Offsite in Ireland	Global Material Recycling (Broker) ,IRE/G013/08	Global Material Recycling Limited ,Mullaghadrum ,Corrandulla ,County Galway,Ireland		
To Other Countries	19 12 04	No	23.72	Plastic Bottles - HDPE	R12	M	Weighed	Abroad	Peute Papier Recycling ,DO 02.2017MDO	Peute Papier Recycling ,Veerplaat ,.,40 3313 LJ Dordrecht ,Netherlands		
To Other Countries	19 12 04	No	66.7	Plastic Bottles - Mixed	R12	M	Weighed	Abroad	Alternative Waste Solutions (AWS),EA/WML/73274	AWS ,Hemswell Business Park Hemswell ,Lincolnshire ,DN21 5TU ,United Kingdom		
To Other Countries	19 12 04	No	23.36	Plastic Bottles - Mixed	R12	M	Weighed	Abroad	WRC Recycling ,IRE/G068/08	WRC Recycling ,Auchans Road,Houston Johnstone Renfrewshire,PA6 7EE Scotland,United Kingdom		
Within the Country	19 12 04	No	46.2	Plastic Bottles - Mixed	R12	M	Weighed	Offsite in Ireland	WF Recycling Ltd ,Cork County Council 01/09	WF Recycling,Waterfall,County Cork,.,Ireland		
Within the Country	19 12 04	No	64.7	Plastic Bottles - Mixed	R12	M	Weighed	Offsite in Ireland	Global Material Recycling (Broker) ,IRE/G013/08	Global Material Recycling Limited ,Mullaghadrum ,Corrandulla ,County Galway,Ireland		
Within the Country	19 12 04	No	43.98	Plastic Bottles - Mixed	R12	M	Weighed	Offsite in Ireland	Leinster Environmental (Broker),WP 2004/30 (Leinster Environmental)	Leinster Environmentals ,Clermont Business Park,Haggardstown Dundalk ,County Louth,Ireland		
To Other Countries	19 12 04	No	25.1	Plastic Bottles - Mixed	R12	M	Weighed	Abroad	Peute Papier Recycling ,DO 02.2017MDO	Peute Papier Recycling ,Veerplaat ,.,40 3313 LJ Dordrecht ,Netherlands		

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used M/C/E	Method Used	Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
To Other Countries	19 12 04	No	46.54	Plastic Bottles - Mixed	R12	M	Weighed	Abroad	Jayplas ,43451	Jayplas ,Cotton Way,Loughborough Leicestershire,LE11,United Kingdom		
To Other Countries	19 12 04	No	234.36	Mixed Coloured Plastic Bags	R12	M	Weighed	Abroad	Alternative Waste Solutions (AWS),EA/WML/73274	AWS ,Hemswell Business Park Hemswell ,Lincolnshire ,DN21 5TU ,United Kingdom		
To Other Countries	19 12 04	No	78.32	Mixed Coloured Plastic Bags	R12	M	Weighed	Abroad	WRC Recycling ,IRE/G068/08	WRC Recycling ,Auchans Road,Houston Johnstone Renfrewshire,PA6 7EE Scotland,United Kingdom		
To Other Countries	19 12 04	No	49.82	Mixed Coloured Plastic Bags	R12	M	Weighed	Abroad	Peute Papier Recycling ,DO 02.2017MDO	Peute Papier Recycling ,Veerplaat ,.,40 3313 LJ Dordrecht ,Netherlands		
To Other Countries	19 12 04	No	124.62	Mixed Coloured Plastic Bags	R12	M	Weighed	Abroad	Recycfin (Broker) , TFS Registration IRE/G177/08	Recycfin International ,NV Sniederspad 78 Halle Zoersel ,Belgium ,2980,Belgium		
To Other Countries	19 12 04	No	73.92	Plastic Film - Clear	R12	M	Weighed	Abroad	Alternative Waste Solutions (AWS),EA/WML/73274	AWS ,Hemswell Business Park Hemswell ,Lincolnshire ,DN21 5TU ,United Kingdom		
To Other Countries	19 12 04	No	71.14	Plastic Film - Clear	R12	M	Weighed	Abroad	WRC Recycling ,IRE/G068/08	WRC Recycling ,Auchans Road,Houston Johnstone Renfrewshire,PA6 7EE Scotland,United Kingdom		
Within the Country	19 12 04	No	47.4	Plastic Film - Clear	R12	M	Weighed	Offsite in Ireland	Leinster Environmental (Broker),WP 2004/30 (Leinster Environmental)	Leinster Environmentals ,Clermont Business Park,Haggardstown Dundalk ,County Louth,Ireland		
To Other Countries	19 12 04	No	23.34	Plastic Film - Clear	R12	M	Weighed	Abroad	Peute Papier Recycling ,DO 02.2017MDO	Peute Papier Recycling ,Veerplaat ,.,40 3313 LJ Dordrecht ,Netherlands		
Within the Country	19 12 04	No	44.36	Plastic Film - Clear	R12	M	Weighed	Offsite in Ireland	Recycfin (Broker) , TFS Registration IRE/G177/08	Recycfin International ,NV Sniederspad 78 Halle Zoersel ,Belgium ,2980,Ireland		
To Other Countries	19 12 04	No	24.2	Plastic Trays / Cartons	R12	M	Weighed	Abroad	Alternative Waste Solutions (AWS),EA/WML/73274	AWS ,Hemswell Business Park Hemswell ,Lincolnshire ,DN21 5TU ,United Kingdom		
To Other Countries	19 12 04	No	94.42	Plastic Trays / Cartons	R12	M	Weighed	Abroad	WRC Recycling ,IRE/G068/08	WRC Recycling ,Auchans Road,Houston Johnstone Renfrewshire,PA6 7EE Scotland,United Kingdom		
Within the Country	19 12 04	No	23.82	Plastic Trays / Cartons	R12	M	Weighed	Offsite in Ireland	Cherry Polymers ,Waste Licence Number ROC 3014 & TFS Registration IRE/G037/08	Cherry Polymers,Unit 5 Nutts Corner Business Park ,Dundrod Road Crumlin County Antrim,BT29 4SR,Ireland		
To Other Countries	19 12 04	No	45.52	Hard Plastic	R12	M	Weighed	Abroad	WRC Recycling ,IRE/G068/08	WRC Recycling ,Auchans Road,Houston Johnstone Renfrewshire,PA6 7EE Scotland,United Kingdom		
Within the Country	19 12 04	No	34.78	Hard Plastic	R12	M	Weighed	Offsite in Ireland	WF Recycling Ltd ,Cork County Council 01/09	WF Recycling,Waterfall,County Cork,.,Ireland		

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used M/C/E	Method Used Method Used	Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
Within the Country	19 12 04	No	40.42	Hard Plastic	R12	M	Weighed	Offsite in Ireland	CGREEN Plastic Recycling Ltd ,WFP-WW-10-0019-01	CGREEN Plastic Recycling Ltd,Broomhall Business Park,Rathnew,County Wicklow,Ireland		
Within the Country	19 12 04	No	44.6	Hard Plastic	R12	M	Weighed	Offsite in Ireland	Polymer Recovery,WFP-LS-09-0007-01	Polymer Recovery ,Lea Road ,Portarlington Business Park,Portarlington County Laois,Ireland		
To Other Countries	19 12 04	No	18.32	Hard Plastic	R12	M	Weighed	Abroad	Jayplas ,43451	Jayplas ,Cotton Way,Loughborough Leicestershire,LE11,United Kingdom		
To Other Countries	19 12 04	No	13.4	Hard Plastic	R12	M	Weighed	Abroad	JFC Plastics Ltd,EA/WML/100011	JFC Plastics Ltd ,Harwick Road ,Astmoor Industrial Estate Runcorn Cheshire ,WA7 1PH,United Kingdom		
Within the Country	19 12 01	No	49.08	Mixed Paper	R12	M	Weighed	Offsite in Ireland	AVT International Pty Ltd (Brokers),Broker Registration IRE/AG074/08	AVT International Pty Ltd ,13 Finnsview Finnstown ,Cloisters Lucan ,County Dublin,Ireland		
To Other Countries	15 01 04	No	242.76	Steel Cans	R12	M	Weighed	Abroad	WRC Recycling ,IRE/G068/08	WRC Recycling ,Auchans Road,Houston Johnstone Renfrewshire,PA6 7EE Scotland,United Kingdom		
Within the Country	20 01 35	Yes	100.92	Scrap Electronics - Mixed	R12	M	Weighed	Offsite in Ireland	Global Material Recycling,Licence Number WFP-DS-090012-01	Global Material Recycling,648 Jordanstown Drive,Greenogue Rathcoole,County Dublin,Ireland	Global Material Recycling (Electrical Waste Management Site),Licence Number WFP-DS-090012-01,Global Material Recycling ,648 Jordanstown Drive ,Greenogue Rathcoole ,County Dublin,Ireland	Global Material Recycling ,648 Jordanstown Drive ,Greenogue Rathcoole ,County Dublin,Ireland
Within the Country	19 12 07	No	10.03	Woodchip	R3	M	Weighed	Offsite in Ireland	Local Farmers,Not applicable	Various Addresses,.,.,.,Ireland		

* Select a row by double-clicking the Description of Waste then click the delete button