Acorn Recycling

Waste Management for the next generation

ANNUAL ENVIRONMENTAL REPORT

2011

Name: Acorn Recycling Ltd

Address: Ballybeg Composting Facility, Ballybeg, Littleton, Co. Tipperary

Waste Licence: W0249-01

Reporting Period: 01 January 2011 – 31 December 2011

Submitted by

Sam Bowden
Environmental Manager

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1.0 Introduction

The Ballybeg Composting Facility operated by Acorn Recycling, Ballybeg, Littleton, Co. Tipperary commenced waste acceptance on the 21st June 2010.
The facility is a fully enclosed forced aeration in-vessel composting facility with air extraction and biofiltration.
The facility is licensed by the EPA under waste licence W0249-01 for the acceptance of a 45,000 tonnes per annum of a biodegradable wastes.
In accordance with condition 11.12 of the licence this report is the Annual Environmental Report (AER) for 2011. The report covers the period 1st January 2011 to 31st December 2011.

2.0 Waste Activities carried out at the Facility

The facility is licensed to carry out the waste activities listed below in accordance with the third and fourth schedules of the waste management acts 1996 – 2008. The extent to which the waste activity was carried out is detailed for each activity

Third Schedule Activities

- 6. Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 5 or paragraphs 7 to 10 of this Schedule (Code: D8)
  (A trial of 391.76 tonnes of 'organic fines' (EWC 191212) was accepted at the facility for treatment in 2010. The treatment of this waste was completed in 2011 and the wastes streams produced disposed of offsite. No wastes were accepted for treatment under this activity in 2011.)

- 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 (Code: D15)
  (Not carried out during the reporting period)

Fourth Schedule Activities

- 2. Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes) (Code: R3).
  (13,969.36 tonnes of biodegradable wastes was accepted at the facility for composting)

- 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 (Code: R13)
  (Not carried out during the reporting period)

3.0 Waste Management Record

3.1 Waste Acceptance

A total of 13,969.36 tonnes of waste was accepted at the facility for treatment during the reporting period.
Table 1. below shows the waste types and quantities accepted at the facility during the reporting period.
The most abundant waste type received was Biodegradable Kitchen & Canteen Waste (EWC 200108) which constituted 71.1% of the total waste received.

Table 1. Waste Accepted 2011

EWC	DESCRIPTION	QUANTITY (t)
020106	ANIMAL FAECES, URINE AND MANURE (AGRI.)	6.20
020203	MATERIALS UNSUITABLE FOR CONSUMPTION OR PROCESSING (MEAT INDUSTRY)	31.82
020204	SLUDGES FROM ON-SITE EFFLUENT TREATMENT (MEAT INDUSTRY)	444.34
020304	MATERIALS UNSUITABLE FOR CONSUMPTION OR PROCESSING (ANIMAL FEED)	92.78
020501	MATERIAL UNSUITABLE FOR CONSUMPTION OR PROCESSING (DAIRY INDUSTRY)	33.22
020502	SLUDGES FROM ON-SITE EFFLUENT TREATMENT (DAIRY INDUSTRY)	835.22
020701	WASTES FROM WASHING, CLEANING AND MECHANICAL REDUCTION OF RAW MATERIALS (DRINKS INDUSTRY)	66.44
020704	MATERIALS UNSUITABLE FOR CONSUMPTION PROCESSING (DRINKS INDUSTRY)	125.12
020705	SLUDGES FROM ON-SITE EFFLUENT TREATMENT	7.06
190801	SCREENINGS	285.70
190805	SLUDGES FROM TREATMENT OF URBAN WASTE WATER	1614.64
191212	WASTEWATER	44.66
190901	SOLID WASTE FROM PRIMARY FILTRATION AND SCREENINGS	33.66
190902	SLUDGE FROM WATER CLARIFICATION	168.72
190904	SPENT ACTIVATED CARBON	56.49
200108	BIODEGRADABLE KITCHEN AND CANTEEN WASTE	9,934.01
200125	EDIBLE OIL AND FAT	83.00
200304	SEPTIC TANK SLUDGE	7.96
200304	WASTE FROM SEWAGE CLEANING	98.32
	Total	**13,969.36**

3.2 Waste Dispatched

Five waste types were dispatched offsite during the reporting period namely; plastics from the screening of compost (EWC 191212), composting leachate (190599), Dirty fire water produced in yard following fire on site (190599), Stabilised biowaste produced from trial acceptance of 'organic fines' in 2010(190503), and Off-specification compost removed from shed following fire (190503)
The following quantities of each waste were disposed of in 2011

Table 2. Waste dispatched 2011

EWC	DESCRIPTION	TONNAGE DISPOSED
191212	Plastic 'Overs'	829.72
190599	Compost Leachate	843.11
190599	Fire Water	408.12
190503	Stabilised Biowaste	89.68
190503	Off-specification compost	104.18

In accordance with condition 11.13 of the waste licence a full record is maintained on site which is open to inspection by the agency. This record contains the tonnages, EWC code, description of waste, details of the waste haulier, and details of the disposal destination (including waste licence/permits where appropriate).

4.0 Resource Consumption Summary

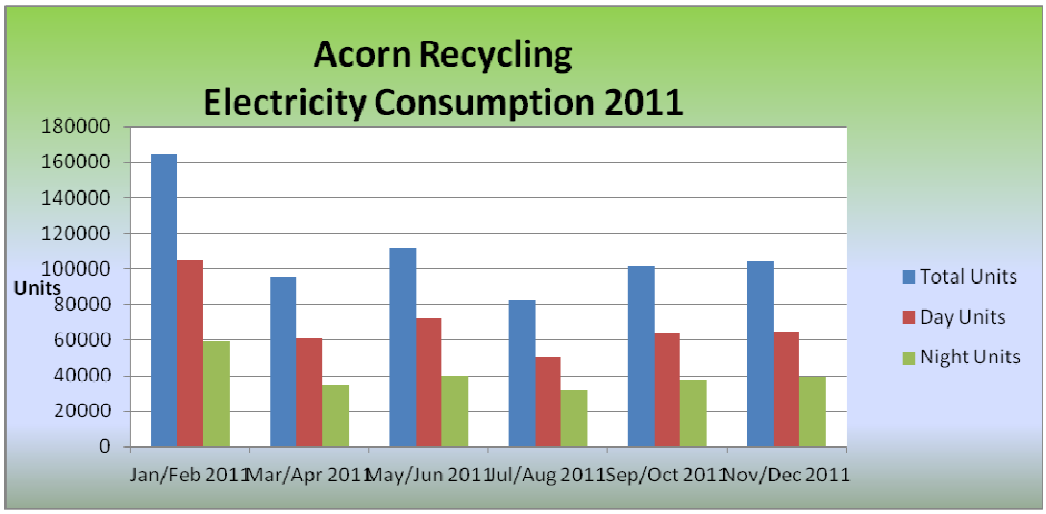
4.1 Electricity Usage

Table 3. and Figure 1. below detail the day and night units of electricity used on site during each 2 month period since the facility commenced operations.

Table 3. Electricity Consumption 2011

Electricity Consumption 2011			
Billing Period	Day Units	Night Units	Total Units
Jan/Feb 2011	105240	59280	164520
Mar/Apr 2011	61080	34560	95640
May/Jun 2011	71880	39960	111840
Jul/Aug 2011	50880	31440	82320
Sep/Oct 2011	63720	37800	101520
Nov/Dec 2011	64920	39240	104160
	417720	242280	660000

Figure 1. Electricity Consumption 2011



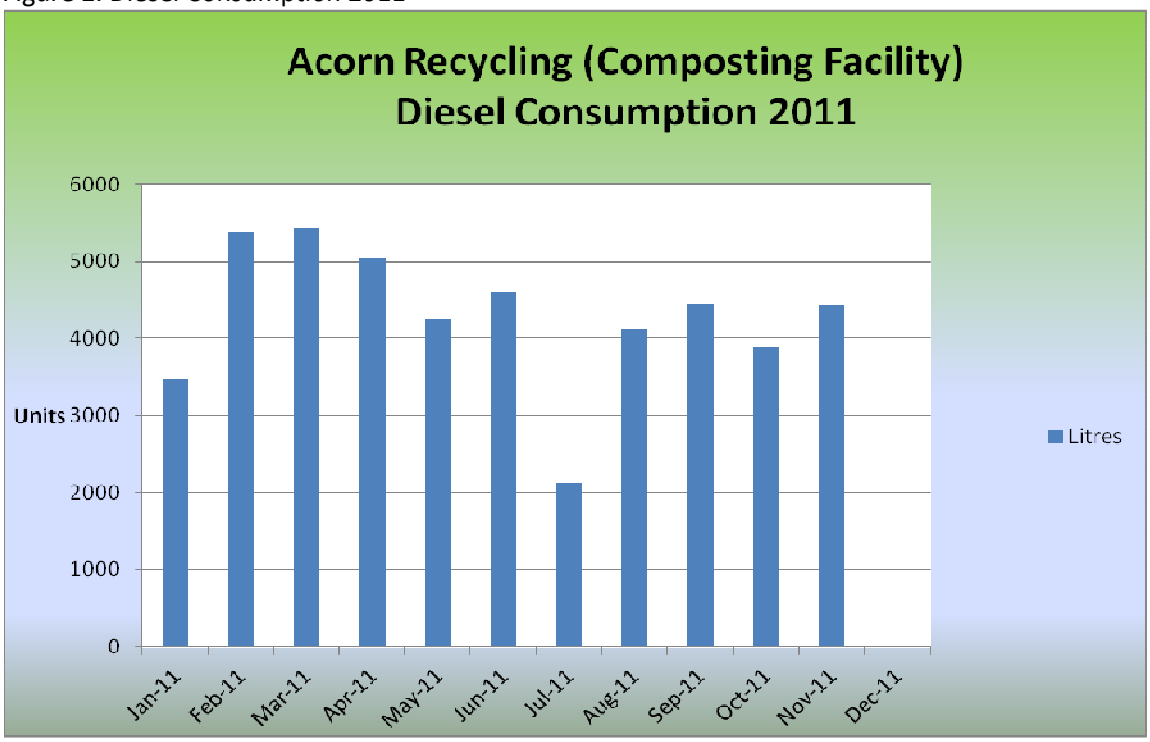
4.2 Diesel Usage

Table 4. and Figure 2. below show diesel consumption in 2011. The Diesel consumption remained fairly steady during 2011. The highest consumption was recorded in Feb/March when a hired diesel powered screen was operated on site. Following the fire on site in June, diesel consumption reduced reflecting reduce loader movements. For 2012 it is not envisaged that any diesel powered screen will be utilised on site so diesel consumption will likely remain consistent.

Table 4. Diesel Consumption 2011

Month	Litres
Jan-11	3466
Feb-11	5385
Mar-11	5428
Apr-11	5046
May-11	4257
Jun-11	4594
Jul-11	2125
Aug-11	4113
Sep-11	4441
Oct-11	3879
Nov-11	4436
Dec-11	0

Figure 2. Diesel Consumption 2011



4.3 Compost Amendment Materials

1203.38 tonnes of woodchip was accepted at the facility for use in the composting process.

4.4 Water

Water usage on site is minimal. A power washer is used on site to wash vehicles upon exit as well as cleaning equipment on site. Other uses on site include use in the canteen.

A review of water usage on site was carried out. Following this review a new pressure washer on site was purchased. The water usage when operational is 15l min. Total estimated water usage on site is 450 litres per day.

5.0 Report on the assessment of the efficiency of use of raw materials is processes and the reduction in waste generated.

Acorn carried out an assessment on the efficiency of raw materials and reduction in waste generated in October 2011 including mass balance calculations etc. The calculations were based on batch information based over a 4 month period. The total plastics for offsite disposal is 6% of the total waste accepted. The extent of plastics contamination of incoming waste varies considerably with sludges containing no contamination to certain brown bin waste containing up to 8% plastics. A new screening system was installed on site in January/Feb 2012 and this will impact on the performance of the facility. The management of the 'overs' produce from screening is critical. In 2012 we will be investigating the feasibility of installing a wind sifter to extract light plastics from the 'overs'.

As the quantity of plastics/erratic produced on site is governed by the quantity within the waste accepted there is little scope for operational methods to reduce waste production.

With regard raw materials, the main raw material product used on site is recycled woodchip. The use of woodchip largely depends on the constituency of the waste received, for example where sludge is accepted more woodchip will be used, and therefore may vary over time. As using recycled wood in composting is an environmentally beneficial outlet for this material it is not an objective from an environmental perspective to minimise the use of this resource. From an operations & economic point of view we only use woodchip when required. In any new batch most of the bulking material used is 'overs' material.

6.0 Energy Efficiency audit report summary

As the reporting period only covers the first 6 months of operation no energy efficiency audit report was carried out.

7.0 Complaints Summary

There were 3 complaints made to the facility in 2011. Two complaints related to odour in April and May. In both cases our complaints procedure was followed and records relating to these are held on site.
A review of operational practices on site was carried out relating to odour. From this it was discovered that a number of vehicles delivering waste to the site were not being adequately covered. One particular waste that had the potential to cause odour was banned from the site. It was also discovered that staff tipping off waste were not closing down the roller shutter doors as quickly as possible after the vehicles enter the building and there was the potential for odours to escape at this time. New faster roller shutter doors have since been installed and all operators have been trained on the importance of closing down these doors immediately after the vehicles enter or exit the tipping area. This is being stringently enforced and is being adhered to.

The biofilter continues to be monitored as per licence requirements and continues to operate effectively as demonstrated by the monitoring results (See section 11.4 below).

A third complaint was made on the 12 September 2011 relating to an odour from the facility. This odour was caused by very dry dusty compost being removed out into the yard during extremely windy weather. The compost had to be removed from the shed on instructions from the fire service due to smouldering compost being present on site. See Reported incidents summary below for further details.

8.0 Reported Incidents Summary

There were two incidents onsite in 2011.

1) On 19June2011 at approx. 8am a fire was detected in the primary processing area of the composting plant. The area was full of black smoke and the screening plant on site was on fire. Waste material in and around the screening plant was also burnt.
The fire service was alerted immediately and arrived on site promptly. Approx 100tonnes of waste material was removed from the primary processing area out into the yard to allow proper access to the fire. This material (which comprised a mixture of screened compost, plastics contaminants, and 'overs') was covered with polythene and later disposed of to landfill.
A hole was burnt in the roof above the screening equipment which was patched up to prevent any fugitive emissions.
The surface water from the yard was diverted to the fire water retention pond this run off was later disposed of to a wastewater treatment plant.
As a result of this incident the facility was closed for 6 weeks until temporary screening equipment could be installed. The facility was then closed from end Nov 2011 to beginning of Feb 2012 to allow for the full refurbishment of the facility and replacement of screening equipment. While the facility operated with temporary mobile screens it operated at reduced capacity.
There was no environmental impacts or nuisance caused by the fire.
The exact source of ignition is unknown but it is suspected (by forensic engineer) that it may have originated from a broken bearing on the feed hopper. This then spread up the conveyer belts to the rest of the screening equipment.

2) The second incident was detected on 21st Sept 2011. Smoke was found in the clean area of the composting facility at 6.10am. The fire service were contacted immediately & arrived on site. Hot smouldering compost was found to be present in bay 11. This compost had been in the bay for >10 weeks without being turned and originated from waste that entered the site the previous april. The compost had been left in the bay for longer than normal because of the reduced activity on site (due to incident 1 above).

   The compost was removed from the shed and place out onto the yard where it was wetted and cooled. There was extremely high winds at the time and this caused dust to blow from the site. Excess dust was detected in the dust monitoring gauges and there was a complaint from a neighbour. Once all the hot compost was removed and cooled it was removed from the yard and the area cleaned immediately. This was finished by approx. 3pm.

   A comprehensive procedure to manage compost in the 'clean' maturation area has since been put in place and is being adhered to strictly.

9.0 Review of Nuisance Controls

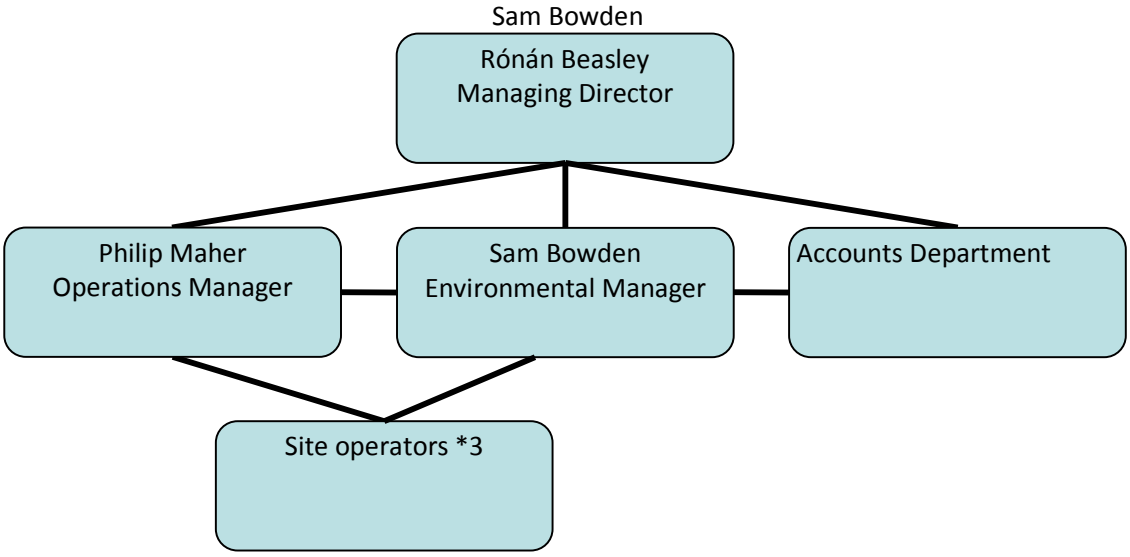
Every effort is made to eliminate nuisance problems on site.

Potential nuisance problems include the following;
Dust: During normal operations dust has not been an issue at the site whatsoever. 3 times per year monitoring will continue and no high levels of dust have been recorded.
During an incident dated 12 Sept 2011 when very dry compost had to be removed out onto the yard, a nuisance from dust was caused. This was highly irregular and would not occur during normal operations on site.
Odour: The biofilter continued to operate well throughout 2011 with no issues. Continuous monitoring continues as per licence requirements (See 11.4 Odour & Bioaerosols).
There were 2 complaints relating to odour in 2011. Procedures on site have been reviewed and strict enforcement of prevented measures.
Litter: No litter nuisance has occurred outside the boundary of the site. Good housekeeping has ensured that any litter present within the site is quickly removed. Work practices on site, such as all loads tipped inside the building with doors closed, ensure there is little risk of litter generation outside the building.
Vermin: A comprehensive pest control programme is in place whereby a specialist pest company puts out bait and monitors activity on site.
Birds: Birds are not an issue at the site. All waste activities are carried out within the closed building.
Noise: Noise monitoring has shown that no noise levels in excess of licence limits have been caused by noise from the facility at the noise sensitive locations. As all activities are carried out within a closed building this reduces the risk of nuisance caused by noise from the facility. There was no complaints relating to noise from the facility.

10.0 Management and Staffing Structure of the Facility and programme for public information

Table 5. Management of the Facility

Name	Position	Duties and Responsibilities	Experience /Qualifications
Rónán Beasley	Managing Director	Overall Management of Company	B.Sc in Environmental Science Environmental Manager of McGill Environmental 2001 to 2006
Sam Bowden	Environmental Manager	Responsibility maintaining EMS, liaising with licensing authorities, quality control, process optimisation, waste acceptance.	B.Sc. in Environmental Science and Technology, M.Sc. in Environmental, Health and Safety Management
Philip Maher	Operations Manager	Day to day management of staff and operations on site. Responsibility for implementing procedures on site	Cré - Institute of Technology, Sligo - FÁS Certificate in Compost Facility Operation Experience in managing composting facility.



Programme for public information

Acorn Recycling have an open door policy for public information. Members of the public are regularly shown around the facility and can access environmental information on site. A copy of the communications programme is available on site EMS ARB06-CP

11.0 Environmental Monitoring

11.1 Noise Monitoring

Day and Night noise monitoring was carried out at the facility by an independent consultants (AES Engineering Solutions Ltd and Panther Environmental) twice during 2011. The results showed no significant noise nuisance being caused by the facility. Daytime and night noise levels at NSL1 & NSL2 above the licence limits were recorded in June but these were caused by high noise levels at the road and were not caused by the composting facility. There was no noise audible noise from the compost facility.

The cause of the elevated noise levels at these points is attributable to road traffic noise sources.

Measurements showed that the daytime and night-time 30-minute L_{A90} at both locations were below 55dB(A) and 45dB(A) respectively. This shows that the actual noise output from the activities at the facility are not giving rise to noise levels offsite, at these noise sensitive locations.

Table 6. Noise Monitoring 2011 (NSL1)

Date	Day dB(A) Laeq (30min)	Night dB(A) Laeq (30min)
Mar-11	42.2	41.9
Jun-11	63	59

Table 7. Noise Monitoring 2011 (NSL2)

Date	Day dB(A) Laeq (30min)	Night dB(A) Laeq (30min)
Mar-11	42.3	37.9
Jun-11	62	55

11.2 Groundwater Monitoring

As per Table C.2.3 of the waste licence groundwater on site was sampled and tested in29th August for the parameters below. Further sampling was conducted in November as part of the hydrogeological survey of the site. A copy of the full hydrogeology report is attached.

Table 8. Groundwater Monitoring Results (Sampling Date: 29 Aug 2011)

Parameter	GW1	GW2**	GW3
pH	7.7	8.3	7.1
COD (total)	<10	<10	<10
Total Ammonia	4.04	5.2	2.72
Total Nitrogen	9	9	7
Conductivity	<10	257	766
Chloride	15.5	17	0.13
Organic Compounds	Not detected*	Not detected*	Not detected*

11.3 Monitoring of Emissions to Water

One sample was taken from storm water discharging from the site at SW1 during the reporting period.

Table 9. Storm Water Monitoring (Sampling Date: 25 Oct 2011)

Parameter	Result
Ammonia (mg/l)	0.39
Suspended Solids (mg/l)	141

11.4 Odour & Bioaerosols

A comprehensive Odour and Bio aerosols monitoring program is carried out on site by independent consultants, Odour Monitoring Ireland Ltd. This program monitors the efficiency of the biofilter on site as well as ambient bioaerosols.

Table 10. Biofilter Monitoring 2011

Paramater	Q1 (29Mar2011)	Q2 (14Jun2011)	Q3 (28Sep2011)	Q4 (01Dec2011)	Limit
Average Odour OUe/m3	73772	79678	68103	73554	_
% Odour Removal	95	97	94	93	_
Total Aliphatic Amines (mg/Nm3)	2.56		3.25		_
Hydrogen Sulphide (mg/Nm3)	0.011		0.035		<5
Ammonia (mg/Nm3)	8.14		9.54		<50
Total Mercaptans (mg/Nm3)	<0.1		<0.10		<5
Bed Media pH	7.3		7.1		_
Moisture (% w/w)	51		50		_
Total Viabel Counts (CFU/Kg)	$5.8*10^5$		$6.1*10^5$		_

Table 11. Bioaerosols Monitoring 2011

Location	Asperagillus Fumigatus (CFU m3)	Mesophilic Bacteria (CFU m3)
Loc Bio1	12	54
Loc Bio2	23	247
Loc Bio3	19	174

Table 12. PM10 Monitoring

PM10 Monitoring 2011

Location	(H1) Average Concentration (ug/m3)	(H2) Average Concentration (ug/m3)	Limit (ug/m3)
PM1	16	11	50
PM2	15		50
PM3	12		50

Ammonia Emissions
The total volume of air extracted through the biofilter is estimated at 55,710m3 per hour.
The total volume of air extracted during the year is 55,710m3/hr * 8760 hrs = 258,048,720m3/year
Average of 2 ammonia samples = 8.84 mg/m3 NH3

Total ammonia emissions load in 2011 = 8.84mg/m3 * 258,048,720m3
= 2281.1507 kg/year NH3

11.5 Dust Deposition Monitoring

Monthly dust deposition was carried out at the site at four monitoring locations. Average dust levels did not exceed the licence limit of 350mg/m2/day in 2011.

Table 13 Dust Deposition 2011 (mg/m2/day)

Month	DD1	DD2	DD3	DD4
Jan-11	<5	<5	<5	<5
Feb-11	52.6	36.5	45.6	25.5
Mar-11	152*	<5	14.1	8.2
Apr-11	19.7	13.6	19.3	21
May-11	80	42	34	28
Jun-11	87.8	8.9	10.3	17.8
Jul-11	63.6	<5	37.3	16.3
Aug-11	15.7	<5	<5	<5
Sep-11	64.9	12.2	14.7	188.7**
Oct-11	79.9	11.5	<5	15.1
Nov-11	53.2	13.1	30.9	10.6
Dec-11	53.2	13.1	30.9	10.6

*compost spread on patch of land beside sampling location
** Sample location located downwind during incident on 12Sept2011

12.0 Procedures developed in 2011 relating to facility operations

Acorn Recycling developed the Standard Operation Procedures listed in Table 13. for operations at the composting facility. These procedures are kept under continuous review and updated during 2011, including 2 new procedures. Full up-to-date effective versions of these procedures are available on site for inspection.

Document Code	Procedure Description
SOP ARB01	Waste Acceptance and Characterisation Procedure
SOP ARB02	Cleaning and Hygiene Procedure
SOP ARB03	Blending/Loading a Bay
SOP ARB04	Screening and Loading/unloading of ABP sanitisation bays
SOP ARB05	Batch Traceability Procedure
SOP ARB06	Handling of Leachate Procedure
SOP ARB07	Compost Sampling and non-compliance
SOP ARB08	Non Compliance and Corrective Action
SOP ARB10	Awareness and Training Procedure
SOP ARB11	Emergency Response Procedure
SOP ARB12	Accident Prevention Procedure
SOP ARB13	Documentation Procedure
SOP ARB14	Groundwater Monitoring Procedure
SOP ARB15	Surface Water Monitoring Procedure
SOP ARB16	Dust Deposition Monitoring Procedure
SOP ARB17	Verification of ABP processing temperatures (new 2011)
SOP ARB18	Management of compost in maturation area (new 2011)

13.0 Energy efficiency audit report summary and report on the assessment of the efficiency of use of raw materials in processes and the reduction in waste generated.

An energy efficiency audit was carried out on site and this has been submitted to the Agency. A copy of the report is attached.
Targets developed as part of the energy efficiency audit and efficiency of use of raw materials are included the environmental management programme for 2012 was follows;

ENVIRONMENTAL MANAGEMENT PROGRAMME 2011 **Objective 3.0: To continually improve energy efficiency and resource use at the site**					
Objective No.	**Target**	**Plan**	**Timescale**	**Responsibility**	**Status**
3.1	12% Decrease in electrical power consumption on aeration and extraction fan use	To be developed	Dec 2012	Environmental Manager	
3.2	Diesel Fuel use: track changes in consumption against 2011	To be developed	Dec 2012	Environmental Manager	
3.3	Calculate power Kw of individual light systems and install programme to minimise lighting	To be developed	Dec 2012	Environmental Manager	
3.4	Establish most efficient of air con system	To be developed	Dec 2012	Environmental Manager	
3.5	Install a programme for loader operators for working the loaders more efficiently	To be developed	Dec 2012	Environmental Manager	
3.6	Achieve a 10% reduction in diesel consumption in 2012 relative to equivalent loader use in 2011	To be developed	Dec 2012	Environmental Manager	
3.7	To review on a continuous basis the compost quality results obtained from the testing as required under the licence.	Review results as received for conformity to the compost quality requirements	Continuously Deadline 31.12.2012	Environmental Manager	Completed and ongoing

14.0 ELRA/DMP and Financial provision

The environmental liabilities risk assessment/DMP is currently under review with the agency. Financial provision based on the conclusions of this review will be provided.

15.0 Environmental Objectives & Targets and Environmental Management Programme report for 2011 and proposal for 2012

See attached separately

ENVIRONMENTAL OBJECTIVES AND TARGETS.

Environmental Objective and Targets for period 2011 – 2015 (Primary Objectives over the period)			
Objective No.	**Objective**		
1.0	To implement and maintain an EMS in order to ensure all requirements of the waste licence is being adhered to.		
2.0	To ensure compliance with environmental monitoring and emission limits in the licence and to improve these parameters beyond the requirements of the licence where practicable.		
3.0	To continually improve energy efficiency and resource use at the site		
4.0	To continually improve the quality of the products and residues produced on site destined for reuse, recovery and recycling, and to minimise the quantity of products sent for disposal.		
5.0	To enhance our relationship with the local community through communication, transparency, nuisance avoidance, and provision of services		

ENVIRONMENTAL MANAGEMENT PROGRAMME 2011
Objective 1.0: To implement and maintain an EMS in order to ensure all requirements of the waste licence is being adhered to

Objective No.	Target	Plan	Timescale	Responsibility	Status
1.1	To ensure all relevant employees are made aware of the requirements of the EMS and waste licence	Identify Environmental Training needs of all employees Schedule appropriate training Provide environmental awareness training	Deadline 31.12.2011	Environmental Manager (SB) H & S co-ordinator (KM)	Continual Review

ENVIRONMENTAL MANAGEMENT PROGRAMME 2011
Objective 2.0: To ensure compliance with environmental monitoring and emission limits in the licence and to improve these parameters beyond the requirements of the licence where practicable.

Objective No.	Target	Plan	Timescale	Responsibility	Status
2.2	To prepare and implement test programme for the biofilter	Establish criteria for operations, control & mgt. of biofilter Report on test programme submitted to EPA within 1 month of completion	Deadline 21.08.2011	Environmental Manager (SB) Managing Director (RB)	completed
2.3	To carry out a risk assessment to determine if the activity should have a fire-water retention facility	Carry out assessment Submit assessment to EPA	Deadline 29.04.2011	Environmental Manager (SB) Managing Director (RB)	completed
2.4	To carry out all environmental monitoring as agreed with the agency	develop and implement monitoring schedule liaise with contractors Collate data	Deadline 31.12.2011	Environmental Manager (SB)	Completed/ongoing

ENVIRONMENTAL MANAGEMENT PROGRAMME 2011
Objective 3.0: To continually improve energy efficiency and resource use at the site

Objective No.	Target	Plan	Timescale	Responsibility	Status
3.1	Carry out an audit of the energy efficiency of the site	Audit to be carried out in accordance with 'Guidance Note on Energy Efficiency Auditing'	Deadline 21.06.2011	Environmental Manager	Completed
3.2	Carry out assessment of practicable means to reduce water usage	Identify water uses on site Quantify water uses on site Identify measure for reducing water usage where practicable.	Deadline 31.12.2011	Environmental Manager	completed
3.3	To review on a continuous basis the compost quality results obtained from the testing as required under the licence.	Review results as received for conformity to the compost quality requirements	Continuously Deadline 31.12.2011	Environmental Manager	Completed and ongoing

ENVIRONMENTAL MANAGEMENT PROGRAMME 2011

Objective 4.0: To continually improve the efficiency of the materials flow through the operations with a view to improving the quality of the products and residues produced on site destined for reuse, recovery and recycling, and to minimise the quantity of products sent for disposal

Objective No.	Target	Plan	Timescale	Responsibility	Status
4.1	Carry out an assessment of the efficiency of use of raw materials in all processes, having particular regard to the reduction in waste generated	Carry out mass balance calculations on a number of waste batches, and assess scope for reducing the quantity of amendments used. Investigate rate of woodchip loss to final product. Examine methods for improving the quality of the plastic recovered (Pre-screen operation) Examine quality of waste received on site	Deadline 31.12.2011	Environmental Manager	completed
4.2	Carry out assessment detailing the duty and standby capacity in tonnes per day of all waste handling and processing equipment.	Carry out throughput assessment of IFE vibrating deck screen and loaders	Deadline 20.04.2011	Environmental Manager	completed

ENVIRONMENTAL MANAGEMENT PROGRAMME 2011

Objective 5.0: To enhance our relationship with the local community through communication, transparency, nuisance avoidance, and provision of services

Objective No.	Target	Plan	Timescale	Responsibility	Status
5.1	Review Public Awareness and Communication Programme	Provide tours of facility to local schools, CIWM, Macra Na Feirne etc.	31.12.2011	Environmental Manager (SB)	completed
5.2	Provide onsite pick up service for compost to the general public	Investigate feasibly of pick up system for compost. Bulk users Small users	31.12.2011	Environmental Manager (SB_	ongoing

ENVIRONMENTAL OBJECTIVES AND TARGETS.

Environmental Objective and Targets for period 2011 – 2015 (Primary Objectives over the period)			
Objective No.	**Objective**		
1.0	To implement and maintain an EMS in order to ensure all requirements of the waste licence is being adhered to.		
2.0	To ensure compliance with environmental monitoring and emission limits in the licence and to improve these parameters beyond the requirements of the licence where practicable.		
3.0	To continually improve energy efficiency and resource use at the site		
4.0	To continually improve the quality of the products and residues produced on site destined for reuse, recovery and recycling, and to minimise the quantity of products sent for disposal.		
5.0	To enhance our relationship with the local community through communication, transparency, nuisance avoidance, and provision of services		

ENVIRONMENTAL MANAGEMENT PROGRAMME 2011
Objective 1.0: To implement and maintain an EMS in order to ensure all requirements of the waste licence is being adhered to

Objective No.	Target	Plan	Timescale	Responsibility	Status
1.1	To ensure all relevant employees are made aware of the requirements of the EMS and waste licence	Identify Environmental Training needs of all employees Schedule appropriate training Provide environmental awareness training	Deadline 31.12.2012	Environmental Manager (SB) H & S co-ordinator (SB)	Continual Review

ENVIRONMENTAL MANAGEMENT PROGRAMME 2011
Objective 2.0: To ensure compliance with environmental monitoring and emission limits in the licence and to improve these parameters beyond the requirements of the licence where practicable.

Objective No.	Target	Plan	Timescale	Responsibility	Status
2.1	To carry out all environmental monitoring as agreed with the agency	develop and implement monitoring schedule. Change as per agreements with Agency liaise with contractors Collate data	Deadline 31.12.2012	Environmental Manager (SB)	ongoing

ENVIRONMENTAL MANAGEMENT PROGRAMME 2011
Objective 3.0: To continually improve energy efficiency and resource use at the site

Objective No.	Target	Plan	Timescale	Responsibility	Status
3.1	12% Decrease in electrical power consumption on aeration and extraction fan use	To be developed	Dec 2012	Environmental Manager	
3.2	Diesel Fuel use: track changes in consumption against 2011	To be developed	Dec 2012	Environmental Manager	
3.3	Calculate power Kw of individual light systems and install programme to minimise lighting	To be developed	Dec 2012	Environmental Manager	
3.4	Establish most efficient of air con system	To be developed	Dec 2012	Environmental Manager	
3.5	Install a programme for loader operators for working the loaders more efficiently	To be developed	Dec 2012	Environmental Manager	
3.6	Achieve a 10% reduction in diesel consumption in 2012 relative to equivalent loader use in 2011	To be developed	Dec 2012	Environmental Manager	
3.7	To review on a continuous basis the compost quality results obtained from the testing as required under the licence.	Review results as received for conformity to the compost quality requirements	Continuously Deadline 31.12.2012	Environmental Manager	

ENVIRONMENTAL MANAGEMENT PROGRAMME 2011

Objective 4.0: To continually improve the efficiency of the materials flow through the operations with a view to improving the quality of the products and residues produced on site destined for reuse, recovery and recycling, and to minimise the quantity of products sent for disposal

Objective No.	Target	Plan	Timescale	Responsibility	Status
4.1	Carry out an assessment of the efficiency of use of raw materials in all processes, having particular regard to the reduction in waste generated	Continued monitoring of batches to enhance process efficiency. Examine methods for improving the quality of the plastic recovered (Pre-screen operation) Investigate possibility of installing wind-sifter to extract light plastics from the recycled overs' fraction. Examine quality of waste received on site. Ensure any contamination with plastics, glass etc is reported to waste companies.	Deadline 31.12.2012	Environmental Manager	

ENVIRONMENTAL MANAGEMENT PROGRAMME 2011

Objective 5.0: To enhance our relationship with the local community through communication, transparency, nuisance avoidance, and provision of services

Objective No.	Target	Plan	Timescale	Responsibility	Status
5.1	Review Public Awareness and Communication Programme	Provide tours of facility to local schools, CIWM, Macra Na Feirne etc.	31.12.2012	Environmental Manager (SB)	
5.2	Provide onsite pick up service for compost to the general public	Investigate feasibly of pick up system for compost. Bulk users Small users	31.12.2012	Environmental Manager (SB)	

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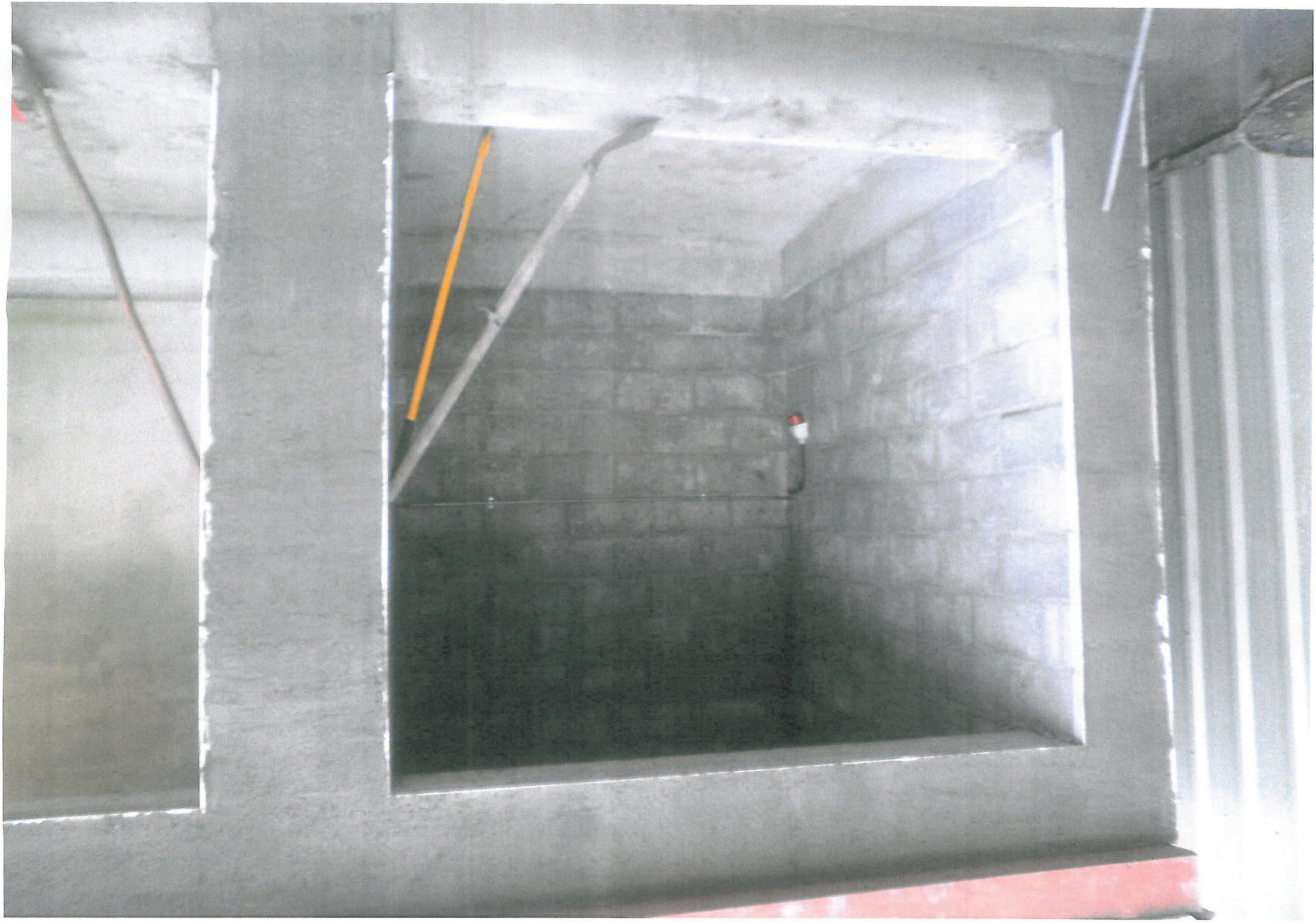
Fuel Storage Bund Integrity Testing

January 2012

ISO 9001:2000 QUALITY

AQS Environmental Solutions
Archerstown Industrial Estate
Thurles
Co. Tipperary
Tel: 050457800
Fax: 050457801
Email: gary@aqssolutions.ie
Web: www.aqsenvironmentalsolutions.ie

Record Sheet for Tank Testing		
Surveyors: AQS Environmental Solutions		**Waste License No:** W0249-01
Client / Site: Acorn Recycling, Littleton Composting Plant		**IPC Category:**
Bund Ref No: Fuel Storage Bund		**Tank Type:** Holding Tank
Bund Location: Over Ground		**Tank Classification:** Fuel storage
Bund Dimensions: 3.420m wide x 2.320m long x 0.30m deep		**Bund Capacity:** 2.38 cubic metres
Bund Construction Materials: Concrete		**Tank Total Capacity within Bund:** 1.115 + 0.9 = 2.015 cubic metres
Bund Lining Materials: None		**Weather Conditions:** Dry
Bund inlets /Connections: No		**Inlet Diameters:** N/A
Deemed practicable / safe to conduct hydrostatic test?		Yes
If no or shortened periods of time, give reasons:		
Date of Hydrostatic Test: 19.01.2012 - 20.01.2012		**Time scale of test:** 24 hour
Description and Results of Hydrostatic Test: Tank was filled to 0.29m from bund floor level. Estimated rainfall in the area, over test period was 0mm.		
Description and Results of Visual Inspection: Okay No drop in test water level was recorded.		
Recommendations N/A		
Pass / Fail of Hydrostatic Test:		Pass
Signed - Gary Pollard BEng Gary Pollard		**Date:** 21.01.2012



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Energy Audit 2012

Auditor: Rónán Beasley

Overview of Activities on site and Main Energy Consumers

Ballybeg Composting Facility is a closed single skin cladded building with 3 meter retention walls, coupled with a flat roof series of composting tunnels. The plant comprises of a large network of aeration and extraction fans, control systems, screening plant and associated controls and a lighting system along with two Volvo wheel loaders. These would be the main electrical consumers on site.
Our focus in terms of energy efficiency would be on these energy systems.

Audit Time and Details

The Audit was carried out in March 12th 2012. The site is currently in production and is approximately 80% capacity, therefore running slightly below normal run capacity but typical at this time of year. From June to November, the plant ran at a different rate than normal due to the screening system not functioning. The plant shut down for refurbishment in December/January and opened in February 2012.

Scope of Audit

Firstly, the audit needed to assess the information available to us and look at progress made in the past 12 months relating to energy efficiency.
Changes in utility use has impacted on the trending of energy over time, particularly with the switch to diesel powered screening systems during the months July to November and back to Electrical screening in January with new system. Taking into consideration the variability, it was agreed to focus more on the trending of energy use at the extraction system and lighting system though targets will be made with regard to

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all energy systems. The screening plant may not have scope for energy reduction but the associated diesel consumption resulting from greater screening efficiencies will be measured.
Of particular note in terms of energy efficiency has been the incorporation of the power Factor Correction facility. Given that this was installed from June 2010, it cannot be assessed in terms of a net difference from baseline consumption, however these units are generally seen to offer a three year payback in efficiency and is worthy to note as installed and functioning well at the site.

Energy Systems Identified in Audit

1. Aeration and Extraction system
2. Screening Plant and Power Washer
3. Lighting and IT System plus ELF, UPS, AIR CON
4. L120 Volvo Loader and L90 Volvo Loader

Energy Performance of Systems Assessed at the Site

1. **Aeration Supply and Extraction Fan System**

This electrically controlled system provides oxygen and temperature control to the tunnels as well as air extraction from both processing areas and the tunnels, which feeds into the biofiltration unit. Air extraction from the processing area also feeds the composting tunnels, thereby eliminating the need for separate extraction fans. The extraction fans from the tunnels must be maintained to remove slightly higher air volumes from the tunnels than the volumetric air supply to the composting bays. This ensures that there is a negative pressure within the tunnel and maintains humidity at manageable levels.
During 2010/2011, there was a program installed to ensure that excessive power was not used to aerate and extract. Excessive energy bills may be reduced by introducing a cap on the inst Current (Amps) serving this system. This was capped at about 115 amps. When, for example, the extraction needed to be turned up in one area, it could be

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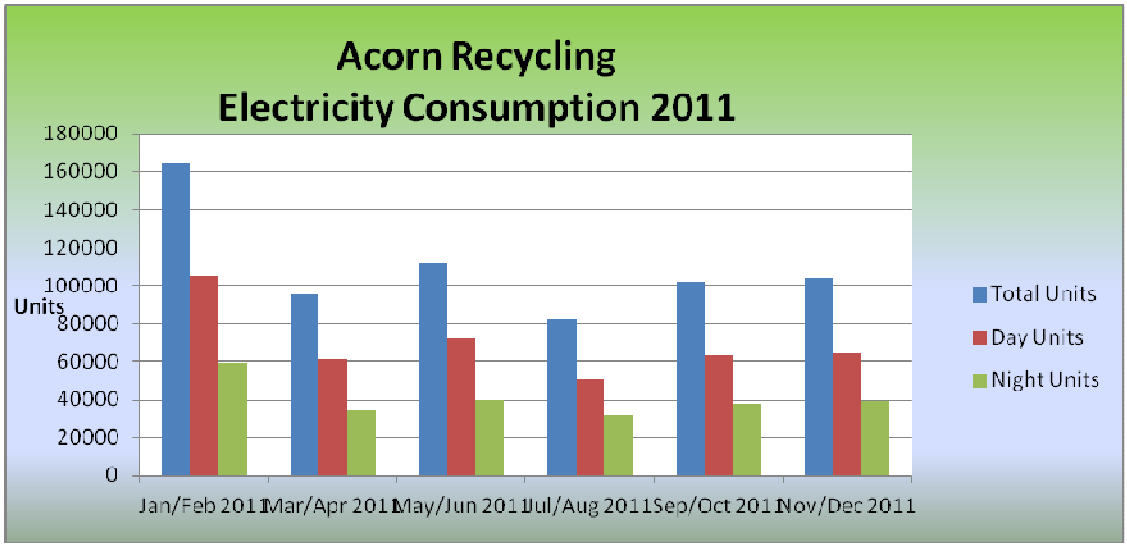
turned down slightly in a number of other fans. This results in no net increase in power. By tweaking the fan systems like this, instantaneous current (in Amps) was reduced from 180 to 115, a saving of 37 % was achieved within one month.



This is a significant power reduction but is also indicative that excessive power was being used. Since then, increased costs of electricity have led to a slight rise in costs between Oct 11 and Nov 11. It is a target to absorb those costs with increased electrical efficiency.

In order to monitor this instantaneous power consumption, the compost control system was altered to allow a graph of power use vs time and an indicator on the SCADA system can be seen by the operator as soon as any fan speed changes were noted.

There is much more scope of efficiency in 2012 relating to this use as the site operators are getting used to manipulating the system and we would hope for a targeted decrease in power consumption as a result of other potential operation changes relating to pile height and aeration rate and subsequently extraction rate. We are further decreasing

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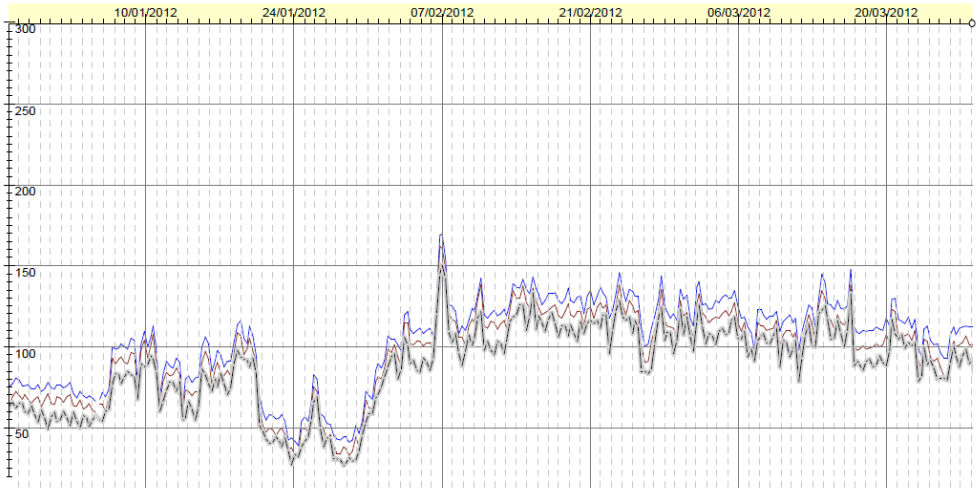
the air gaps in the tunnels, which also reduces the extraction requirement and power consumption.
The accompanying graph shows the decreased consumption during our planned shutdown in November/December and the subsequent rise to normal conditions to present.



Legend

	Name	Start	End	Duration	Scale	Units	Min	Max	Avg
	Pen1	28/12/2011	28/03/2012	13w 0d 00:00:00	20 - 300	Amps	26.407082	150.543314	87.523091
	Pen2	28/12/2011	28/03/2012	13w 0d 00:00:00	20 - 300	Amps	38.498879	169.42035	103.829609
	Pen3	28/12/2011	28/03/2012	13w 0d 00:00:00	20 - 300	Amps	32.423944	162.381031	96.044391

TARGET 1: 12% DECREASE IN ELECTRICAL POWER CONSUMPTION ON AERATION AND EXTRACTION FAN USE

2.0 Screening Plant

The TURMEC screening system is now installed and operating at normal capacity. Two variable speed drives control the hopper and Trommel screen. This speed impacts on the power consumption. Given that the system is now optimised, the power

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consumption will not change significantly. However given the throughput capacity of the unit, efficiencies in operation will mean a reduced loader use, with decreased diesel consumption on site. It would be the intention of 2012 to track the changes in diesel consumption relative to the comparable dates in 2011 when operating the original screen to see if any differences arise which lead to greater fuel efficiency.

TARGET 2: DIESEL FUEL USE: TRACK CHANGES IN CONSUMPTION AGAINST 2011

3.0 LIGHTING AND IT SYSTEM

The lighting and IT system runs at 9.6 KW instantaneous when fully operational. It has been noted that lights are kept on when it is unnecessary, particularly during the daytime in winter months. It may be possible to also divide the switches as currently all high bay lights are turned on with one switch. If these could be divided into rows, it will save on having all the lights on when it may not be necessary.

The AIR conditioning is ran at 19 degrees all year around. This could be turned down during cold weather or off, so long as controls are in place to monitor. The KW Inst is about 2KW for Air Con.

When run during the Audit, the KW Inst was 9.6kW. The AMPs read 39 AMPs

When all lights were ran, the same power output was achieved with the screening system (running empty) so it is a significant energy system to optimise and one which hasan't been looked at in detail.

TARGET 3: CALCULATE POWER KW OF INDIVIDUAL LIGHT SYSTEMS AND INSTALL PROGRAMME TO MINIMISE LIGHTING.
TARGET 4: OPTIMISE EFFICIENCY OF AIR CON SYSTEM

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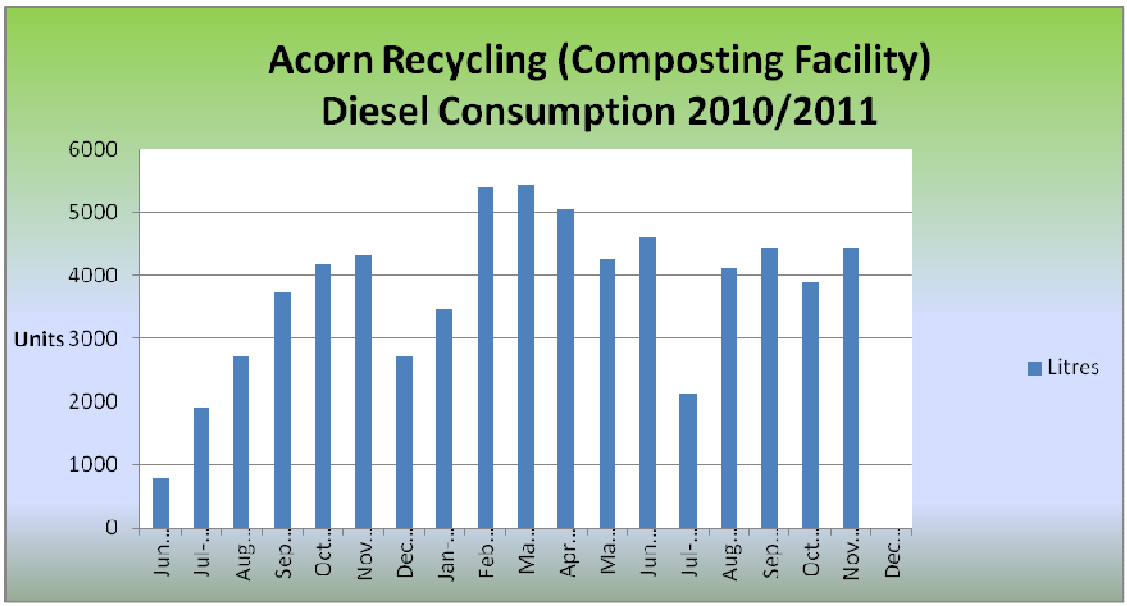
4.0 VOLVO L120 and L90 LOADER UNITS

The VOLVO units are the most important functional tool within the composting plant. Without them, no material moves. These units are handled by trained staff, however it is important that training, tips and advice is given to drivers to ensure that machines are run in a safe, efficient and environmentally conscious manner. Fuel consumption on site in 2012 is almost exclusively consumed by the VOLVO loader. However in 2011, consumption of diesel between February and June and July to November increased with rental diesel ran screening units. The following table shows the consumption over 2011.



Since November 2011, diesel consumption will have stabilised to levels similar to October/November. We would hope to match these but also look at ways of ensuring that the VOLVO units are efficiently using Diesel. 5 ways of establishing this are looked at in the following steps.

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4.1 No Need to IDLE

Operators can get in the habit of idling the vehicle, before starting, at lunch breaks, in between waste acceptance or screening operations. Its a habit but not necessary. If the unit is only turned on when it is needed, ever hour the machine runs goes straight into production, making it more efficient. Volvo will be installing on automatic switch off on L120 to counter idling.

4.2 No need to Warm Up by Idling

The Hydraulic system can work instantly. It is not needed to heat the oil in cold weather by Idling the machine. To do this, the functions can be ran from the cab and it won't happen through Idling. So there's No need to start the engine until just before it is time to work.

4.3 Technique

Specific techniques are required to handle the bucket and loading function effectively. With a VOLVO, the bucket needs to be raised, slightly tilted back when loading and then lifted in one movement. This can be done on a low function, around 1500 to 1700 RPM. Full throttle is not required. Maximum speed can be achieved at 1400 rpm and this is when hydraulics are at their most effective.

This effectively reduces fuel consumption.

4.4 The Right Equipment

The Volvo L90 has been using a 4.5 m3 bucket for the past two years. We have now purchased a 5 m3 bucket new. The 500cm3 difference is equivalent to 516 m3 of material for every 30 hours work with effectively little increase in fuel consumption. This has led to a significantly greater efficiency in the clean area operations.

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4.5 Coping with Stressful Environment

The accelerator will be used more when operators become stressed when working to strict deadlines. This leads to significantly increased fuel consumption and can also lead to an accident. Coping with the stressful working environment is essential.

TARGET 5: INSTALL A PROGRAMME FOR LOADER OPERATORS FOR WORKING THE LOADERS MORE EFFICIENTLY.
TARGET 6: ACHEIVE A 10% REDUCTION IN DIESEL CONSUMPTION IN 2012 RELATIVE TO THE EQUIVILANT LOADER USE IN 2011.

SUMMARY OF TARGETS FOR INCORPORATION INTO EMP 2012

TARGET 1: 12% DECREASE IN ELECTRICAL POWER CONSUMPTION ON AERATION AND EXTRACTION FAN USE

TARGET 2: DIESEL FUEL USE: TRACK CHANGES IN CONSUMPTION AGAINST 2011

TARGET 3: CALCULATE POWER KW OF INDIVIDUAL LIGHT SYSTEMS AND INSTALL PROGRAMME TO MINIMISE LIGHTING.

TARGET 4: ESTABLISH MOST EFFICIENCY OF AIR CON SYSTEM

TARGET 5: INSTALL A PROGRAMME FOR LOADER OPERATORS FOR WORKING THE LOADERS MORE EFFICIENTLY.

TARGET 6: ACHEIVE A 10% REDUCTION IN DIESEL CONSUMPTION IN 2012 RELATIVE TO THE EQUIVILANT LOADER USE IN 2011.

Environmental Protection Agency

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.13

REFERENCE YEAR	2011

1. FACILITY IDENTIFICATION

Parent Company Name	Acorn Recycling Limited
Facility Name	Ballybeg Composting Facility
PRTR Identification Number	W0249
Licence Number	W0249-01

Waste or IPPC Classes of Activity

No.	class_name
4.2	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).

Address 1	Ballybeg
Address 2	Littleton
Address 3	Co. Tipperary
Address 4	
	Tipperary
Country	Ireland
Coordinates of Location	-7.72020004905 52.614212
River Basin District	IESE
NACE Code	3832
Main Economic Activity	Recovery of sorted materials
AER Returns Contact Name	Sam Bowden
AER Returns Contact Email Address	sam@acornrecycling.com
AER Returns Contact Position	Environmental Manager
AER Returns Contact Telephone Number	050433721
AER Returns Contact Mobile Phone Number	0861071231
AER Returns Contact Fax Number	050433703
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	0
User Feedback/Comments	
Web Address	www.acornrecycling.com

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
50.1	General

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

Is it applicable?	No
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 ?	

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
06	Ammonia (NH3)	C	ESTIMATE		0.7225	0.7225	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
215	**Hydrogen sulphide**	C	ESTIMATE		0.593512	0.593512	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: Ballybeg Composting Facility

Please enter summary data on the quantities of methane flared and / or utilised	**T (Total) kg/Year**	**M/C/E**	**Method Used**		**Facility Total Capacity m3 per hour**	
			Method Code	**Designation or Description**		
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

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 this only concerns Releases from your facil

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

ity

4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data

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					
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

4.4 RELEASES TO LAND

Link to previous years emissions data

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

Please enter all quantities on this sheet in Tonnes

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 12	No	110.52	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	D1	M	Weighed	Offsite in Ireland	Donohill Landfill,W0074-03	Donohill Landfill,.,.,.,Ireland		
Within the Country	19 12 12	No	79.54	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R12	M	Weighed	Offsite in Ireland	Greenstar,W0188-01	Greenogue,.,.,Dublin,Ireland		
Within the Country	19 12 12	No	51.66	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R12	M	Weighed	Offsite in Ireland	Greenstar ,W0183-01	Millenium Business Park,Grange,Ballycoolin,Dublin 11,Ireland		
Within the Country	19 12 12	No	11.86	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R12	M	Weighed	Offsite in Ireland	Mr Binman,W061-02	Luddenmore,Grange,Kilmallock,Co. Limerick,Ireland		
Within the Country	19 12 12	No	6.92	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R12	M	Weighed	Offsite in Ireland	Clearpoint/Mr Binman,WFP-TS-08-0079-01	Ballylynch,Carrick-on-Suir,Co. Tipperary,.,Ireland		
Within the Country	19 12 12	No	569.22	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R12	M	Weighed	Offsite in Ireland	Murray Waste Recycling Ltd,WP/08/23	Coolatore,Ferns,Co. Wexford,.,Ireland		
Within the Country	19 05 99	No	420.14	wastes not otherwise specified	R10	M	Weighed	Offsite in Ireland	Limerick Main Drainage,D0013-01	Dock Road,Limerick ,.,.,Ireland		
Within the Country	**19 05 99**	**No**	422.97	wastes not otherwise specified	R10	M	Weighed	Offsite in Ireland	Tralee WWTP,D0040-01	.,Lohercanon,Tralee,Co. Kerry,Ireland		
Within the Country	19 05 99	No	408.12	wastes not otherwise specified	R10	M	Weighed	Offsite in Ireland	Thurles WWTP,D0026-01	Ballycurrane,Thurles ,Co. Tipperary,.,Ireland		
Within the Country	19 05 03	No	104.18	off-specification compost	R10	M	Weighed	Offsite in Ireland	Greenstar East Galway Landfill,W0178-02	Ballinasloe,Co. Galway,.,.,Ireland		
Within the Country	19 05 03	No	89.68	off-specification compost	R10	M	Weighed	Offsite in Ireland	Youghal Landfill,W0068-03	Youghal Mudlands,Youghal,Co. Cork,.,Ireland		

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

Link to previous years waste data
Link to previous years waste summary data & percentage change