Acorn Recycling

Waste Management for the next generation

ANNUAL ENVIRONMENTAL REPORT

2016

Name: Acorn Recycling Ltd

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

Waste Licence: W0249-01

Reporting Period: 01 January 2016 – 31 December 2016

Submitted by _____

Sam Bowden
Compost Facility 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 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 2016. The report covers the period 1st January 2016 to 31st December 2016.

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)

  No wastes were accepted for treatment under this activity in 2016

- 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).

  43037.32 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 43037.32 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 88.68% of the total waste received (Calculation excludes woodchip material).

Table 1. Waste Accepted 2016

EWC	DESCRIPTION	QUANTITY (t)
020106	ANIMAL FAECES, URINE, AND MANURE	32.74
020201	SLUDGES FROM WASHING/CLEANING	561.40
020203	MATERIALS UNSUITABLE FOR CONSUMPTION OR PROCESSING	424.60
020204	SLUDGES FROM ON-SITE EFFLUENT TREATMENT (MEAT INDUSTRY)	401.20
020304	MATERIALS UNSUITABLE FOR CONSUMPTION OR PROCESSING (ANIMAL FEED)	220.44
020501	MATERIAL UNSUITABLE FOR CONSUMPTION OR PROCESSING (DAIRY INDUSTRY)	112.62
020502	SLUDGES FROM ON-SITE EFFLUENT TREATMENT (DAIRY INDUSTRY)	125.58
020601	MATERIALS UNSUITABLE FOR CONSUMPTION OR PROCESSING	15.82
020702	WASTES FROM SPIRITS DISTILLATION	5.34
020704	MATERIALS UNSUITABLE FOR CONSUMPTION PROCESSING (DRINKS INDUSTRY)	116.34
020799	BREWERY WASTE	5.68
100101	BOTTOM ASH	290.50
190805	SLUDGES FROM TREATMENT OF URBAN WASTE WATER	1912.51
190899	WASTES NOT OTHERWISE SPECIFIED (SPENT CARBON)	19.38
190901	SOLID WASTE FROM PRIMARY FILTRATION AND SCREENINGS	302.60
190904	SPENT ACTIVATED CARBON	88.62
191207	WOOD OTHER THAN THAT MENTIONED IN 191206	607.86
200108	BIODEGRADABLE KITCHEN AND CANTEEN WASTE	38166.97
200125	EDIBLE OIL AND FAT	365.13
200304	SEPTIC TANK SLUDGE	43.78
200306	WASTE FROM SEWAGE CLEANING	386.32
	Total	**43037.32**

3.2 Waste Dispatched

Two waste types were dispatched offsite during the reporting period namely; plastics from the screening of compost (EWC 190501) and Water from the biofilter onsite (161002)

The following quantities of each waste were disposed of in 2016

Table 2. Waste dispatched 2016

EWC	DESCRIPTION	TONNAGE DISPOSED
190501	Plastic 'Overs'	1737.54
161002	Biofilter Water	486.36

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

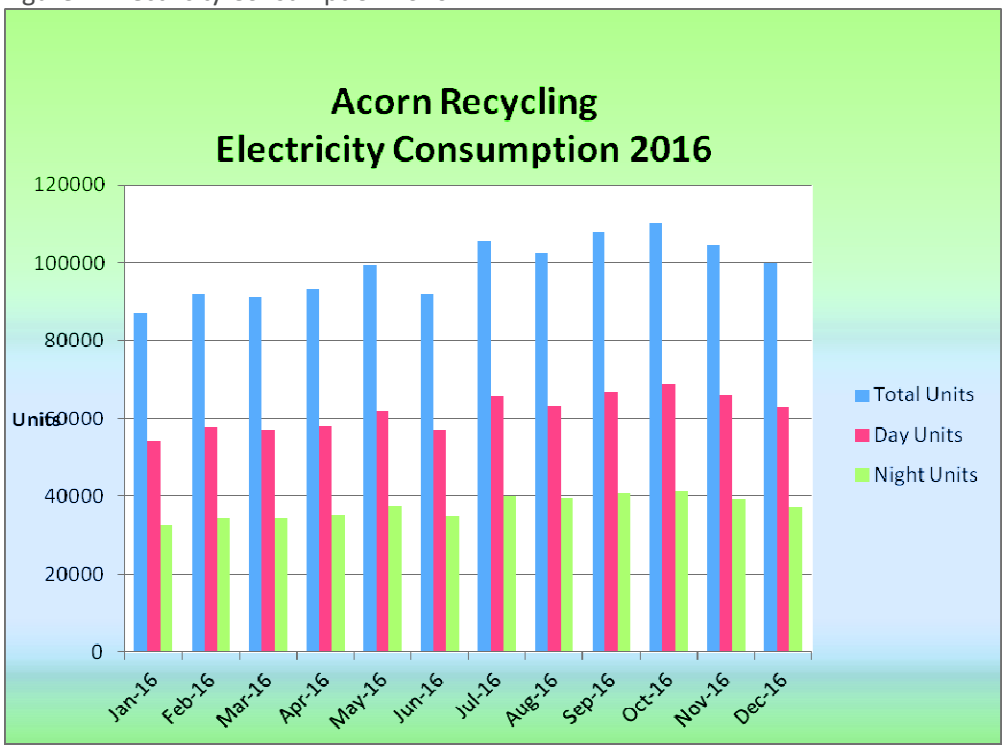
4.1 Electricity Usage

Table 3. and Figure 1. below detail the day and night units of electricity used on site during each month in 2016

Table 3. Electricity Consumption 2016

Electricity Consumption 2016			
Billing Period	Day Units	Night Units	Total Units
Jan-16	54495	32664	87159
Feb-16	57549	34376	91925
Mar-16	57056	34232	91288
Apr-16	57900	35318	93218
May-16	62109	37586	99695
Jun-16	57053	34798	91851
Jul-16	65481	39976	105457
Aug-16	63056	39366	102422
Sep-16	66929	40741	107670
Oct-16	68903	41359	110262
Nov-16	65726	39047	104773
Dec-16	62733	37259	99992
	738990.00	446722	1185712.00

Figure 1. Electricity Consumption 2016



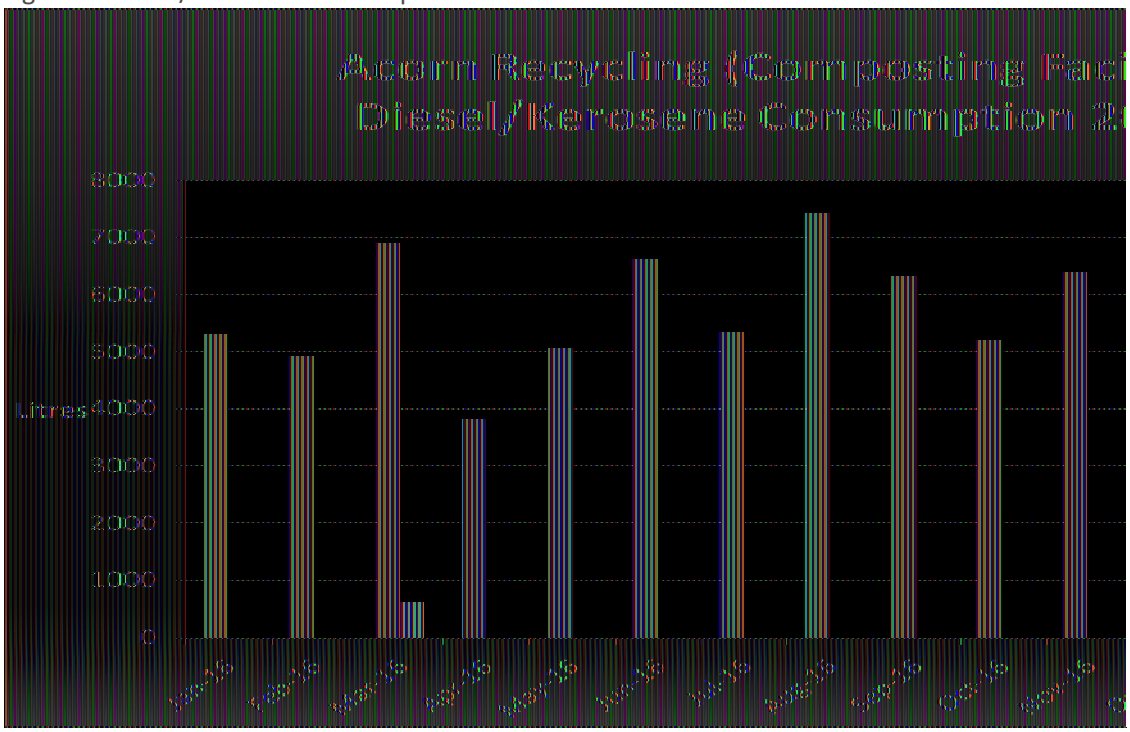
4.2 Diesel Usage

Table 4. and Figure 2. below show diesel and kerosene consumption in 2016. Diesel is used for the three front end loaders on site and kerosene was for the power washer.

Table 4. Diesel Consumption 2016

Diesel Consumption 2016		
Month	Diesel (litres)	Kerosene
Jan-16	5298	
Feb-16	4911	
Mar-16	6901	614
Apr-16	3839	
May-16	5079	
Jun-16	6627	
Jul-16	5335	
Aug-16	7430	
Sep-16	6336	
Oct-16	5215	
Nov-16	6405	
Dec-16	4883	
Total	68,259	614.00

Figure 2. Diesel/Kerosene Consumption 2016



4.3 Compost Amendment Materials

607.86 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.
The water usage when the power washer is operational is estimated at 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.

Total woodchip used was 607.86 tonnes down from 1683.09 tonnes per annum in 2015. Woodchip use per tonne of waste received dropped from 0.049t in 2015 to 0.014t in 2016. In 2017 it is planned to investigate alternative amendments to the composting process such as sawdust, overs from green waste composting and other products.

The plastics produced for disposal offsite decreased from 6.49% in 2015 to 4.04% in 2016 due to the continued further processing of the contaminants to remove wood, compost and other biodegradable material. This involves further composting, shredding and rescreening of the material.

6.0 Complaints Summary

There was no complaints made to the facility in 2016

7.0 Reported Incidents Summary

There was no incident reported in 2016.

8.0 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. The potential for dust arise from compost that sometimes can become very dry in the maturation area. When a

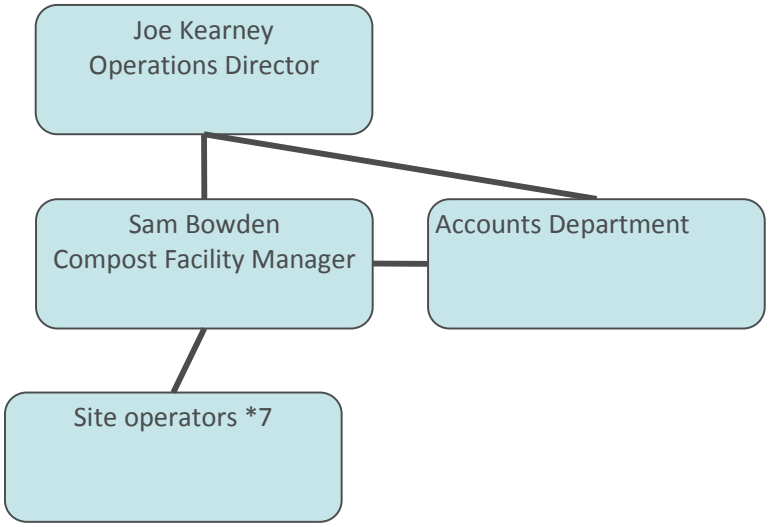
trailer is being loaded with compost the shed doors must be closed down to prevent any dust emissions.

Odour: The biofilter continued to operate well throughout 2016. Full change out of biofilter media took place in August with no issues. Each segment of the biofilter was changed sequentially.
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. A member of staff patrols the site to collect any litter at least once a week.
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 have been no complaints relating to noise from the facility.

9.0 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
Sam Bowden	Compost Facility Manager	Overall Responsibility for maintaining EMS, liaising with licensing authorities, quality control, process optimisation, waste acceptance, Health & Safety	B.Sc. in Environmental Science and Technology, M.Sc. in Environmental, Health and Safety Management Certificate in Compost Facility Operation 9 years waste management experience



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

10.0 Environmental Monitoring

10.1 Noise Monitoring

Day and Night noise monitoring was carried out at the facility by an independent consultants Panther Environmental on 06th September 2016. 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 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.

NSL1 Daytime
The dominant day-time noise source at this location is road traffic passing along the public road which was almost continuous during the busy monitoring period. Noise from the facility was not addible at this location at any time during the monitoring period.
The Leq10 was high due to this almost continuous traffic during the monitoring period.
The Leq90 which may be used to give an indication of the actual back-ground noise was determined to be 38 dB(A).
Facility noise at this location does not therefore appear to constitute a nuisance, as the dominant noise source is traffic from the main road during day-time periods.

NSL2 Daytime
The dominant day-time noise source at this location is road traffic passing along the public road which was almost continuous during the busy monitoring period.
Noise from the facility was not addible at this location at any time during the monitoring period.
The Leq10 was high due to this almost continuous traffic during the monitoring period.
The Leq90 which may be used to give an indication of the actual back-ground noise was determined to be 36 dB(A).
Facility noise at this location does not therefore appear to constitute a nuisance, as the dominant noise source is traffic from the main road during day-time periods.

NLS1 Night-time
Noise from the facility was not addible at this location at any time during the monitoring period. The L_{eq10} was high due to the passing traffic during the monitoring period.
The L_{eq90} which may be used to give an indication of the actual back-ground noise was determined to be 36 dB(A). Facility noise at this location does not therefore appear to constitute a nuisance, as the dominant noise source is traffic from the main road during day-time periods.

NSL2 Night-time
The dominant night-time noise source at this location is road traffic passing along the public road, although not as frequent as the day-time period. Noise from the facility was not addible at this location at any time during the monitoring period.
The L_{eq10} was high due to the passing traffic during the monitoring period.
The L_{eq90} which may be used to give an indication of the actual back-ground noise was determined to be 41 dB(A). Facility noise at this location does not therefore appear to

constitute a nuisance, as the dominant noise is traffic from the main road during day-time periods.

Table 6. Noise Monitoring 2016 (NSL1/NSL2) 06th September 2016
A survey was carried out at each location day & night

NSL	Day dB(A) Laeq (30min)	Day L_{90}	Night dB(A) Laeq (30min)	Night L_{90}
NSL1	64	38	53	36
NSL2	62	36	54	41

10.3 Monitoring of Emissions to Water

Table 9. Storm Water Monitoring

13/01/2016	SW1	1.5	<5	ALS
08/02/2016	SW1	0.95	7	ALS
10/02/2016	SW1	0.82	<5	ALS
15/02/2016	SW1	0.59	<5	ALS
18/02/2016	SW1	0.96	<10	ALS
25/02/2016	SW1	0.44	<5	ALS
04/03/2016	SW1	0.76	<5	ALS
09/03/2016	SW1	0.69	24	ALS
11/04/2016	SW1	1	<5	ALS
14/04/2016	SW1	1.04	<5	ALS
26/04/2016	SW1	1.75	<10	ALS
13/05/2016	SW1	0.73	5	ALS
27/05/2016	SW1	0.42	<5	ALS
16/06/2016	SW1	1.65	5	ALS
22/06/2016	SW1	1.24	<5	ALS
28/06/2016	SW1	0.81	7	ALS
29/06/2016	SW1	1.27	12	ALS
07/07/2016	SW1	1.45	<5	ALS
18/07/2016	SW1	0.42	7	ALS
22/07/2016	SW1	0.76	<5	ALS
25/08/2016	SW1	0.53	<5	ALS
30/08/2016	SW1	0.3	<5	ALS
31/08/2016	SW1	0.74	20	ALS
01/09/2016	SW1	0.38	<5	ALS
05/10/2016	SW1	0.34	<5	ALS
07/10/2016	SW1	0.77	<5	ALS
13/10/2016	SW1	0.53	<5	ALS

14/10/2016	SW1	0.11	<5	ALS
27/10/2016	SW2	0.25	<5	ALS
28/10/2016	SW1	0.24	<5	ALS
10/11/2016	SW1	0.2	<5	ALS
11/11/2016	SW1	0.31	<5	ALS
14/11/2016	SW1	0.59	<5	ALS
15/11/2016	SW1	0.52	<5	ALS
16/11/2016	SW1	0.42	<5	ALS
04/11/2016	SW1	1.22	<5	ALS
05/12/2016	SW1	0.55	12	ALS
06/12/2016	SW1	1.49	44	ALS
13/12/2016	SW1	0.63	<5	ALS

10.4 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.

Biofilter Monitoring 2016

Paramater	Q1 (15Feb2016)	Q2 (12Apr2016)	Q3 (22Sept2016)	Q4 (28Oct2016)	Limit
Average Odour OUe/m3	3941	4276	5363	6256	_
% Odour Removal	97	96	96	91	_
Total Aliphatic Amines (mg/Nm3)	0.95	0.89	0.99	1.24	_
Hydrogen Sulphide (mg/Nm3)	0.015	0.011	0.01	0.01	<5
Ammonia (mg/Nm3)	1.74	1.79	1.85	2.2	<50
Total Mercaptans (mg/Nm3)	<0.09	<0.08	<0.01	<0.1	<5
Bed Media pH	7.3	7.4	7.1	7.4	_
Moisture (% w/w)	50	50	50	50	_
Total Viable Counts (CFU/Kg)	6.6*105	6.6*105	6.6*105	6.6*105	_

Table 11. Bioaerosols Monitoring 2016

Bioaerosols Monitoring (2016)

Location	Asperagillus Fumigatus (CFU m3)	Mesophilic Bacteria (CFU m3)
Loc Bio1	<3	110
Loc Bio2	<3	490

Loc Bio3	<3	285

Table 12. PM10 Monitoring

PM10 Monitoring 2016

Location	(H1) Average Concentration (ug/m3) 12Apr2016	(H2) Average Concentration (ug/m3) 27Oct2016	Limit (ug/m3)
PM1	8	7.5	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 4 ammonia samples = 1.895 mg/m3 NH3

Total ammonia emissions load in 2016 = 1.895mg/m3 * 258,048,720m3

= 489.002 kg/year NH3

10.5 Dust Deposition Monitoring

Dust deposition monitoring was carried out at the site on three times in 2016 at four monitoring locations. Average dust levels did not exceed the licence limit of 350mg/m2/day

Table 13 Dust Deposition 2016 (mg/m2/day)

Duration	DD1	DD2	DD3	DD4
10/03/2016 - 02/06/2016	11.6	7.4	19.6	20.6
02/06/2016 - 18/07/2016	37.64	19.16	16.43	16
18/07/2016 - 05/10/2016	38.58	7.5	14.76	7.88

11.0 Procedures developed in 2016 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 2016. 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 Procedure
SOP ARB08	Non Compliance and Corrective Action
SOP ARB09	Fire Safety Protocol
SOP ARB10	Awareness and Training Procedure
SOP ARB11	Emergency Preparedness and 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
SOP ARB18	Management of compost in maturation area
SOP ARB19	Testing of compost for physical contaminants
SOP ARB20	Cleaning of yard, gullies and aco channels procedure

12.0 Environmental Objectives & Targets and Environmental Management Programme report for 2016 and proposal for 2017

See attached separately

ENVIRONMENTAL OBJECTIVES AND TARGETS.

Environmental Objective and Targets (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 2016

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 31.12.2016	Environmental Manager (SB) H & S co-ordinator (SB)	Training provided

ENVIRONMENTAL MANAGEMENT PROGRAMME 2016

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 31.12.2016	Environmental Manager (SB)	Completed
2.2	Monitor life span of biofilter and methodology for replacement of media when required	Continue to monitor. Plan established for removal and restocking biofilter. Re-examine biofilter Mar – Aug 2016 Remove layer of media to increase air flow through the biofilter Monitor performance Investigate sources of media Develop methodology for removal and replacement of media. Carry out replacement of at least one section of the biofilter .	Deadline 30.08.2016	Environmental Manger (SB)	Full media change in biofilter August. Screened composting 'overs' from Bord Na Mona Kilberry used along with shredded pallets.
2.3	Improvements to	Stringently enforce site procedures with	Deadline	Environmental	Completed.

	management o f surface water onsite to ensure only clean surface water is discharge	regard washing of vehicles upon exit from the building. Particular focus on clean side of building. Compost truck must be washed thoroughly. Loader must be washed thoroughly when leaving building to fill with diesel or for repairs & maintenance. New signage to be installed	01.06.2016	Manger (SB)	

ENVIRONMENTAL MANAGEMENT PROGRAMME 2016
Objective 3.0: To continually improve energy efficiency and resource use at the site

Objective No.	Target	Plan	Timescale	Responsibility	Status
3.1	Maintain Electricity consumption per waste received at <35units per tonne received.	Continuous monitoring of electricity usage via scada system. Extraction & aeration fans to be adjusted to reflect operations. Awareness to turn off lights when not in use.	Dec 2016	Environmental Manager	Completed. Electricity usage was 27.55 units per tonne of waste processed in 2016
3.2	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 31.12.2016	Environmental Manager	Completed

ENVIRONMENTAL MANAGEMENT PROGRAMME 2016
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. Achieve at least 20% reduction on plastics to landfill through shredding and rescreening of material.	Deadline 31.12.2016	Environmental Manager	Completed. 21.66% decrease in waste sent to landfill compared to 2015
4.2	Increase number of sustainable outlets for compost use. Addition of at least 3 new farms.	Sales team to focus on a 30km radius of farms. Use established customer base to help draft new farms. Improve transportation methods for compost.	August 2016	Environmental Manager	Completed

ENVIRONMENTAL MANAGEMENT PROGRAMME 2016

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. Cre	31.12.2016	Environmental Manager (SB)	None carried out
5.2	Improve visual appearance site. New gravel to be laid in car park and around site perimeters. Wild flowers to be planted and maintained at east of site. Lawn to be maintained along driveway.	Improve visual appearance site. New gravel to be laid in car park and around site perimeters. Lawn to be maintained along driveway. New welfare cabins and fence at car park	07.08.16	Environmental Manager (SB)	completed

ENVIRONMENTAL OBJECTIVES AND TARGETS.

Environmental Objective and Targets (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 2017

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 31.12.2017	Environmental Manager (SB)	

ENVIRONMENTAL MANAGEMENT PROGRAMME 2017

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 31.12.2017	Environmental Manager (SB)	
2.2	Monitor performance of biofilter		Deadline 30.08.2017	Environmental Manger (SB)	
2.3	Improvements to management o f surface water onsite to ensure only clean surface water is discharge	Stringently enforce site procedures with regard washing of vehicles upon exit from the building. Particular focus on clean side of building. Compost truck must be washed thoroughly. Loader must be washed thoroughly when leaving building to fill with diesel or for repairs & maintenance.	Deadline 01.06.2017	Environmental Manger (SB)	

ENVIRONMENTAL MANAGEMENT PROGRAMME 2016

Objective 3.0: To continually improve energy efficiency and resource use at the site

Objective No.	Target	Plan	Timescale	Responsibility	Status
3.1	Maintain Electricity consumption per waste received at <33units per tonne received.	Continuous monitoring of electricity usage via scada system. Extraction & aeration fans to be adjusted to reflect operations. Awareness to turn off lights when not in use.	Dec 2017	Environmental Manager	.
3.2	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 31.12.2017	Environmental Manager	

ENVIRONMENTAL MANAGEMENT PROGRAMME 2017

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. Maintain plastics sent to landfill at less than 6% of waste received.	Deadline 31.12.2017	Environmental Manager	
4.2	Increase number of sustainable outlets for compost use. Addition of at least 2 new farms.	Sales team to focus on a 30km radius of farms. Use established customer base to help draft new farms. Improve transportation methods for compost.	August 2017	Environmental Manager	

ENVIRONMENTAL MANAGEMENT PROGRAMME 2017
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	Improve visual appearance site. New gravel to be laid in car park and around site perimeters. Lawn to be maintained along driveway.	Improve visual appearance site. New stone/gravel to be put down at back of site. Planting to take place at east side of composting plant in winter 17/18	30.01.18	Environmental Manager (SB)	

Guidance to completing the PRTR workbook

ENVIRONMENTAL OBJECTIVES AND TARGETS.

Environmental Objective and Targets (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 2016
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 31.12.2016	Environmental Manager (SB) H & S co-ordinator (SB)	Training provided

ENVIRONMENTAL MANAGEMENT PROGRAMME 2016
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 31.12.2016	Environmental Manager (SB)	Completed
2.2	Monitor life span of biofilter and methodology for replacement of media when required	Continue to monitor. Plan established for removal and restocking biofilter. Re-examine biofilter Mar – Aug 2016 Remove layer of media to increase air flow through the biofilter Monitor performance Investigate sources of media Develop methodology for removal and replacement of media. Carry out replacement of at least one section of the biofilter .	Deadline 30.08.2016	Environmental Manger (SB)	Full media change in biofilter August. Screened composting 'overs' from Bord Na Mona Kilberry used along with shredded pallets.
2.3	Improvements to	Stringently enforce site procedures with	Deadline	Environmental	Completed.

	management o f surface water onsite to ensure only clean surface water is discharge	regard washing of vehicles upon exit from the building. Particular focus on clean side of building. Compost truck must be washed thoroughly. Loader must be washed thoroughly when leaving building to fill with diesel or for repairs & maintenance. New signage to be installed	01.06.2016	Manger (SB)	

ENVIRONMENTAL MANAGEMENT PROGRAMME 2016
Objective 3.0: To continually improve energy efficiency and resource use at the site

Objective No.	Target	Plan	Timescale	Responsibility	Status
3.1	Maintain Electricity consumption per waste received at <35units per tonne received.	Continuous monitoring of electricity usage via scada system. Extraction & aeration fans to be adjusted to reflect operations. Awareness to turn off lights when not in use.	Dec 2016	Environmental Manager	Completed. Electricity usage was 27.55 units per tonne of waste processed in 2016
3.2	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 31.12.2016	Environmental Manager	Completed

ENVIRONMENTAL MANAGEMENT PROGRAMME 2016
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. Achieve at least 20% reduction on plastics to landfill through shredding and rescreening of material.	Deadline 31.12.2016	Environmental Manager	Completed. 21.66% decrease in waste sent to landfill compared to 2015
4.2	Increase number of sustainable outlets for compost use. Addition of at least 3 new farms.	Sales team to focus on a 30km radius of farms. Use established customer base to help draft new farms. Improve transportation methods for compost.	August 2016	Environmental Manager	Completed

ENVIRONMENTAL MANAGEMENT PROGRAMME 2016

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. Cre	31.12.2016	Environmental Manager (SB)	None carried out
5.2	Improve visual appearance site. New gravel to be laid in car park and around site perimeters. Wild flowers to be planted and maintained at east of site. Lawn to be maintained along driveway.	Improve visual appearance site. New gravel to be laid in car park and around site perimeters. Lawn to be maintained along driveway. New welfare cabins and fence at car park	07.08.16	Environmental Manager (SB)	completed

Environmental Protection Agency

Guidance to completing the PRTR workbook

PRTR Returns Workbook

Version 1.1.19

REFERENCE YEAR	2016

1. FACILITY IDENTIFICATION

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

Classes of Activity

No.	class_name
-	Refer to PRTR class activities below

Address 1	Ballybeg
Address 2	Littleton
Address 3	
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	Compost Plant Manager
AER Returns Contact Telephone Number	050433721
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	8
User Feedback/Comments	
Web Address	

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 ?	No
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

4. WASTE IMPORTED/ACCEPTED ONTO SITE Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	Yes

This question is only applicable if you are an IPPC or Quarry site

4.1 RELEASES TO AIR

Link to previous years emissions data

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)	E	ESTIMATE		489.002	489.002	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**	E	ESTIMATE		2.9675	2.9675	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

RELEASES TO WATERS	
POLLUTANT	
No. Annex II	Name

* Select a row by double-clicking on the Pollutant Name (Column B) th

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO WATERS	
POLLUTANT	
No. Annex II	Name

* Select a row by double-clicking on the Pollutant Name (Column B) th

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

RELEASES TO WATERS	
POLLUTANT	
Pollutant No.	Name

* Select a row by double-clicking on the Pollutant Name (Column B) th

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT

			Please enter all quantities in this section in KGs	
	Method Used			
M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year
			0.0	0.0

en click the delete button

			Please enter all quantities in this section in KGs	
	Method Used			
M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year
			0.0	0.0

en click the delete button

			Please enter all quantities in this section in KGs	
	Method Used			
M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year
			0.0	0.0

en click the delete button

be submitted under AER / PRTR Reporting as this only concerns Releases from your facility

QUANTITY	
A (Accidental) KG/Year	F (Fugitive) KG/Year
0.0	0.0

QUANTITY	
A (Accidental) KG/Year	F (Fugitive) KG/Year
0.0	0.0

QUANTITY	
A (Accidental) KG/Year	F (Fugitive) KG/Year
0.0	0.0

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	
POLLUTANT	
No. Annex II	Name

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

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

RELEASES TO LAND	
POLLUTANT	
Pollutant No.	Name

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

			Please enter all quantities
METHOD			
	Method Used		
M/C/E	Method Code	Designation or Description	Emission Point 1
			0.0

) then click the delete button

			Please enter all quantities
METHOD			
	Method Used		
M/C/E	Method Code	Designation or Description	Emission Point 1
			0.0

) then click the delete button