O'Toole Composting Limited W284-01
Annual Environmental Report (AER) 2017

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1. INTRODUCTION & REPORTING PERIOD

O'Toole Composting Limited has operated a waste installation at Ballintrane, Fenagh, Co. Carlow since 2004. The installation is located in an agricultural area and is adjacent to the N80 (Bunclody - Carlow) national primary road.

Waste activities at the installation from 2004 to 2015 were regulated by Carlow County Council under waste facility permits issued by Carlow County Council (WFP-CW-10-003-01, WFP-CW-14-5).

Industrial Emissions Licence W0284-01 was granted to O'Toole Composting Limited on the 8th of October 2015 to carry out the following Classes of activities at the facility located at Ballintrane, Fenagh, Co. Carlow:

Class 11.4
(b) Recovery, or a mix of recovery and disposal, of non-hazardous waste with a capacity exceeding 75 tonnes per day involving one or more of the following activities, (other than activities to which the Urban Waste Water Treatment Regulations 2001 (S.I. No. 254 of 2001) apply):

i. biological treatment;
ii. pre-treatment of waste for incineration or co-incineration;
iii. treatment of slags and ashes;
iv. treatment in shredders of metal waste, including waste electrical and electronic equipment and end-of-life vehicles and their components.

Class 11.1
The recovery or disposal of waste in a facility, within the meaning of the Act of **1996,** which facility is connected or associated with another activity specified in this Schedule in respect of which a licence or revised licence under Part **IV** is in force or in respect of which a licence under the said Part is or will be required.

The AER is prepared in accordance with the requirements as set out in Schedule F of the Licence. The AER details the site activities from the 1st of January 2017 to the 31st of December 2017.

2. WASTE ACTIVITIES CARRIED OUT AT THE FACILITY

For the purposes of the EU Industrial Emissions Directive (2010 2010/75/EU), this installation falls within the scope of the following Annex I category:

Category 5.3 (b): Recovery, or a mix of recovery and disposal, of non-hazardous waste with a capacity exceeding 75 tonnes per day involving one or more of the following activities, and excluding activities covered by Directive 91/271/EEC:

- biological treatment;
- pre-treatment of waste for incineration or co-incineration;
- treatment of slags and ashes;
- treatment in shredders of metal waste, including waste electrical and electronic equipment and end-of-life vehicles and their components.

When the only waste treatment activity carried out is anaerobic digestion, the capacity threshold for this activity shall be 100 tonnes per day.

The current Industrial Emissions licence W0284-01, authorises O'Toole Composting to accept 60,000 tonnes of waste including biowaste (and other biodegradable waste), sewage sludge, industrial non-hazardous sludges/solids, municipal solid waste and construction and demolition waste.

Waste activities authorised to take place at the installation include: waste treatment and transfer, composting of biodegradable waste, and aerobic biological treatment of waste. Wastes may be received in fully covered vehicles and can only be unloaded inside the appropriate reception building. All waste processing and storage will occur indoors. Buildings containing putrescible waste will be maintained under negative air pressure. Extracted air will be treated before discharge to atmosphere.

The facility is operated and managed in accordance with the conditions of Licence W0284-01.

There are no process emissions to water or sewer from the installation. Surface water from the paved areas of the installation is discharged via a silt trap and class one full retention interceptor to the Tinnaclash Stream. The Tinnaclash Stream runs along the site's eastern boundary and merges with the Burren River approximately 100m downstream from the installation.

3. WASTE QUANTITIES, RECORDS & RECOVERY REPORT

All waste accepted at the facility is accepted in accordance with the Waste Acceptance, Handling and Rejection Procedure (EM005). All staff are aware of the waste acceptance procedure which ensures non-conforming waste is not accepted at the facility.

All waste entering the facility is weighed on the facility weighbridge. All waste details are recorded on the weighbridge software (Precia Molen Genesys) including the vehicle registration, date, time, waste description, LoW code, haulier/ driver name and gross weight. Once the load has been tipped and accepted at the facility, the tare weight is recorded on the weighbridge as the vehicle leaves the facility and this automatically generates the nett weight of the waste. All waste records are electronically recorded on the weighbridge software. All waste records are available for inspection.

All loads entering the facility are inspected on entry to the facility and again after unloading to ensure that the waste is acceptable.

The maximum tonnage to be accepted at the facility is 60,000 tonnes per annum as detailed in Schedule A.2.

Non-hazardous Waste Type		Maximum (Tonnes Per Annum)
Composting and aerobic biological treatment	Biowaste and other biodegradable waste	40,000
	Sewage Sludge	
	Industrial Non-Hazardous Sludges	
	Industrial Non-Hazardous Solids	
	Municipal Solid Waste	
Waste Transfer	Construction & Demolition	20,000
	Commercial & Industrial	
	Municipal Solid Waste	
Total		**60,000**

Table 1: Acceptable Waste Types as per Schedule A.2 of Licence W0284-01

During the reporting period, the following waste types and quantities were accepted at the facility. A.2 of the Licence.

Incoming Waste Types & Quantities

Waste Type	LoW Code	Tonnage 2016	Tonnage 2017
Bakery & Confectionary Waste	02 06 01	9.52	0
Non-hazardous Solid Waste	07 05 14	6.40	0
Non-hazardous Solid Waste	07 05 99	10.64	0
Wood Waste	17 02 01	198.67	125.85
Glass	17 02 02	1.46	0
Gypsum	17 08 02	41.61	6.38
Wood Chip	19 12 07	137.16	66.28
Dry Recyclables	20 03 01	1,719.60	1741.29
Food Waste	20 01 08	15,862.43	17623.76
WEEE	20 01 36	2.86	0
Metal	20 01 40	0.62	21.66
Green Waste	20 02 01	275.30	142.47
Mixed Municipal Waste	20 03 01	7,713.80	7652.23
Bulky Waste	20 03 07	2,984.23	2736.59
Horse Bedding	02 01 05	53.50	0
Rubble	17 01 01	275.05	217.92
Total		**29,292.84**	**30,334.43**

Table 2: Incoming Waste Types & Quantities 2016 and 2017

Outgoing Waste Types & Quantities

Waste Type	LoW Code	Tonnage 2016	Tonnage 2017
Waste Oil	13 02 08	0.48	
Waste Tyres	16 01 03	12.32	8.24
Wood Waste	17 02 01	328.84	348.48
Gypsum	17 08 02	71.88	46.04
Biostabilized Waste	19 05 99	27.42	0
Organic Fines	19 12 12	28.76	0
Non-composted Fraction Waste	19 05 01	236.03	804.98
Compost Like Output	19 05 99	943.88	0
Mixed Plastic	19 12 04	2.70	19.44
C&D Fines	19 12 12	808.18	669.42
Processed Waste	19 12 12	2,031.28	1787.04
Dry Recyclables	20 03 01	1,837.92	1808.3
WEEE	20 01 36	34.00	33.84
Metal	20 01 40	169.60	151.42
Green Waste	20 02 01	45.44	181.2
Mixed Municipal Waste	20 03 01	6,941.30	6835.20
Bulky Waste	20 03 07	3.72	27.82
Compost	PRODUCT	3,552.56	4151.68
Rejected Loads		6.46	0
Rubble	17 01 01	542.18	603.16
Food Waste	20 01 08	0	28.02
Slop food waste (too liquid for process)	20 01 08	0	67.64
Mattresses	20 03 07	0	10.42
Paint	20 01 27*	0	0.260
Total		17,624.95	17582.78

Table 3: Outgoing Waste Types & Quantities 2016 & 2017

All waste that was consigned from the facility was consigned by appropriately authorised waste collectors and transferred to appropriately authorised waste facilities. A register of all waste hauliers and waste destinations along with the associated waste collection permit, waste facility permit or waste licence is maintained at the facility.

All waste is processed to ensure that the maximum amount of waste is recovered. Various waste streams are consigned offsite for further recovery. In 2017 4,151.68 tonnes of compost was produced at the facility. The destinations to which compost was dispatched to are commercially sensitive information and is maintained on file at the facility. This information is available for inspection and will be provided to the EPA on request.

All leachate produced on-site was reused as part of the composting process. No contaminated storm water was produced during the reporting period.

4. EMISSIONS FROM THE FACILITY

All monitoring was carried out in accordance with monitoring requirements as set out in Schedule C: Control & Monitoring of Industrial Emissions Licence W0248-01 or as agreed with the Agency.

Environmental monitoring and laboratory testing was carried out in 2017 by the following companies:

- IAS Laboratories, Unit 4 Bagenalstown Business Park, Bagenalstown, Co.Carlow.
- Axis Environmental Services, Unit 5 Caherdavin Business Centre, Ennis Road, Limerick.

Control of Emissions to Air

Emissions from the biofilter (Bioflter A-2) are monitored as per Schedule C of the licence by the Facility Manager on a monthly basis using Draeger tubes. Results are detailed in Table 4 below. Bed Media Monitoring (Bioflter A-2) is carried out on a monthly basis for percentage moisture. PH content, ammonia and total viable counts are monitored on a bi-annual basis. All monitoring results are summarised in Tables 4 and 5 below.

Parameter	Ammonia	Mercaptans	Hydrogen Sulphide	Amines
ELV – Schedule B 1.1	50 mg/m^3	5 mg/m^3	2.5 mg/m^3	5 mg/m^3
Date	mg/m^3	mg/m^3	mg/m^3	mg/m^3
January (04/01/2017)	0	0	0	0
February (20/02/2017)	3.48	0	0	0
March (20/03/2017)	0	0	0	0
April (21/04/2017)	3.48	0	0	0
May (10/05/2017)	0	0	0	0
June (26/06/2017)	0	0	0	0
July (20/07/2017)	0	0	0	0
August (23/08/2017)	0	0	0	0
September (14/09/2017)	3.48	0	0	0
October (27/10/2017)	3.48	0	0	0
November (27/11/2017)	13.93	0	0	0
December (21/12/2017)	3.48	0	0	0

Table 4: Biofilter Monitoring Results Summary 2017

	Moisture content (%)	pH	Ammonia (mg/l)	Total Viable Counts (CFU/g)
Frequency	**Monthly**	**Bi-annually**	**Bi-annually**	**Bi-annually**
12/01/2017	65.5			
23/03/2017	61.8			
11/04/2017	65.4			
15/05/2017	63.2			
08/06/2017	64.4	6.1	0.30	2000000
18/06/2017	65.6			
03/07/2017	67.6			
02/08/2017	65.3			
01/09/2017	68.6			
11/10/2017	69.9	4.4	0.30	630000
20/11/2017	69.7			
07/12/2017	51.3			

Table 5: Bed Media Monitoring Results Summary 2017

Emissions to Water

Table 6 below summarises monitoring results for emissions to storm water at the storm water discharge point (S1), as required in Schedule C.4.2 of the licence Storm water monitoring point S1 was installed in October, 2016 and regular monitoring was carried out as per licence requirements in 2017.

Storm Water		Monitoring Details	Monitoring Results 2017						
Parameter	**Frequency**	**Licence ELV**	**12/01/17**	**20/1/17**	**06/02/17**	**01/03/17**	**04/04/17**	**15/05/17**	**02/06/17**
COD	**Monthly**		<1	<1	2	<1	1	1	11
BOD	**Monthly**	**2.6mg/l**	<1	<1	No result	<1	5	<1	2
Suspended Solids	**Monthly**	**35mg/l**	<1	3	3	5	<1	<1	1
Total Ammonia (as N)	**Monthly**	**0.14mg/l**	0.08	0.04	0.03	0.04	0.07	0.06	0.09
Total Nitrogen (as N)	**Monthly**		10.2	1.9	8.4	10.1	3.4	4.3	2.8
Total Phosphate (as P)	Monthly		0.13	0.04	0.05	<0.01	0.02	0.02	0.04
Conductivity	**Monthly**		1772	366	4.79	628	341	399	686
Mineral Oil	**Monthly**		<10	<10	<10	<10	<10	No result	No result
Sulphate	**Quarterly**		28.53					9.3	

Storm Water		Monitoring Details						
Parameter	**Frequency**	**Licence ELV**	**03/07/17**	**02/08/17**	**01/09/17**	**04/10/17**	**03/11/17**	**07/12/17**
COD	**Monthly**		18	11	<1	12	12	12
BOD	**Monthly**	**2.6mg/l**	2	<1	<1	1	1	1
Suspended Solids	**Monthly**	**35mg/l**	5	1	2	<1	1	4
Total Ammonia (as N)	**Monthly**	**0.14mg/l**	0.11	0.02	0.08	0.03	<0.01	0.03
Total Nitrogen (as N)	**Monthly**		3.3	5.4	9.7	6.3	5.8	6.8
Total Phosphate (as P)	Monthly		0.03	0.11	0.04	0.02	0.12	0.04
Conductivity	**Monthly**		758	702	621	598	669	576
Mineral Oil	**Monthly**		No result	<10	No result	No result	No result	No result
Sulphate	**Quarterly**		25.26			17.28	14.82	

Table 6: Storm Water Emissions Summary 2017 (S1)

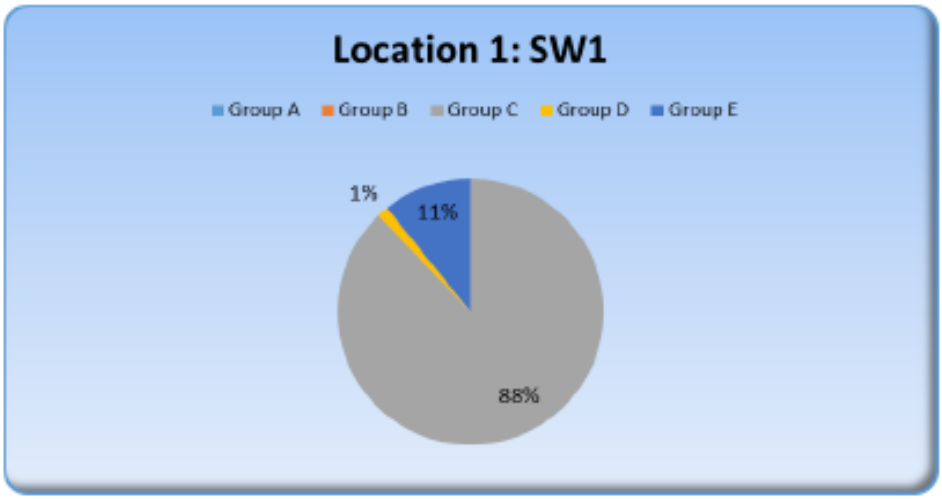
Tables 6A contains the annual meals analysis for storm water emissions analysis as per Schedule C.4.2 of the Licence.

Storm Water - Annual Metals	Monitoring Details	Monitoring Results 2017
Parameter	**ELV***	**03-Jul-17**
Iron	1000µg/l	92µg/l
Manganese	5mg/l	85µg/l
Zinc	0.1µg/l	59µg/l
Lead	0.01mg/l	<20 µg/l
Copper	0.03mg/l	<20 µg/l
Mercury	0.001mg/l	<10 µg/l
Nickel	0.02µg/l	<20 µg/l
Chromium	0.03µg/l	<20 µg/l
Cadmium	0.005µg/l	<20 µg/l

Table 6A: Storm Water Emissions Metals Summary 2017 (S1)

Table 7 and 8 below summarise the biological assessment carried out at receiving water monitoring points SW1 and SW2. This assessment was carried out by Axis Environmental Ltd on the 6th July 2017.

WQ1			
Group	**Total Numbers**	**Relative Abundance %**	**Abundance Category**
A	0	0	Absent
B	0	0	Absent
C	65	87.8	Excessive
D	1	1.4	Few
E	8	10.8	Small



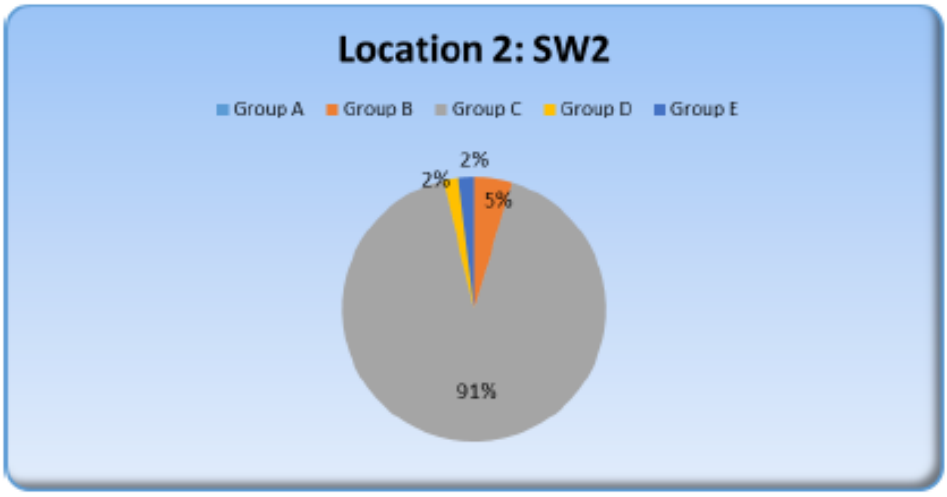
Q Value Determined : Q2-3 (Moderately Polluted)

This part of the stream has recently been modified, due to the installation of steps leading down to the river.

Cladophora spp	None	**Macrophytes**	None
Sewage Fungus	None	**DO %**	101.1
BOD	<2	**Ortho Phosphate**	-
Temperature	17.4	**Bank Width**	2.0 m
Depth	0.11 m	**BMWP Score**	-
Wet Width	1.5 m	**Filamentous Algae**	None
Velocity	Slow	**Colour**	Clear
Clarity	Clear	**Discharge**	None
Modifications	New Discharge Pipe	**Dominant types**	None
Slope	Very Slight	**Geology**	Mixed
Substratum Condition	Good	**Substratum**	Mostly Mud
Degree of Siltation	Low	**Depth of Mud**	0.5m
Litter	None	**Stream Flow**	Glide
Main land use u/s	Composting/ Agriculture	**Sample Minutes**	2min + Stone wash

Table 7: Biological Assessment of SW1 2017

WQ2			
Group	**Total Numbers**	**Relative Abundance %**	**Abundance Category**
A	0	0	Absent
B	5	4.7	Few
C	98	91.6	Excessive
D	2	1.9	Few
E	2	1.9	Few



Q Value Determined : Q3 (Moderately Polluted)

Cladophora spp	None	**Macrophytes**	None
Sewage Fungus	None	**DO %**	97.5
BOD	<2	**Ortho Phosphate**	-
Temperature	17.9	**Bank Width**	1.5
Depth	0.06 m	**BMWP Score**	-
Wet Width	0.8 m	**Filamentous Algae**	None
Velocity	Slow	**Colour**	Clear
Clarity	Clear	**Discharge**	None
Modifications	None	**Dominant types**	None
Slope	Very Slight	**Geology**	Mixed
Substratum Condition	Good	**Substratum**	Pebbles, Stone and mud
Degree of Siltation	Low	**Depth of Mud**	0.09m
Litter	None	**Stream Flow**	Glide
Main land use u/s	Landfill/ Agriculture	**Sample Minutes**	2min + Stone wash

Table 8: Biological Assessment of SW2 2017

Noise Monitoring

Noise monitoring is required to be carried out on an annual basis as per Schedule C.7 of Industrial Emissions Licence W0248-01.

Noise monitoring was carried out on the 21st and 22nd of February 2017 by Axis Environmental Ltd. Three of the noise monitoring locations are classified as noise sensitive receptors and are located at residential areas. The remaining four monitoring stations are situated within site boundaries. Due to the proximity of the site to the N80 road, a national secondary road and local access routes in the area there was significant background interference form traffic movements throughout the survey. This resulted in many LA_{eq} broadband levels exceeding the day, evening and night ELV's during survey times. However, when the interference from traffic was removed all monitoring points were determined to comply in full with the conditions of the licence. This can be seen from the LA90 results set out in table 9:

	Monitoring Results – 21st and 22nd Feb							
	Eb	**N1**	**N1A**	**N2**	**N3**	**N4**	**N5**	**N6**
Daytime dB LAr,T 30 Mins	**55**	59	59	50	46	62	45	65
Daytime LA 90		50	50	44	41	45	38	49
Evening dB LAr,T 30 mins	**50**	54	56	46	47	64	54	62
Evening LA90		47	44	40	39	48	41	43
Night-time dB LAeq,T 15-30 mins	**45**	54	52	73	57	56	48	59
Night-time dB LA90		48	40	43	37	36	38	34

Table 9: Noise Monitoring Results Summary 2017

Dust Monitoring

In accordance with Schedule C of the Licence, dust monitoring is required to be carried on a quarterly basis at the facility. The emission limit value is 350mg/m2/day. As can be seen in Table 10 all results were within the specified limits.

Parameter	ELV	Loca-tion	09/03/2017	18/08/2017	01/09/2017	04/12/2017
Dust depo-sition	350mg/m2/day	D1	248.90	40.2	8.5	29.0
Dust depo-sition	350mg/m2/day	D2	222.80	25.2	9.3	1.0
Dust depo-sition	350mg/m2/day	D3	123.80	59.1	7.8	37.0

Table 10: Dust Emission Results Summary 2017

Table 11 sets out the quarterly micro-organism and odour monitoring carried out at the facility by Axis Environmental Ltd.

Parameter	ELV	Location	Q1 2017 21/02/2017	Q2 2017 20/04/2017	Q3 2017 06/07/2017	Q4 2017 12/10/2017
Aspergillus Fumigatas	None	Upwind	None detected	None detected	None detected	None detected
Aspergillus Fumigatas	None	Down-wind	None detected	None detected	None detected	None detected
Bacteria	None	Upwind	<229.4 CFU/m3	<111.6 CFU/m3	345.1 CFU/m3	224 CFU/m3
Bacteria	None	Down-wind	<327.7 CFU/m3	<70.2 CFU/m3	816.9 CFU/m3	390 CFU/m3
Odour	1000 (OuE m-3)	Outlet of Biofiler		*845 (OuE m-3)*	222 (OuE m-3)	

Table 11: Micro-organisms Summary 2017

Groundwater monitoring results are summarised in Table 12 a per the biannual requirements. The substances monitored in the annual monitoring of hazardous substances are contained within Table 12 b:

Ground Water	Monitoring Details		Monitoring Results	
Parameter	**Location GW-1**	**Units**	**01/06/2017**	**22/11/2017**
PH	Biannually	pH units	7.24	7.41
COD	Biannually	mg/l	NT	<5
Nitrate	Biannually	mg/l NO3	48.6	52.9
Total Ammonia	Biannually	mg/l NH3	<0.20	<0.03
Total Nitrogen	Biannually	mg/l	13.6	13.1
Conductivity	Biannually	uS/cm 20°C	4420	697
Chloride	Biannually	mg/l	2100	32.6
Fluoride	Biannually	mg/l	0.81	<0.3
NT= Not tested by lab				

Table 12 a: Groundwater Monitoring Summary 2017

Annual Hazardous Substances in GW			
Parameter	**Limits**	**RESULTS**	**UNITS**
pH	6.5-9.5*	7.24	PH Units
Arsenic	7.5	1.25	µg/l
Conductivity	800-1875	697	uS/cm 20°C
Cadmium	3.75	<0.05	µg/l
Suspended solids	-	9	mg/l
Chromium	37.5	0.13	µg/l
Alkalinity	-	310	mg/L CaCO3
Copper	1,500	11.05	µg/l
Total hardness	-	195	mg/L CaCO3
Cyanide Ammonia	-	<0.05	mg/L
Iron	200*	<0.5	µg/l
Orthophosphate	0.03**	0.18	mg/l
Lead	7.5	0.91	µg/l
Total phosphorus	-	0.04	mg/L
Magnesium Nitrite	-	10.7	mg/l
Manganese Nitrate	-	<2	µg/l
Nickel	15	<0.1	µg/l
Total nitrogen	-	13.1	mg/L
Selenium	-	<1.0	µg/l
Total organic carbon	-	<0.2	mg/L
Zinc Chloride	-	56.3	µg/l
TPH C6 - C10 (PRO)	-	<LOD	mg/l
Sulphate	187.5	15.4	mg/L
TPH C10 - C20 (DRO)	-	<LOD	mg/l
Potassium	-	1.4	mg/l
TPH C20 - C40 (MO)	-	<LOD	mg/l
Calcium	200*	71.2	mg/l
TPH C6 - C40 (TPH)	10**	<LOD	mg/l

Magnesium Polynuclear aromatic hydrocarbons (PAHs)	0.075	<LOD	µg/l
Polychlorinated biphenyls (PCBs)	-	<LOD	ng/l
Aluminium Fluoride	-	<2	Ug/L
E.coli	0	0	CFU/100ml
Total coliforms	0	365	MPN/100ml
Clostridium perfringens	-	0	CFU/100ml
nitrate	-	48.6	mg/l
nitrite	-	<0.1	mg/l
Sodium	150	723.41	mg/l
Fluoride	1**	0.03	mg/l
Chloride	187.5	32.6	mg/l
Ammoniacal Nitrogen as NH3	0.05-0.136	<0.03	mg/l

S.I. No. 9/2010 - European Communities Environmental Objectives (Groundwater) Regulations 2010.

* S.I. No. 122/2014 - European Union (Drinking Water) Regulations 2014.

** TOWARDS SETTING GUIDELINE VALUES FOR THE PROTECTION OF GROUNDWATER IN IRELAND Interim Report April 1993

Table 12 b: Groundwater Monitoring Summary 2017

Elevated sodium, orthophosphate and coliforms are all indicative of the impacts of surrounding agricultural activities in the area. Sodium and orthophosphates are also naturally occurring.

5. TANK AND PIPELINE TESTING

A full survey on all pipelines and tanks is scheduled to be carried out in 2018. All tanks and pipelines will be tested for integrity and any faults repaired or replaced.

6. COMPLAINTS SUMMARY

Between February and October 2017 there were 23 complaints received a neighbouring property, All complaints were investigated at the time of the complaint and given immediate attention by management. Corrective and preventative actions were put in place if required. A complaints folder is maintained on-site, showing complete details of all complaints and follow up investigations. It should be noted that only one complaint was verified as possible off-site odour nuisance which was thought to have been caused by a loose piece of cladding in the tipping shed which was rectified immediately. All complaints with the exception of one were reported as detected from an empty field alongside a busy main road and not from a sensitive receptor. None of these complaints could be verified as nuisance odour coming from the facility based on the methodology outlined in the EPA's AG5 guideline document. Regular odour assessments are carried out at the

facility by the facility staff. It is also important to identify other sources of odour in the area which includes regular passing vehicles loaded with material destined for the nearby meat rendering facility which give off a temporary offensive “rotting meat odour”. There have been zero complaints made to the facility between October, 2017 to the date of this report i.e. in the last 5.5 months. Only one complaint was reported directly to the EPA during 2017.

7. REPORTED INCIDENTS SUMMARY

There were no reportable incidents during the reporting period.

8. EMS PROCEDURES

The Environmental Management System (EMS) was updated throughout 2017. All procedures were updated to ensure relevance to the IE Licence, W0284-01. Table 11 below details the current EMS procedures that have been developed for the facility.

Document Reference	Procedure Title
EMP001	Corrective Action Procedure
EMP002	Training Procedure
EMP003	Communications Procedure
EMP004	Maintenance Procedure
EMP005	Waste acceptance, handling and rejection Procedure
EMP006	Emergency Response and Incidents Procedure
EMP007	Waste Storage Procedure
EMP008	Complaints Procedure
EMP009	Daily & Weekly Inspection Procedure
EMP010	Odour Patrol Procedure
EMP011	Odour Patrol Location Map

Table 13: List of EMS Procedures

A full copy of all procedures, including all latest revisions and associated forms are maintained on-file at the facility and are available for inspection by the EPA.

9. REVIEW OF NUISANCE CONTROLS

The facility and facility surrounds are inspected on a daily and weekly basis to ensure that vermin, birds, flies, litter, mud, dust and odours do not give rise to nuisance at the facility or facility surrounds. All inspections records are maintained at the facility and are available for inspection.

Any potential nuisance identified during the site inspections is addressed without delay by the Facility Manager or nominated deputy.

10. MANAGEMENT STRUCTURE

The Management Structure of the facility is detailed in Figure 1.

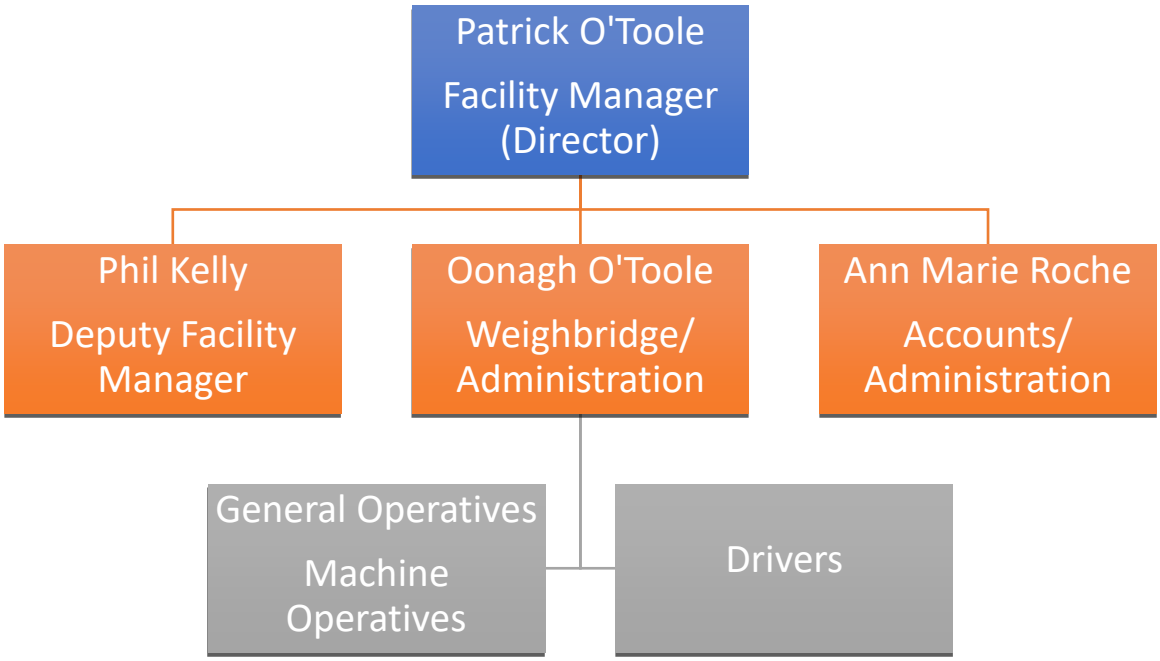


Figure 1: Management Structure 2017

11. PROGRAMME FOR PUBLIC INFORMATION

A programme for public information is in place at the facility. Any interested party wishing to view this public file is advised to make an appointment with the Facility Manager. A suitable time will be arranged for the viewing of the files and a room will be provided.

This file available as part of the public information programme include the EPA IE Licence, facility layout plan, the environmental policy, EMS Manual, AER for previous year, environmental monitoring results and a monitoring location map.
EPA inspection reports and correspondence is available on the EPA website at www.epa.ie.

In 2017 there were no requests made by any interested parties to view environmental files at the facility.

12. FINANCIAL PROVISIONS, ENVIRONMENTAL LIABILITIES & DECOMMISSIONING

In 2016 an Environmental Liabilities Risk Assessment (ELRA) and a Closure, Restoration and Aftercare Management Plan (CRAMP) were completed for the facility by Enviroguide Consulting. Both of these documents were submitted to the Agency for agreement or approval. This have not yet been agreed but once agreed adequate financial provisions will be put in place by O'Toole Composting.

13. ENERGY EFFICIENCY AND RESOURCE CONSUMPTION

Energy Efficiency Audit

An Energy Audit was conducted by Pat Duke of Integrated Engineering Consultancy Ltd on the 21st of October 2016. This report assessed current energy usage and efficiency at the facility. Recommendations were made on energy efficiencies opportunities. These were incorporated into the objectives and targets of the environmental management system of the facility for 2017.

Resource Consumption Summary 2017

The following summarises resource consumption at the facility in 2017. Water/liquid produced in the process is re-circulated.

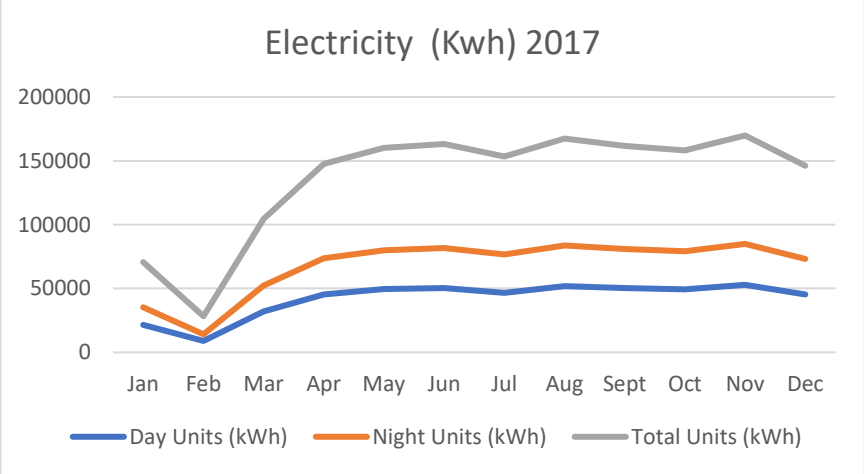


Figure 2: Electricity Consumption 2017

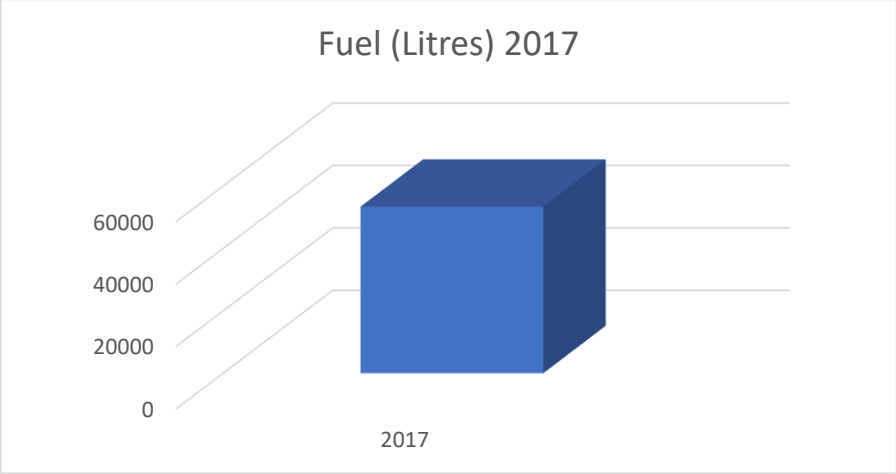


Figure 3: Fuel Consumption 2017

14. OBJECTIVES & TARGETS

The Environmental Objectives and Targets for 2017 were set and agreed as part of the EMS for the facility. The programme is a five-year programme of improvement at the facility. Table 14 shows a summary of the Objectives and Targets and progress towards completion.

The Schedule of Objectives & Targets set targets for a five-year period from 2016-2020. This schedule will be reviewed annually and any amendments made will be notified to the Agency. The schedule also details the person responsible for ensuring that the targets are met.

	Objective	Target	Responsibility	2016	2017	2018	2019	2020
	To improve facility infrastructure and protect surface and groundwater	1. Upgrade and extend the concrete hardstand in the CA site area. This will help prevent surface water runoff from the site and reduce the potential for dust emissions during the summer months. 2. Construct a new kerbing around the waste storage areas as necessary to ensure that runoff from these areas does not enter the storm water runoff 3. Install new ACO drains around concreted waste storage area to ensure effective runoff from facility yard areas. 4. Install an oil separator at the facility to improve the quality of water discharge from the facility. 5. Install a silt trap at the facility to improve the quality of water discharge from the facility. 6. Further improve the security on-site	Facility Manager		**Complete**			

2	**Reduce Waste as per Waste Hierarchy**	1. Review all on-site waste operations so that waste generation will be prevented or reduced. 2. Set internal waste reduction targets. 3. Increase recycling rates on-site. The CA site will be further upgraded to improve accessibility for the public, improved labelling and painting of containers. Additional recycling containers will be added to increase storage and provide a highly efficient recycling service.	Facility Manager					
3	**Enhance Current Training Programme**	1. Carry out an assessment of training needs of all staff on-site. 2. Provide training or refresher training to all staff as deemed necessary.	Facility Manager		Complete			
4	**Environmental Management System**	1. Implement a comprehensive EMS for the facility 2. Improve and develop EMS on-site to ensure that it remains current with changing operations of the facility	Deputy Facility Manager		EMS in place and will be reviewed annually			
5	**Review On-site Operations and Reduction in energy consumption**	Review of all operations and processes and 1. Carry out energy audit at the facility. Include an evaluation of practicable options for energy and resource efficiency. 2. Evaluate the use of cleaner technology	Facility Manager / Energy Auditor			Energy audit carried out in 2017 - recommendations of this audit will be taken into account and an		

		and cleaner production.				action plan implemented for their achievement		
6	**Odour Abatement/fugitive emissions reduction**	1. Review the necessity for an odour abatement systems on-site. Invest in new equipment as required. 2. Upgrade on-site bio-filters 3. Extend existing bio-filters	Facility Manager			Biofilter 2 installed on compost building. SEW for abatement infrastructure on MSW shed submitted to EPA		
7	**Visual Impact**	1. Carry out a review of the visual impact of the facility. 2. Enhance the aesthetic appearance of the facility surrounds e.g. maintain hedging and lawn areas	Facility Manager			Ongoing maintenance in place		
8	**Waste & Resource Reduction**	Upgrade accounts software so that paperless billing can be used reducing the volume of paper used and potential for waste generation. Rainwater harvesting system to be installed	Facility Manager / Accounts / Administration			Paperless billing in place. Rainwater harvesting system part complete		
Key:		Complete and ongoing						
		Complete						

Table 14: Summary of Objectives & Targets 2016 to 2020

15. DEVELOPMENT / INFRASTRUCTURAL WORKS SUMMARY

A specified engineering works (SEW) was submitted to the Agency in 2017 for the construction of the new abatement infrastructure on the MSW treatment building. Once approved by the Agency, it is expected that these works will be completed in 2018.
A significant investment has been made at the facility in 2017 in order to divert rainwater to the onsite discharge point S1.

No other developmental or infrastructural works took place during the reporting period.

16. REPORT TO REDUCE WATER DEMAND AND VOLUME OF TRADE EFFLUCENT DISCHARGED

All staff are encouraged to minimise water usage on site and are encouraged to brush as opposed to hosing down areas during cleaning. A road sweeper is deployed as required and all leachate/contaminated water is reused in the process on site so there is no additional trade effluent discharge. Rainwater harvesting is in place with further addition to this system in progress.

17. VOLUME OF TRADE EFFLUENT/LEACHATE OR CONTAMINATED STORMWATER REMOVED OFF SITE

There was no leachate, trade effluent or contaminated stormwater removed off site during the reporting period of 2017.

18. DESTINATION AND END USE OF COMPOST

In 2017 4,151.68 tonnes of compost was produced at the facility. Destinations of all compost is deemed commercially sensitive information and is available for inspection by the EPA at the facility.

Appendix 1 – PRTR

Guidance to completing the PRTR workbook

PRTR Returns Workbook

Version 1.1.19

REFERENCE YEAR	2017

1. FACILITY IDENTIFICATION

Parent Company Name	O'Toole Composting Limited
Facility Name	O'Toole Composting Limited
PRTR Identification Number	W0284
Licence Number	W0284-01

Classes of Activity

No.	**class_name**
-	Refer to PRTR class activities below

Address 1	Ballintrane
Address 2	Fenagh
Address 3	Co. Carlow
Address 4	
	Carlow
Country	Ireland
Coordinates of Location	-6.82993154752.75343471
River Basin District	IESE
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Patrick O Toole
AER Returns Contact Email Address	patrick@otoolecomposting.ie
AER Returns Contact Position	Facility Manager / Director
AER Returns Contact Telephone Number	0599148984
AER Returns Contact Mobile Phone Number	0862647990

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	10
User Feedback/Comments	Compost product is not recorded as a waste out and is therefore not included in this report.
Web Address	

2. PRTR CLASS ACTIVITIES

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

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) ?	n/a
Is the reduction scheme compliance route being used ?	n/a

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

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used		Biofilter A-2			
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	OTH	Colourmetric indicator tube analysis calculated using ISO accreddited airflow values	997.96	997.96	0.0	0.0

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

SECTION B : REMAINING PRTR POLLUTANTS

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

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

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

RELEASES TO AIR					Please enter all quantities in this section in KGs						
POLLUTANT		METHOD			QUANTITY						
			Method Used		D1	D2	D3	Biofilter A-2			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	Emission Point 4	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
210	Dust	C	CRM	Method VDI 2119 Bergerhoff Depositional Dust Measurement	0.0298	0.023562	0.020775	0.0	0.074137	0.0	0.0
215	Hydrogen sulphide	C	OTH	Colourmetric indicator tube analysis calculated using ISO accreddited airflow values	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220	**Mercaptans**	C	OTH	Colourmetric indicator tube analysis calculated using ISO accreddited airflow values	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

Additional Data Requested from Landfill operators

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

Landfill: O'Toole Composting Limited

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	

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

Please enter all quantities on this sheet in Tonnes

0

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	20 03 01	No	4882.66	mixed municipal waste	D5	M	Weighed	Offsite in Ireland	Advanced Environmental Solutions (Ireland) Limited,W0194-01	Advanced Environmental Solutions (Ireland) Ltd ,Kyletalesha & Kyleclonhobert ,Portlaoise County Laois.,,Ireland		
Within the Country	20 03 01	No	1750.04	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Advanced Environmental Solutions (Ireland) Limited,W0104-02	Advanced Environmental Solutions (Ireland) Limited (Tullamore) ,Cappancur Industrial Estate Cappancur ,Tullamore County Offaly.,,Ireland		
Within the Country	20 03 01	No	78.74	mixed municipal waste	D5	M	Weighed	Offsite in Ireland	Bord na Mona Public Limited Company,W0201-03	Drehid Waste Management Facility In the townlands of Parsonstown Loughnacush Kilkeaskin ,Drumond Timahoe West Coolcarrigan Killinagh Lower and Killinagh Upper ,Carbury County Kildare.,,Ireland		
Within the Country	20 03 01	No	71.76	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Padraig Thornton Waste Disposal Ltd t/a Thorntons Recycling ,W0242-02	Millennium Business Park Facility Millennium Business Park ,Cappagh Road (in townlands of Grange and Cappoge),Dublin 11.,,Ireland		
Within the Country	20 03 01	No	79.44	mixed municipal waste	D5	M	Weighed	Offsite in Ireland	Ballynagran Landfill Limited,W0165-02	Ballynagran Landfill Limited ,Ballynagran Coolbeg and Kilcandra .,Co Wicklow,.,Ireland		
Within the Country	20 03 01	No	839.86	mixed municipal waste	D5	M	Weighed	Offsite in Ireland	Carlow County Council,W0025-03	Powerstown Landfill Site ,Kilkenny Rd,Co Carlow,.,Ireland		
Within the Country	20 03 01	No	6.88	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Country Clean Recycling,W0257-01	Country Clean Recycling Churchfield Industrial Estate ,John F. Connolly Rd .,Cork County Cork,.,Ireland		
Within the Country	20 03 01	No	348.66	mixed municipal waste	D10	M	Weighed	Offsite in Ireland	Dublin Waste to Energy Limited/Poolbeg,W0232-01	Pigeon House Road ,Poolbeg Peninsula ,Dublin 4 Dublin.,,Ireland		
Within the Country	20 01 40	No	9.38	metals	R13	M	Weighed	Offsite in Ireland	Midland Scrap Metal Company Ltd,WFP-T-16-0001-01	Annagh ,Birr ,Co. Offaly,.,Ireland		
Within the Country	17 08 02	No	46.04	gypsum-based construction materials other than those mentioned in 17 08 01	R13	M	Weighed	Offsite in Ireland	Height for Hire (Allied Services) Limited,W0154-01	Height for Hire Ltd ,Mell North Road ,Drogheda Co. Louth.,,Ireland		
Within the Country	20 02 01	No	169.94	biodegradable waste	R13	M	Weighed	Offsite in Ireland	Bord Na Mona,W0198-01	Bord na Móna (Kilberry) ,Kilberry Athy ,Co. Kildare.,,,Ireland		
Within the Country	20 03 07	No	5.2	bulky waste	R13	M	Weighed	Offsite in Ireland	Barna Waste ,WFP-WM-2016-0004-01	Cartrontroy ,Athlone ,Co Westmeath ,,,Ireland		

Within the Country	19 12 12	No	577.04	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R13	M	Weighed	Offsite in Ireland	Bord na Mona Public Limited Company,W0201-03	Drehid Waste Management Facility In the townlands of Parsonstown Loughnacush Kilkeaskin ,Drumond Timahoe West Coolcarrigan Killinagh Lower and Killinagh Upper ,Carbury County Kildare.,.,Ireland
Within the Country	20 03 07	No	13.14	bulky waste	D5	M	Weighed	Offsite in Ireland	Bord na Mona Public Limited Company,W0201-03	Drehid Waste Management Facility In the townlands of Parsonstown Loughnacush Kilkeaskin ,Drumond Timahoe West Coolcarrigan Killinagh Lower and Killinagh Upper ,Carbury County Kildare.,.,Ireland
Within the Country	19 05 01	No	760.14	non-composted fraction of municipal and similar wastes	D5	M	Weighed	Offsite in Ireland	Bord na Mona Public Limited Company,W0201-03	Drehid Waste Management Facility In the townlands of Parsonstown Loughnacush Kilkeaskin ,Drumond Timahoe West Coolcarrigan Killinagh Lower and Killinagh Upper ,Carbury County Kildare.,.,Ireland
Within the Country	19 05 01	No	44.84	non-composted fraction of municipal and similar wastes	D5	M	Weighed	Offsite in Ireland	Ballynagran Landfill Limited,W0165-02	Ballynagran Landfill Limited ,Ballynagran Coolbeg and Kilcandra .,Co Wicklow,.,Ireland
Within the Country	19 12 12	No	131.32	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R13	M	Weighed	Offsite in Ireland	Ballynagran Landfill Limited,W0165-02	Ballynagran Landfill Limited ,Ballynagran Coolbeg and Kilcandra .,Co Wicklow,.,Ireland
Within the Country	17 01 01	No	603.16	concrete	R13	M	Weighed	Offsite in Ireland	Conway Concrete Ltd. ,WFP-CWWFP-CW-13-2-B	Kildavin ,.,Co. Carlow ,.,Ireland
Within the Country	20 03 01	No	454.42	mixed municipal waste	D5	M	Weighed	Offsite in Ireland	Glanway Limited,P1015-02	Units 5 and 6 Belview Port ,Gorteens Slieverue ,Kilkenny. County Kilkenny ,.,Ireland
Within the Country	17 02 01	No	13.16	wood	R13	M	Weighed	Offsite in Ireland	Starrus Eco Holdings Limited,W0053-03	Bray Depot La Vallee House , Fassaroe Bray ,Co. Wicklow Wicklow.,.,Ireland
Within the Country	20 01 08	No	67.64	biodegradable kitchen and canteen waste	R1	M	Weighed	Offsite in Ireland	Future Pigs Limited,P0420-03	Gorteen Lower ,Nurney ,Co. Kildare Kildare.,.,Ireland
Within the Country	19 12 04	No	19.44	plastic and rubber	R13	M	Weighed	Offsite in Ireland	Irish Polymer Extrusions Ltd ,WFP-LS-13-0001-01	Unit 20 Bay Rd Business Park ,Bay Rd ,Mountmellick Co. Laois ,.,Ireland
Within the Country	20 01 36	No	0.08	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	R13	M	Weighed	Offsite in Ireland	Irish Lamp Recycling Ltd ,WFP-KE-14-0072-01	Woodstock Industrial Estate ,.,Athy Co. Kildare ,.,Ireland
Within the Country	16 01 03	No	8.24	end-of-life tyres	R13	M	Weighed	Offsite in Ireland	K Mooney Ltd T/A WTCS ,WFP-KK-13-0003-02	Earlsgarden ,Attanagh ,Co. Kilkenny ,.,Ireland
Within the Country	20 01 40	No	142.04	metals	R13	M	Weighed	Offsite in Ireland	Molloy Metals Recycling Limited ,WFP-WX-16-0102-01	Tomgarrow ,Ballycarney,Enniscorthy Co. Wexford ,.,Ireland

Within the Country	19 12 12	No	185.14	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R13	M	Weighed	Offsite in Ireland	Nurendale , W0140-05	Rathdrinagh ,Beauparc , Navan County Meath Meath.,.,Ireland		
Within the Country	20 03 01	No	73.96	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Starrus Eco Holding Limited,W0183-02	Milennium Business Park Cappagh Road Grange,.,Ballycoolin Dublin 11 Dublin.,.,Ireland		
Within the Country	20 03 07	No	19.9	bulky waste	R13	M	Weighed	Offsite in Ireland	Padraig Thornton Waste Disposal Limited/Thorntons Recycling Centre,W0044-02	Killeen Road ,Ballyfermot ,Dublin 10 Dublin.,.,Ireland		
Within the Country	19 12 12	No	1539.58	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R13	M	Weighed	Offsite in Ireland	Padraig Thornton Waste Disposal Limited/Thorntons Recycling Centre,W0044-02	Killeen Road ,Ballyfermot ,Dublin 10 Dublin.,.,Ireland		
Within the Country	17 02 01	No	335.32	wood	R13	M	Weighed	Offsite in Ireland	Padraig Thornton Waste Disposal Limited/Thorntons Recycling Centre,W0044-02	Killeen Road ,Ballyfermot ,Dublin 10 Dublin.,.,Ireland		
Within the Country	20 01 08	No	28.2	biodegradable kitchen and canteen waste	R13	M	Weighed	Offsite in Ireland	Waddock Composting Facility Limited,P1009-01	Killamaster Carlow ,.,County Carlow Carlow.,.,Ireland		
Within the Country	20 01 36	No	33.76	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	R13	M	Weighed	Offsite in Ireland	WEEE Waste Ireland Collection Point ,.	.,.,.,.,Ireland		
Within the Country	14 06 03	Yes	0.26	other solvents and solvent mixtures	R2	M	Weighed	Offsite in Ireland	Enva Ireland Limited,W0184-02	Clonminam Industrial Estate ,.,Portlaoise County Laois.,.,Ireland	Recyfuel ,D3200/61080/RGPED/2/,Rue Du Parc industriel 16,.,.,4480 Engis,Belgium	Rue Du Parc industriel 16,.,.,4480 Engis,Belgium
Within the Country	20 02 01	No	11.26	biodegradable waste	R13	M	Weighed	Offsite in Ireland	Garden Waste Recycling Ltd,.	Kealstown Maynooth Co. Kildare ,.,.,.,Ireland		
Within the Country	20 03 01	No	29.54	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Nurendale Limited/Nurendale (Ballymount), W0039-02	Ballymount Cross ,.,Tallaght Dublin 24 Dublin.,.,Ireland		
Within the Country	19 12 12	No	23.38	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R13	M	Weighed	Offsite in Ireland	Wilton Waste Recycling Ltd ,WFP-CN-15-0003-01	Kiffagh,.,Crosserlough Ballyjamesduff Co. Cavan ,.,Ireland		
Within the Country	20 03 01	No	27.54	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Indaver Ireland Limited,W0167-03	Carranstown,.,Duleek ,County Meath. ,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
Link to Waste Guidance