OXIGEN ENVIRONMENTAL LIMITED

Oxigen
working for a cleaner environment

# Annual Environmental Report
# 2009
# W0208-01
## For
## Materials Recovery Facility
## At
## Merrywell Industrial Estate
## Ballymount Road Lower
## Dublin 22

**March 2010**

***Prepared By:*** ***Gillian Free, Regional Environmental Manager.***

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## 1 Introduction

Oxigen Environmental Ltd.(Oxigen) was granted waste licence W208-01 in March 2006 and began operating under this licence on 1st July 2006.
Oxigen operates a dry recyclables, c&d and general skip waste recovery facility at Merrywell Industrial Estate, Ballymount, Dublin 22.
In accordance with the requirements of Condition 11.8 of the waste licence, an Annual Environmental Report (AER) for the facility must be submitted to the Environmental Protection Agency (The Agency).

This is the fourth AER for the facility, covering the period from 1st January 2009 to 31st December 2009.

The Facility is located at:-

Oxigen Environmental Ltd,
Merrywell Industrial Estate,
Ballymount Road,
Ballymount,
Dublin 22.

Tel: (01) 4263126 Fax: (01) 4567192

The National Grid co-ordinates for the location of the facility are: E309627 N230736.

### 1.1 Description of the Site

The site was historically used as a steel works operated by Corus Steel (formerly The Irish Steel Company), until 2003 when it was purchased by Oxigen. The site then operated under Waste Facility Permit number W041 issued by South Dublin County Council.

The total area of the site is thirteen acres. A technical amendment to the licence was granted in May 2008 to reduce the waste acceptance quantities by 100,000 tonnes and to reduce the site boundary boundary.

There is one building on the site, which was extended through the year (see Development/Infrastructural Works Summary).

The facility is part of the overall Ballymount Industrial Estate and is surrounded on all four sides by commercial/industrial units. Three roads border the site, the Turnpike Road, the other two roads are unnamed internal estate roads. The main entrance to the site is located to the

northeast of the facility off one of the internal estate roads. The nearest residential dwelling is located approximately 180m north -west of the facility.

The site is zoned “E – to provide for enterprise, employment and related uses” under the County Development Plan 2004 – 2010.

The site is located within the River Liffey catchment, in the sub-catchment of the River Camac, via the Robinhood Stream. The bedrock consists of Calp Limestone and is overlaid by glacial till, which consists of firm to stiff sandy gravely clays with clasts present. The site is predominantly flat, with earth mound along the southern and western boundaries. The topographical level ranges from 59.27m OD to 64.48m OD, with the buildings heights being 72.97m OD.

The licenced waste handling activities, permitted under the Third and Fourth Schedule of the Waste Management Acts 1996 to 2005 are detailed below:

### 1.2 Waste Licenced Activities

*Class 7* Physico-chemical 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 paragraphs 8 to 10 of this schedule (including evaporation, drying and calcination)

*Class 11* Blending or mixture prior to submission to any activity referred to in a preceding paragraph

*Class 12* Repackaging prior to submission to any activity referred to in a preceding paragraph of this schedule

*Class 13* Storage of waste intended for submission to any activity referred to in a preceding paragraph of this schedule, other than the temporary storage, pending collection, on the premises where such waste is produced.

### 1.3 Waste Recovery Activities

*Class 2* Recycling or reclamation of organic substances which are not used as solvents (including and or biological processes)

*Class 3* Recycling or reclamation of metals and metal compounds

*Class 4* Recycling or reclamation of other inorganic materials

*Class 11* Use of waste obtained from any activity referred to in a preceeded paragraph of this schedule

*Class 12* Exchange of waste for submission to any activity referred to in a preceding paragraph of this schedule

*Class 13* Storage of waste intended for submission to any activity referred to in a preceding paragraph of this schedule, other than temporary storage, pending collection, on the premises where such waste is produced

### 1.4 Process Operations Summary

There are a number of waste processing operations in place at the facility as detailed in Table 1.

**Table 1: Waste Processing Operations**

| WASTE DESCRIPTION | PROCESS OPERATION |
|---|---|
| Commercial/Domestic Skip Waste | Skip waste comprises mixed waste coming from domestic houses, offices and construction sites. It consists of items such as furniture and office materials and mixed C&D. On being documented at the weighbridge the waste is tipped and inspected in line with waste acceptance procedures. Waste such as wood, metal, cardboard and green waste are removed by hand or by machine and stored in segregation bays for delivery to a recycling facility. Items that are not accepted at the facility, but found in the waste are quarantined and sent offsite to approved licenced facilities for futher treatment. The remaining waste is segregated using a Trommel and Picking Station and separate fractions stored pending further recovery/recycling. |
| Construction And Demolition Waste (C&D) | C&D waste is tipped in the designated bay once documented at the weighbridge. Any metal, cardboard and wood are removed and put into their segregated bays for delivery to a recycling facility. The remaining C&D waste is processed through the C&D plant (Trommel and Picking Line). Materials such as rubble and soil and stones and C&D Fines are used as infill at approved and permitted facilities and as landfill cover. |

| | |
|---|---|
| Wood Products | Wood is segregated and transferred to Cavan Waste Disposal for recycling |
| Metal Products | Metals are segregated and transferred to Metal Recycling facilities for recycling. |
| Cardboard Products | Cardboard is segregated and baled for further recycling |
| Paper and Cardboard | Paper and Cardboard are baled before being delivered to other facilities for recycling. |
| Plastic Bottles | Plastic bottles are baled and stored on site pending further shipment for recycling |
| Glass | Glass is stored in bays before being collected for recycling. |

## 2 Emissions from the Facility

All emissions from the Facility in 2007 were monitored by BHP Laboratories Ltd. Foul water, surface water and dust were all monitored in 2009. The results of all monitoring have been summarised in the tables below with full monitoring reports in Appendices I, II and III. There is a high level of compliance with the standards set in the licence.

*2.1 Foul Water Monthly Monitoring Results Summary 2009*

| Parameter | Units | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Temperature** | *C | 10.4 | 9.5 | 11.2 | 12.5 | 13.4 | 13.1 | 21 | 14.6 | 19 | 14 | 15 | 14 |
| **pH** | pH Units | 7.11 | 8.58 | 7.56 | 7.09 | 7.23 | 6.94 | 6.65 | 7.03 | 8.26 | 6.81 | 8.35 | 7.01 |
| **BOD** | mg/l | 77 | 336 | 131 | 81 | 549 | 250 | 483 | 428 | 326 | 56 | 212 | 474 |
| **COD** | mg/l | 440 | 640 | 220 | 274 | 830 | 305 | 700 | 700 | 600 | 115 | 2600 | 2800 |
| **Total Suspended Solids** | mg/l | 290 | 366 | 82 | 26 | 444 | 66.8 | 582 | 135 | 363 | 60.8 | 196 | 96 |
| **Sulphates (as SO4)** | mg/l | 37.4 | 54.7 | 58 | 2.3 | 59.6 | 429 | 34.1 | 30 | 77.8 | 22.9 | 44.5 | 62.9 |
| **Oils, Fats & Grease** | mg/l | 13.1 | 52.9 | 21 | 2 | 33.2 | 57.8 | 11 | 11 | 44 | 33 | 68 | 1 |
| **Mineral Oils** | mg/l | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.01 | <0.1 | <0.01 | <0.01 | <0.01 | <0.01 |
| **Detergents** | mg/l | 0.234 | 0.362 | 0.092 | 0.184 | 0.184 | 0.109 | 0.668 | 0.953 | 0.715 | 0.055 | 0.065 | 1.06 |
| **Zinc** | mg/l | 0.003 | 0.052 | 0.012 | 0.008 | 0.002 | 0.001 | 0.003 | 0.002 | 0.004 | 0.001 | 0.036 | 0.036 |
| **Copper** | mg/l | 0.022 | <0.001 | 0.043 | 0.012 | 0.027 | 0.038 | 0.119 | 0.194 | 0.033 | 0.169 | 0.024 | 0.004 |
| **Flow** | m3/hr | | | 0.12 | | | 0.09 | | 0.17 | | | | 0.23 |

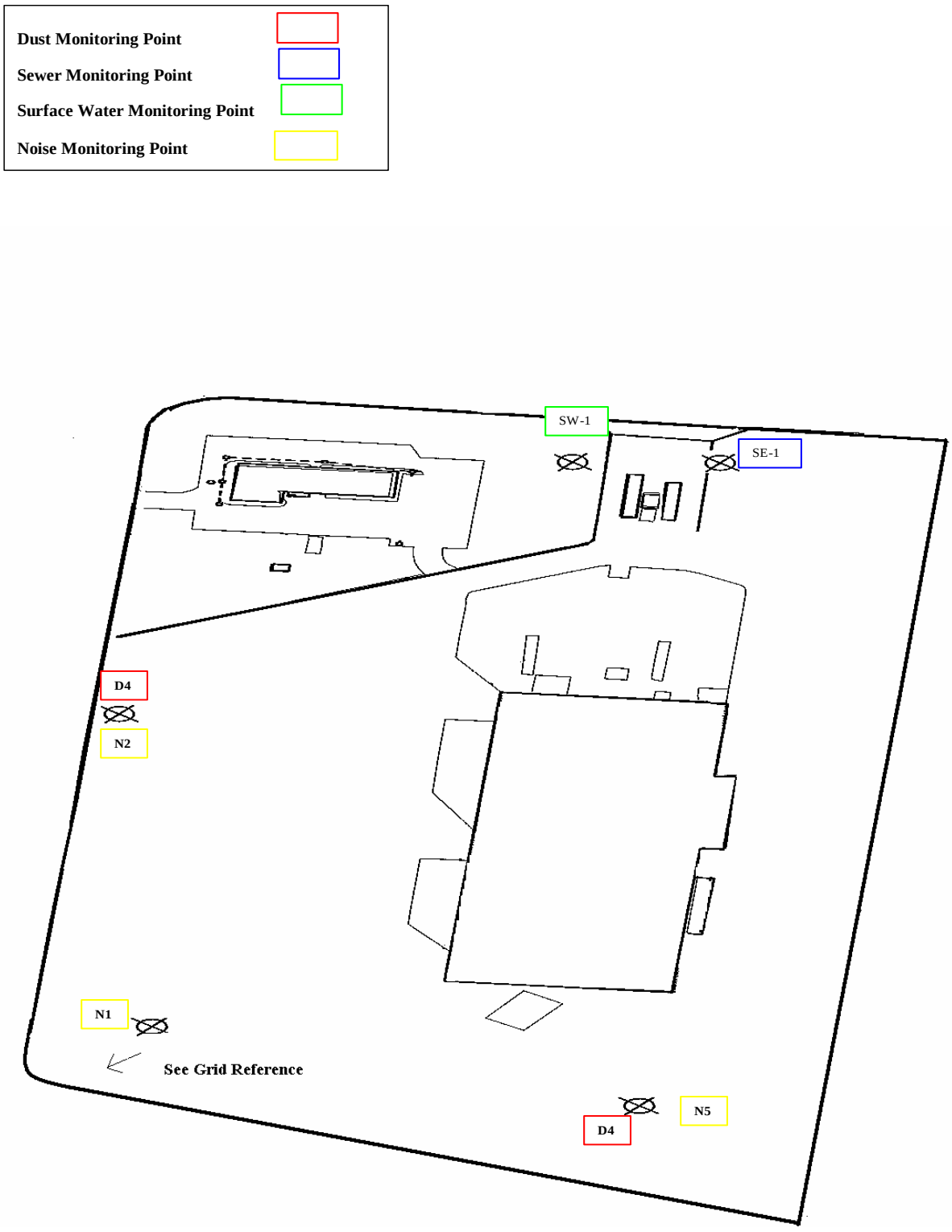
*2.2 Quarterly Surface Water Monitoring Results Summary*

| Parameters | Units | March | May | August | Nov |
|---|---|---|---|---|---|
| **Temperature** | *C | 7.5 | 6.7 | 7.9 | 6.7 |
| **pH** | pH units | 7.33 | 6.85 | 8.07 | 8.15 |
| **Conductivity** | uScm -1 | 727 | 763 | 731 | 253 |
| **BOD** | mg/l | 6 | 4 | 7 | 27 |
| **COD** | mg/l | 45 | 9 | 58 | 115 |
| **Suspended Solids** | mg/l | 119 | 56 | 11 | 119 |
| **Ammonia (as N)** | mg/l | 1.65 | <0.01 | 0.03 | 0.08 |
| **Mineral Oils** | mg/l | <0.01 | <0.01 | <0.01 | <0.01 |

*2.3 Bi annual Dust Monitoring Results Summary*

| | D1 | D2 | D3 |
|---|---|---|---|
| **Results 1 (March)** | 46.1 | 30.6 | 9.5 |
| **Results 2 (June)** | 104.4 | 252.2 | 133.3 |

*Figure 1. Oxigen Ballymount Monitoring Locations*



# 3 Waste Management Record

Oxigen Environmental in Ballymount create various waste streams arising from the running of the facility, mostly attributed to staff activity and maintenance. Oxigen ensures that recycling of each waste stream is promoted, through provision of facilities and through staff education.

## 3.1 Maintenance

The waste arising from the mechanics shed consists of oily solid waste, waste oil, waste coolant, break fluid and lead acid batteries collected by an approved contractor for recycling.

## 3.2 Office paper

The office paper waste arising in the office building is shredded and placed in the green recycling bins provided in each office. Bins are collected as part of a larger dry recyclables collection route carried out by Oxigen, and deposited at the Oxigen Ballymount Facility for segregation and recycling.

## 3.3 Canteen Waste

Canteen waste which arises from the office building and the canteen in the processing shed is collected as part of a larger municipal waste collection route carried out by Oxigen and transferred to Oxigen, Robinhood facility. Green bins are also provided for recyclable canteen waste.

See Appendix I for further details of office recycling initiative

## 4.1 Tonnage of Waste Compositions Received at Oxigen, Ballymount for the period of 1st January to 31st December 2009

*Table 4 Tonnage of Waste by Type Received at Oxigen Ballymount January - December 2009*

| **Material** | **EWC CODE** | Total |
|---|---|---|
| Street Sweepings | **20 03 03** | 3990.72 |
| Gullys | **20 03 03** | 1065.89 |
| Plastic/ plastic bottles | **15 01 02** | 316.96 |
| Hard Plasic | **17 02 03** | 14.66 |
| Bulky | **20 03 07** | 21765.69 |
| Cardboard | **15 01 01** | 6408.26 |
| Tetra Pack | **15 01 05** | 58.66 |
| C&D | **17 01 07** | 24040.17 |
| Wood | **17 02 01** | 1124.04 |
| Wooden Packaging | **15 01 03** | 590.59 |
| Dry recyclables | **20 03 01** | 37291.61 |
| Dry Recyclables DGBC | **20 03 01** | 245.26 |
| News and Pams | **20 01 01** | 23.48 |
| Metal | **17 04 07** | 306.62 |
| Glass | **15 01 07** | 9840.44 |
| Aluminium | **20 01 40** | 3.14 |
| Garden and Park Waste | **20 02 01** | 768.62 |
| Green biodegradable | **20 02 01** | 1518.4 |
| Plasterboard | **17 08 02** | 12.56 |
| End Life Tyres | **16 01 03** | 10.82 |
| TV'S/CRT | **20 01 36** | 28.1 |
| White Paper | **20 01 01** | 382.64 |
| Household Waste | **20 03 01** | 16.28 |
| Haz Waste | **20 01 27** | 3.52 |
| **Total** | | **109827.13** |

## 4.2 Tonnage of Waste Recovered/Recycled/Disposed of at Oxigen Ballymount for the period 1st July to 31st December 2009

*Table 4.1 Tonnage of Waste by Type Consigned from Oxigen Ballymount July – December 2009*

| Material | EWC Code | Total |
|---|---|---|
| Mixed Paper | **20 01 01** | 10124.76 |
| Mixed C&D | **19 12 12** | 15961.27 |
| Wood | **17 02 01** | 5162.14 |
| Metal | **17 04 07** | 2619.18 |
| Steel cans | **15 01 04** | 237.9 |
| Aluminium | **15 01 04** | 60.56 |
| Cardboard | **15 01 01** | 6679.38 |
| Green | **20 02 01** | 2026.86 |
| Soil & Stone | **17 05 04** | 23.96 |
| Plastic | **15 01 02** | 34.74 |
| Plastic bottles | **15 01 02** | 367.04 |
| End of Life tyres | **16 01 03** | 68.06 |
| Dry Recyclables | **20 03 01** | 9290.02 |
| Residue | **19 12 12** | 4586.8 |
| Gas Cylinder | **15 01 11** | 5.42 |
| Green Glass | **15 01 07** | 3824.48 |
| Clear Glass | **15 01 07** | 3935.76 |
| Brown Glass | **15 01 07** | 2004.64 |
| Batteries | **20 01 33*** | 3.4 |
| Bulky | **20 03 07** | 1951.26 |
| C&D Fines | **19 12 12** | 17456.82 |
| Plasterboard | **17 08 02** | 26.14 |
| Rubble | **17 01 01** | 13854.88 |
| News and Pams | **20 10 01** | 3790.46 |
| Tetra-Pak | **15 01 05** | 45.82 |
| TV/CRT | **20 01 36*** | 27.8 |
| Hard Plastic | **17 02 03** | 24.8 |
| **Total** | | **104194.35** |

## 4.3 Breakdown of Waste by Composition Recovered, Recycled and Disposed of From Oxigen Ballymount Facility for the Period 1st January to 31st December 2009

*Table 4.2 Tonnage of Waste Types Recycled Oxigen Ballymount Facility January - December 2009*

| Material | EWC CODE | Total |
|---|---|---|
| Mixed Paper | **20 01 01** | 10124.76 |
| Wood | **17 02 01** | 5162.14 |
| Metal | **17 04 07** | 2619.18 |
| Steel cans | **15 01 04** | 237.9 |
| Aluminium | **15 01 04** | 60.56 |
| Cardboard | **15 01 01** | 6679.38 |
| Green | **20 02 01** | 2026.86 |
| Plastic | **15 01 02** | 34.74 |
| Plastic bottles | **15 01 02** | 367.04 |
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| Gas Cylinder | **15 01 11** | 5.42 |
| Green Glass | **15 01 07** | 3824.48 |
| Clear Glass | **15 01 07** | 3935.76 |
| Brown Glass | **15 01 07** | 2004.64 |
| Batteries | **20 01 33*** | 3.4 |
| Plasterboard | **17 08 02** | 26.14 |
| News and Pams | **20 01 01** | 3790.46 |
| Tetra-Pak | **15 01 05** | 45.82 |
| TV/CRT | **20 01 36*** | 27.8 |
| Hard Plastic | **17 02 03** | 24.8 |
| **Total** | | **50359.36** |

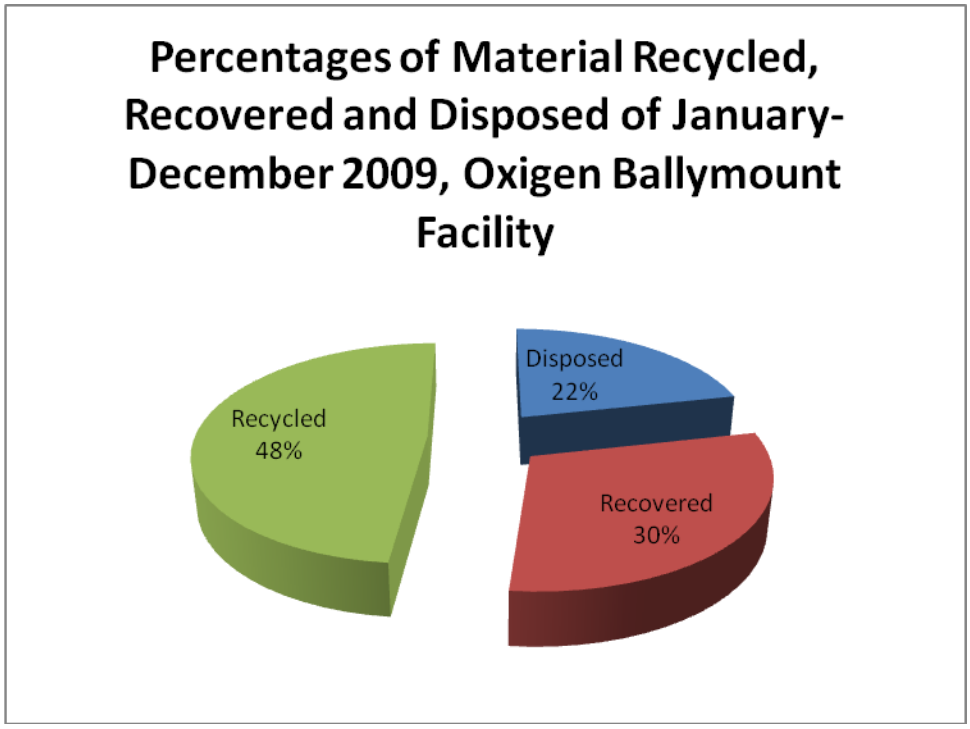
*Table 4.3 Tonnage of Waste Types Recovered, Oxigen Ballymount January – December 2009*

| Material | EWC CODE | Total |
|---|---|---|
| Clean concrete | **19 12 12** | 0 |
| Soil & Stone | **17 05 04** | 23.96 |
| C&D Fines | **19 12 12** | 17456.82 |
| Rubble | **17 01 01** | 13854.88 |
| **Total** | | **31335.66** |

*Table 4.4 Tonnage of Waste Types Disposed, Oxigen Ballymount for the period January to – December 2009*

| Material | EWC CODE | Total |
|---|---|---|
| Mixed C&D | **19 12 12** | 15961.27 |
| Residue | **19 12 12** | 4586.8 |
| Bulky | **20 03 07** | 1951.26 |
| **Total** | | **22499.33** |

*Figure 4 Quantities and Percentage of Total Waste Received which was Recycled, Recovered and Disposed from Oxigen Ballymount January to December 2009*



# 5 Procedures Developed in 2009

## 5.1 Environmental Management System Procedures Log

In accordance with the conditions of licence no. W0208-01, and in order to achieve the objectives and targets set out in the Oxigen Ballymount Facility Environmental Management System, procedures were developed by Oxigen in 2006. In order to improve the Environmental Management System (EMS) and to achieve ISO 14001 Standard Certification, the EMS was reviewed and amended in 2008. In May 2009, Oxigen was independently assessed and certified to the ISO14001 Standard by Certification Europe. Some amendments were made to the EMS. In summary, the EMS now contains the following procedures and documents:

**Environmental Management System Outline**

| | |
|---|---|
| Doc OXE 01 | Environmental Management Policy |
| Doc OXE 02 | Accident Prevention Policy |
| Doc OXE 03 | Duty and Standby Capacity |
| Doc OXE 04 | Acceptable Waste List |
| Doc OXE 05 | EPA Approved Destinations List |
| Doc OXE 06 | EPA Approved Haulier List |
| Doc OXE 07 | Internal Audit Schedule and Audit Records |
| Doc OXE 08 | Training Review and Plan 2009 |
| Doc OXE 09 | Compliance Summary Sheet EPA Licence W0208-01 |
| Doc OXE 10 | Waste Collection Permit Summary |
| Doc OXE 11 | Company Records Management System |
| Doc OXE 12 | Facility Management and Reporting Structure |
| Doc OXE 13 | Environmental Objectives and Targets |
| Doc OXE 14 | Schedule of Environmental Management Reviews |
| Doc OXE 15 | Procedure Review Schedule |
| Doc OXE 16 | Register of Environmental Aspects |
| Doc OXE 17 | Register of Environmental Legislation & other Applicable Requirements |
| Doc OXE 18 | Closure, Decommissioning and Aftercare Management Plan |

**Environmental Management Procedures Log:**

| | |
|---|---|
| OXEP 01 | Waste Acceptance Procedure |
| OXEP 02 | Receipt, Processing and Dispatch of Waste Procedure |
| OXEP 03 | Emptying Water from Bunded Areas Procedure |
| OXEP 04 | Bund Testing Procedure |
| OXEP 05 | Chemical Control Procedure |
| OXEP 06 | Chemical Spill Control Procedure |
| OXEP 07 | Control of MSDS Procedure |
| OXEP 08 | Energy Audit Procedure |
| OXEP 09 | Dust Monitoring Procedure |
| OXEP 10 | Odour Monitoring & Control Procedure |
| OXEP 11 | Bird Control Procedure |
| OXEP 12 | Fly Control Procedure |
| OXEP 13 | Litter Control Procedure |
| OXEP 14 | Noise Monitoring Procedure |
| OXEP 15 | Vermin Control Procedure |
| OXEP 16 | Yard Sweeping Procedure |
| OXEP 17 | Emergency Response Procedure |
| OXEP 18 | Document Control Procedure |
| OXEP 19 | Communications Procedure |
| OXEP 20 | Silt Trap Emptying Procedure |
| OXEP 21 | Complaints Handling & Corrective Action Procedure |
| OXEP 22 | Environmental Auditing Procedure |
| OXEP 23 | Management Review Procedure |
| OXEP 24 | Operational Control Procedure |
| OXEP 25 | Foul Water Monitoring Procedure |

OXEP 26 Transfrontier Shipments Procedure

OXEP 27 Weighbridge Procedure

OXEP 28 Gypsum Acceptance Procedures

OXEP 29 Environmental Training Procedure

OXEP 30 Hazardous Waste Acceptance And Handling Procedure

OXEP 31 Identification of Legal and other Requirements Procedure

OXEP 32 Environmental Monitoring & Measurement Procedure

**Environmental Management Methodology Log:**

OXEM 01 Methodology for Identifying Environmental Aspects

OXEM 02 Methodology for Determining Significance of Environmental Aspects

OXEM 03 Methodology for Setting and Reviewing Objectives and Targets

**Record Forms LOG**:

OXED 101 Daily Inspection Records

OXED 102 Weekly Inspection Records

OXED 103 Yard Sweeping

OXED 104 Complaints Handling / Corrective Action Form

OXED 105 Rejected Loads Form

OXED 106 Quarantined Waste Form

OXED 107 Diesel Log

OXED 108 Machine Maintenance Log

OXED 109 Weekly Consumables Chart

OXED 110 Testing of Bunded Areas

OXED 111 Weekly Eco Drain Report

OXED 112 Site Action Requirement Form

OXED 113 Emergency Report

OXED 114 Chemical/Oil Spill Report

OXED 115 Vermin / Fly nuisance Control

OXED 116 Weekly Compliance Issues

| | |
|---|---|
| OXED 117 | Analysis Sample Departmental Report |
| OXED 118 | Bay cleaning form |
| OXED 119 | Waste Acceptance |
| OXED 120 | Internal Audit Form |
| OXED 121 | Staff Communication Record Form |
| OXED 122 | C&D Fines Quality Control Record Sheet |

## 6. Review of Nuisance Controls

Eastern Pest Control carries out 8 visits per year to monitor the pest nuisance on site. The attached report from EPC outlines the controls, level of activity and observations for 2009.

Daily and weekly inspections are carried out by the facility manager and the compliance officer on site, which highlight any nuisances on site, such as litter, pests, noise, flies, odour or dust. Should any such nuisances be recorded, then appropriate measures are undertaken.
There are procedures in place to deal with any such nuisances in the facility.

In 2009, fly nuisances measures were increased which included reduction in stock levels, regular spraying of the processing buildings with insecticide and transfer of green waste to an indoor bay area. Some rodent sighting was recorded during construction phase of the extension to the Processing Building which was dealt with immediately by Eastern Pest Control who laid extra bait boxes to remediate the problem and prevent any further nuisance. Nuisance control measures currently in place are found to be adequate.

See Appendix II for EPC report 2009

## 7 Resource Consumption Summary

Oxigen, Ballymount use machine gas oil, electricity and water in the operation at the facility. It is a dry process and therefore large amounts of water are not used.

Gasoil and electricity are the two forms of energy used on site. This energy is used to power machinery used in the processing of the waste and to illuminate the working area. Electricity is also used in the day to day staff activity for example lighting in common areas, water heating in canteen.

*Table 7 Summary table of resource consumption for the reporting period*

| **Site Resource Usage Jan to Dec 2008** | **Quantity** | **Units** |
|---|---|---|
| Gasoil | 150, 840 | Litres |
| Electricity | 1,059,245 | kWh |
| Water | 2426000 | Litres |

*Table 7.1 Summary Table of Electricity Usage for the Reporting Period*

| Month | Day (KWH) | Night (KWH) | Total |
|---|---|---|---|
| Jan | 79003 | 21828 | 100831 |
| Feb | 67070 | 21170 | 88240 |
| Mar | 63088 | 20686 | 83774 |
| Apr | 71212 | 24526 | 95738 |
| May | 68730 | 29503 | 98233 |
| Jun | 61630 | 19848 | 98233 |
| Jul | 66098 | 20774 | 81478 |
| Aug | 56728 | 17316 | 86872 |
| Sep | 58776 | 20167 | 74044 |
| Oct | 65207 | 22482 | 78943 |
| Nov | 63473 | 21697 | 87689 |
| Dec | 58855 | 22615 | 85170 |

*Figure 7 Graph of Electricity Units Used During the Reporting Period*

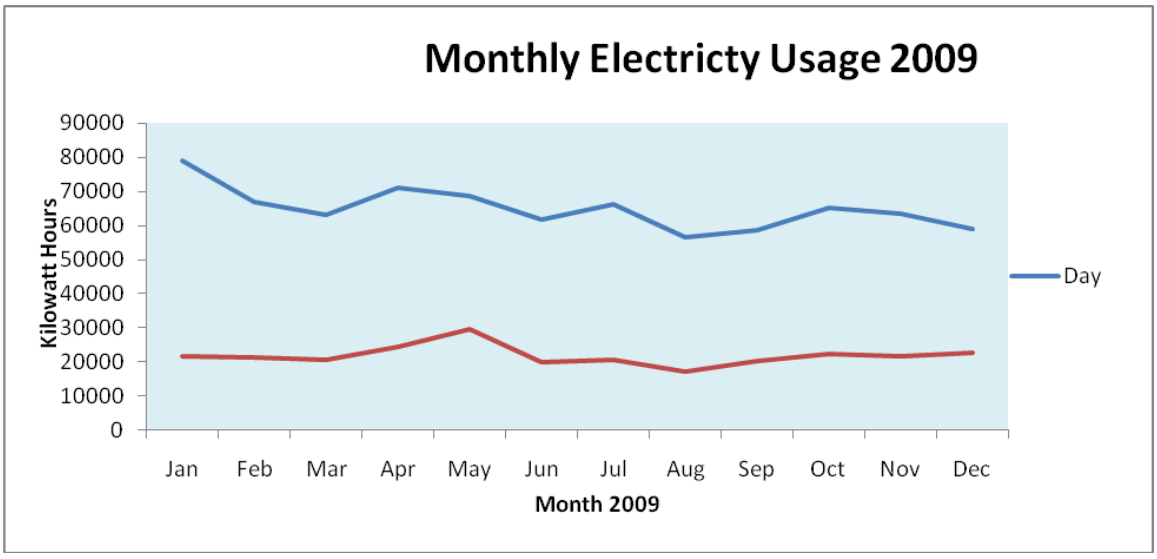
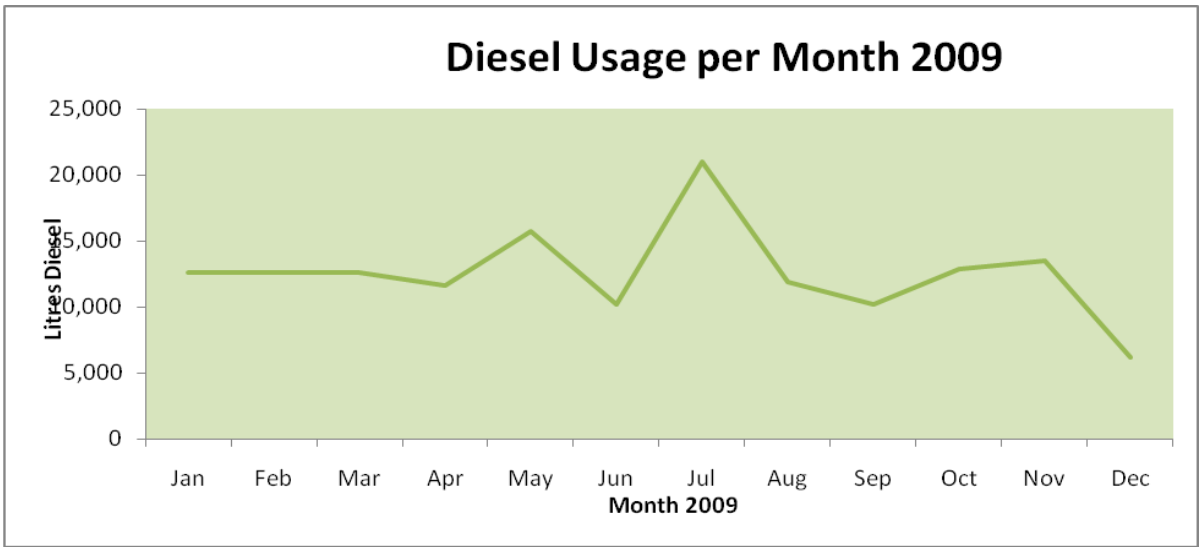


*Table 7.2 Summary table of Diesel (litres) usage for the reporting period*

| Month | Litres Used | Tonne Processed |
|---|---|---|
| **Jan** | 12,570 | 8719.88 |
| **Feb** | 12,570 | 6746.38 |
| **Mar** | 12,570 | 7417.4 |
| **Apr** | 11,660 | 8523.36 |
| **May** | 15,740 | 10512.13 |
| **Jun** | 10,220 | 11419.88 |
| **Jul** | 20,980 | 10525.56 |
| **Aug** | 11,860 | 8033.8 |
| **Sep** | 10,160 | 9956.6 |
| **Oct** | 12,840 | 7793.2 |
| **Nov** | 13,500 | 7638.6 |
| **Dec** | 6,170 | 6907.5 |
| **Total** | 150,840 | 104194.29 |

*Figure 7.1 Graph showing machine gas oil usage for reporting period*



## 8 Energy Efficiency Audit Report Summary

The energy efficiency of the facility is illustrated in the graphs below. Diesel and electricity usage per tonne of material processed for the reporting period are shown.
Oxigen are committed to reducing the energy usage per tonne. This will be achieved through:

- Continually Increasing staff awareness of energy efficiency.
- Continually Increasing the efficiency of the processing equipment and machines through a programme of preventative maintenance and the introduction of improved technology.

*Figure 8 Graph showing diesel usage per tonne for reporting period*

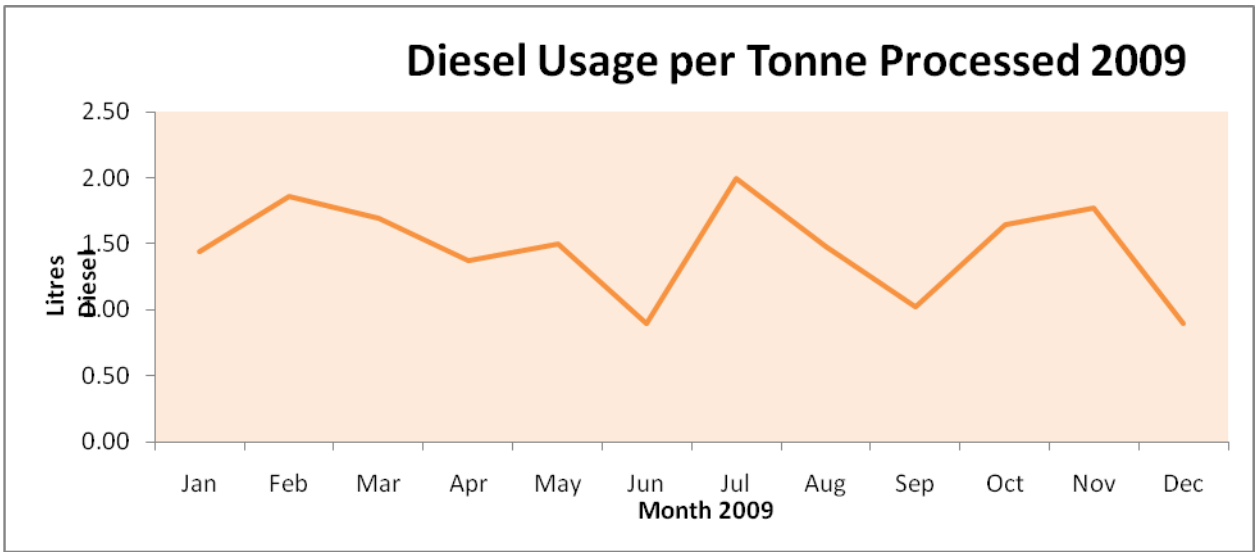
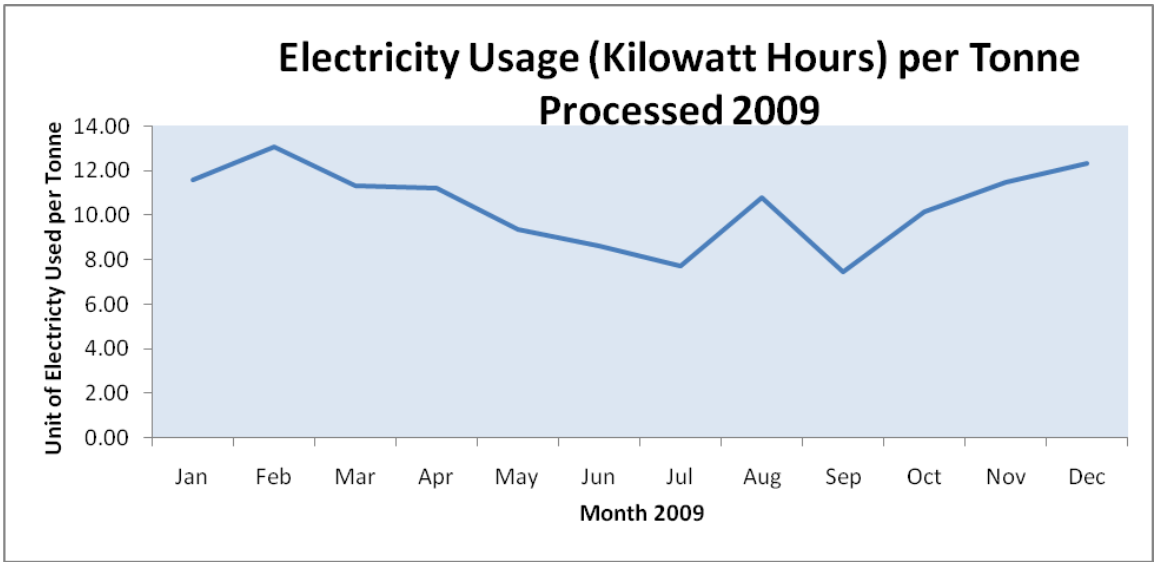


*Figure 8.1 Graph Showing Electricity Usage Per Tonne for the Reporting Period*




## 8.1 SEI Advice, Mentoring and Assessment Programme

In July 2009, Oxigen employed the services of sustainable Energy Ireland (SEI) to independently assess and audit energy usage at this facility. A report was issued with and has been attached.

The purpose of this exercise was to identify the main areas of high energy consumption during working and non-working hours, to identify ways in which energy usage can be reduced and the steps required to meet these objectives.

Actions arising out of the SEI report have been included in 2010 Objectives and Targets for completion in the coming year. See Appendix III for full report.

## 9 Complaints summary

There was one complaint received relating to the facility in 2009 received by the Agency.

Table 9 Complaints 2009

| Date | Complainant | Issue | Actions |
|---|---|---|---|
| 16/06/09 | *Fax from Agency* | FLIES | COMPLAINT INVESTIGATED ROUTINE PEST CONTROL MEASURES INCREASED AS PREVENTION MEASURE. DETAILS SUBMITTED TO THE AGENCY |

## 10 Reported Incidents Summary

No environmental incidents took place at the facility during 2009

## 11. Schedule of Environmental Objectives & Targets

Oxigen Environmental began operating under Licence 208-1 in July 2006. A schedule of environmental objectives & targets were submitted to the Agency under condition 2.2.2. (See Environmental Management Programme) as part of the facility's overall Environmental Management System. These objectives and targets have been reviewed as part of the Facility AER for 2009 and updated for 2010.

### 11.1.0 Purpose

Under condition 2.2.2.2 of Waste License W0208-01, Oxigen Environmental Ltd. are required to propose a schedule of Objectives and Targets to ensure that the process of continual improvement of the facility's environmental performance is formalised and clearly set out.

The Objectives and Targets are set taking into account the significant environmental aspects and will be reviewed continually according to the Methodology for Review of Objectives and Targets to assess the compliance of the company with them. Upon review, new Objectives and Targets will be set and any modifications to those previously set will be made.

### 11.2.0 Objectives and Targets Outlined

Objectives and Targets are set within the timescale of one year and for each year following the Annual Management Review. Appropriate time-scales are applied to each target.

Objectives and Targets that are not achieved within the designated time-scales set will be logged in the Corrective Action Log and tracked for progress toward compliance (ref. non-conformance and corrective and preventive action). Oxigen Environmental Ltd Senior Management is committed to the achievement of designated Objectives and Targets by the provisions of funding for compliance and through the continued maintenance of ISO 14001 Environmental Management Standard.

Seven main objectives have been identified, and these are summarised in the tables below. Each objective has been subdivided into a number of targets through which progress in achieving each objective can be monitored.

A report summary on Objectives and targets outlined for 2009 can be seen in the Environmental Management Plan Report for 2009. Progress has been tracked and any outstanding objectives and targets not reached in 2009 will be monitored for progress and completion in 2010.

Table 11 *Summary of Objectives and Targets for W0208-01, 2009*

| **Objective** | **Description** | **Target** |
|---|---|---|
| 1 | Reduction of tonnage to landfill to 18% from 20% in 2008 | 1.1 Commission new C&D plant.<br>1.2 Install wind shifter. |
| 2 | Training | 2.1 W.A.M.I.T.A.B<br>2.2 On site training in use of spill kits.<br>2.3 Continued environmental training as per training schedule and individual training programs as per new Environmental Training Procedure |
| 3 | Site Upgrade | 3.1 Assess and upgrade concrete hardstand – schedule for submission to EPA<br>3.2 Screen site.<br>3.3 Signage on site |
| 4 | Site Security Programme | 4.1 Install CCTV<br>4.2 Upgrade site fencing |
| 5 | New Pest Control System | 5.1 Install 3 probes in Dry recycling shed for controlled application of insecticides over infeed and loading bags. |

## 12. Pollution Emission Register

### EPRTR

All monitoring results relating to this facility have been recorded and summarised in the format provided for the combined AER and PRTR Reporting requirement. Please see attached. (Appendix IV)

## 13. Development Works

### 13.1 2009 Development Works (Update end 2008)

No Specified Engineering Works were submitted to the Agency for development of the site in 2009.

Approval was received from the Agency for the development of a Civic Amenity Site at the facility to provide recycling facilities to the public. This project is still planning pending and shall be completed during the course of 2010 should planning permission be granted.

### 13.2 2010 Development works

There are currently no Specified Engineering Works applied for in 2010.

Any proposed development of the facility will be submitted in writing to the Agency during the course of the year as required.

## 14. Financial Provision

Oxigen are currently insured with an indemnity limit for pollution liability of €6.5 million. See Appendix V for details of insurance cover.

## 15 . MANAGEMENT & STAFFING STRUCTURE OF THE FACILITY

See Appendix VI

# 16. CLOSURE & DECOMISSIONING MANAGEMENT PLAN

Oxigen Environmental Ltd.
Merrywell Industrial Estate
Ballymount Road Lower
Ballymount
Dublin 22

# Residuals Management Plan

In compliance with

*Condition 10.2* of EPA Licence Register Number W0208-1

## 16.1. Introduction

There is no long or short term proposal to shut down or decommission any element of the waste transfer or recovery operation.

In the unlikely event that the facility has to close, the shut sown will be carried out in accordance with the measures set out in this Decommissioning Plan.

The decommissioning plan is based on the following: -

- A review of the types of activities carried out on the site, including waste handling and recovery operations.
- Identification of potential hazards, including an evaluation of the raw materials and waste products typically stored on site.
- Identification of control measures to prevent incidents.
- Identification of all items of plant and other materials, including buildings that may be decommissioned, rendered safe or removed from site for disposal or recovery in the event of closure of the facility.
- Identification of all possible on-site locations where cleaning, decontamination or remediation works may be required in the event of decommissioning to prevent environmental pollution.

## 16.2. Description of On-Site Activities

The waste transfer and processing facility is located at Merrywell Industrial Estate, Ballymount Road Lower, Ballymount , Dublin 22.

The facility is operated under Waste Licence Register no. W0108-01.

### 16.2.1 Site Operations

The principal activity of the facility is the recovery of source segregated and mixed dry recyclable materials from waste sources such as municipal, industrial, commercial, construction and demolition and commercial.

On –site operations include segregation of waste, baling of waste paper, cardboard and metal, separation of road sweepings, waste storage and transfer into vehicles for removal off-site.

The following waste types are accepted at the facility: dry recyclable household waste, commercial waste, industrial waste and construction and demolition waste. Putrescible waste is not currently accepted at the facility.

At present approximately 100,000 tonnes of waste are accepted at the facility. It is envisaged that the waste inputs will increase over the lifetime of the facility to a maximum annual throughout of approximately 350, 000 tonnes of material, not to exceed the maximum allowable limits set out in Schedule A.2 of licence no. W0208-01 for any particular waste type.

## 16.3. Scope of the Decommissioning Plan

### 16.3.1 Scope of the Plan

The plan sets out the actions to be taken by Oxigen Environmental Ltd. in the unlikely event of facility shut down, or a planned cessation for a period of greater than six months of all or part of the site involved in the licensed activity.

Should either of the above conditions occur, Oxigen Environmental Ltd. will decommission, render safe or remove for disposal/recovery, all materials, waste, ground, plant and equipment that may result in environmental pollution. This plan will be reviewed annually by Oxigen Environmental Ltd.

The methodology used to determine the areas that must be addressed by the plan is outlined in Section 4.

### 16.3.2 Criteria Which Determines Successful Implementation

Successful decommissioning will only be complete when all buildings, equipment, materials, wastes or any other materials, which could result in environmental pollution, are removed from the site and recycled, recovered or disposed of in accordance with all regulations in force at the time. The programme to achieve the criteria set out in the plan is outlined in Section 5.

## 16.4. Areas Addressed by the Plan

### 16.4.1 Materials

It is anticipated that any shutdown of all or part of the site operations would be preceded by a scaling down of activities therefore further reducing the quantities of materials, particularly waste loads to be dealt with.

It may be possible to return some materials to the suppliers e.g. diesel t the suppliers for re-sale/re-use. The remaining materials may have to be disposed of as waste, some of which may be deemed hazardous waste due to their composition. Such materials will be disposed of off-site in accordance with appropriate waste management regulatory requirements and facility waste management procedures.

### 16.4.2 Equipment and Process

The main pieces of plant will include operational material such as trammels, material specific screens, conveyor belts and balers.

Some of the equipment would be suitable for use in other similar facilities. All of the items of plant, which would be required to be disposed of would be emptied, decommissioned and decontaminated prior to removal off-site.

### 16.4.3 Environmental Monitoring Results and Reports

Environmental monitoring will be carried out in accordance with the conditions set out in licence no. W0208-01and will include routine monitoring if emissions to surface water and air. The monitoring programmes will be designed to identify any impact associated with the operation of the facility so as to allow effective remedial action and prevent or minimize environmental pollution.

### 16.4.4 Environmental Incidents

The site will be designed to minimize the impact of any environmental incident that may arise e.g. spills/leaks of fuel. Any environmental incidents that do occur will be thoroughly investigated and where necessary remedial measures will be implemented.

A detailed review of all historic incidents will be completed as part of the decommissioning plan to assess the potential for residual soil contamination arising from such incidents.

## 16.5. Implementation Programme

### 16.5.1 Consumable Materials

All materials and wastes will be stored in the designated contained areas. In the event of closure materials and waste will be removed from site for disposal or recovery or returned to the supplier. All wastes will be removed fro recovery/treatment/disposal at a licensed waste management facility.

Fuels stored on site will include road diesel, marked gas oil, central heating oil and maintenance oils. The quantities of each type of fuel will be reduced as any shutdown of all or part of the facility will be preceded by a scaling down of activities that would allow a stage reduction in inventory. It is anticipated that the bulk of the fuel stored on site could be returned to suppliers in the event of plant shutdown.

### 16.5.2 Equipment and Process Materials

In the event of activation of the plan, the remaining equipment will be either sold for operational use or scrap at an approved waste disposal/recovery facility.

At the time of preparation of this plan it is not possible to accurately quantify every item of equipment that would be suitable for resale as this would be dependent on current operational and market needs at the time of execution of the plan.

Oxigen Environmental Ltd. will seek approval from the agency for any cleaning procedures and monitoring requirements to be employed during the implementation of the plan.

It is anticipated that the cleaning of the majority of the plant and equipment can be carried out on-site and will primarily involve power washing. The de-contamination will only be carried out in areas where the wash water can be collected and directed to the foul sewer drainage infrastructure.

### 16.5.3 Environmental Incidents

Ant incidents that occur will be dealt with in accordance with the conditions if the Licence and the requirements of the Agency.

## 16.6. Test Programme & Validation Report

### 16.6.1 Test Programme

The monitoring and reporting requirements, which are set out in Licence No. W0208-01 will be complied with until the licence is surrendered to the Agency. The monitoring will identify, if any environmental pollution has occurred during the lifetime of the waste licence. If the monitoring programme or the investigation of any future environmental incident identifies that any such contamination has occurred, a test programme will be set up to identify the nature and scale of any associated environmental pollution.

### 16.6.2 Validation Report

Following implementation of the plan, Oxigen environmental Ltd. will produce a validation report that demonstrates its successful implementation. This report will confirm that there is no continuing risk of environmental pollution from the site.

This report shall address:

1. Disposal of Raw Materials
2. Disposal of Wastes
3. Decommissioning of Plant and Equipment
4. Disposal of Obsolete Equipment
5. Results of Monitoring and Testing
6. The need for Ongoing Monitoring or Investigations

This report will be submitted to the Agency within three months of execution of the plan

## 16.7 Financial Provisions

It can be estimated that the entire decommissioning of plant and equipment, removal/disposal of materials, testing to evaluate the successful implementation of the plan and preparation of a final validation report to complete the Decommissioning Plan can be done for the sum of €350K which will be available from cash flow.

This sum includes for the following:-

1. Disposal of consumable materials
   Disposal if on-site waste (maximum volume 1000 tonnes recyclable and 500 tonnes hazardous waste (both quarantine and transfer building)

2. Cleaning of items of plant and equipment
3. Decommissioning of plant and equipment
4. Disposal of obsolete equipment
5. Monitoring and testing to ensure compliance with Licence conditions
6. Preparation of reports

The above figure is based on current disposal costs and waste quantities that would be generated in the event of activation of this plan. It will be possible to recuperate some of the costs through the sale of equipment and plant.

## 17. Environmental Management Programme

### 17.1– Report for previous year.

A summary report on the EMP set out for 2009 is outlined below.

### Objectives and Targets Schedule for 2009

| Objective | Description | Target |
|---|---|---|
| 1 | Reduction of tonnage to landfill to 18% from 20% in 2008 | 1.3 Commission new C&D plant.<br>1.4 Install wind shifter. |
| 2 | Training | 2.1 W.A.M.I.T.A.B<br>2.2 On site training in use of spill kits.<br>2.3 Continued environmental training as per training schedule and individual training programs as per new Environmental Training Procedure |
| 3 | Site Upgrade | 3.1 Assess and upgrade concrete hardstand – schedule for submission to EPA<br>3.2 Screen site.<br>3.3 Signage on site |
| 4 | Site Security Programme | 4.1 Install CCTV<br>4.2 Upgrade site fencing |
| 5 | New Pest Control System | 5.1 Install 2 probes in Dry recycling shed for application of organic insecticides over infeed and loading bays. |

**Objective 1: Reduction in Tonnage to Landfill to 20%**

| **Target 1.1: Commission new C&D plant.** | |
|---|---|
| **Relationship to Objectives and Targets:** | Commission new C&D plant at the Ballymount Facility. |
| **Reason:** | To improve quality of materials recovered from C&D waste and divert a higher quantity of material from landfill. |
| **Target:** | 28th February 2009 |
| ***Project Summary*** | |
| **Task 1-** Research, evaluate and resource the materials and skills necessary. Apply for SEW: COMPLETE<br>**Task 2 –** Construction: COMPLETE | |
| **Designation of Responsibility** | The Facility Manager and Group Processing Manager is responsible for the implementation and completion of the project. |
| **Progress by December 2009** | This Target has been achieved |

| **Target 1.2: Install windshifter** | |
|---|---|
| **Relationship to Objectives and Targets:** | Install windshifter in the Dry recyclable plant. |
| **Reason:** | To Improve the quality of segregated materials. To increase the volume of recyclable material and reduce the volume of waste being sent to landfill. |
| **Target:** | 31st March 2009 |
| ***Project Summary*** | |
| **Task 1-** Evaluate, research and resource what is required, apply for permission: COMPLETE<br>**Task 2 –** Installation: COMPLETE | |
| **Designation of Responsibility** | The Facility Manager is responsible for the implementation and completion of the project. |
| **Progress by December 2009** | This Target has been achieved |

**Objective 2: Training**

| **Target 2.1: W.A.M.I.T.A.B** | |
|---|---|
| **Relationship to Objectives and Targets:** | To receive the W.A.M.I.T.A.B certificate. |
| **Reason:** | To improve and enhance environmental competency within Oxigen Environmental. |
| **Target:** | End May 2009 |
| ***Project Summary*** | |
| **Task 1 –** To research the requirements and level of training of the W.A.M.I.T.A.B standard: COMPLETE | |
| **Task 2** – Achieve the requirement and receive the W.A.M.I.T.A.B certificate for Bernard McMahon and Gillian Free: COMPLETE | |
| **Designation of Responsibility** | The Group Environmental Manager is responsible for the implementation and completion of the project with certificate achievement by Facility Manager and Environmental Manager |
| **Progress by December 2009** | This Target has been achieved |

| **Target 2.2: On site training in use of spill kits** | |
|---|---|
| **Relationship to Objectives and Targets:** | To provide training in the use of spill kits. |
| **Reason:** | To prevent the risk of environmental pollution and risk to human health and safety. |
| **Target:** | March 31st 2009 |
| ***Project Summary*** | |
| **Task 1-** Research and resource the equipment and training required: COMPLETE | |
| **Task 2-** Commence the training program : INCOMPLETE | |
| **Designation of Responsibility** | Environmental Manager |
| **Progress by December 2009** | This Target has been achieved |

| **Target 2.3: Continued environmental and individual training programs** | |
|---|---|
| **Relationship to Objectives and Targets:** | Continued environmental training as per training schedule and individual training programs as per new Environmental Training Procedure |
| **Reason:** | To build upon previous environmental training, encourage the use of best environmental practices and ensure that Oxigen Environmental is working to the best of its ability with minimum environmental impact. |
| **Target:** | April 2009 – Review completed training and Commence planned scheduled training |
| ***Project Summary*** | |
| **Task 1-** Research, resource and evaluative the training required: COMPLETE | |
| **Task 2-** Commence the training programmes as per training schedule | |
| **Designation of Responsibility** | The Environmental Manager is responsible for the implementation and completion of the project |
| **Progress by December 2009** | This Target has been achieved |

**Objective 3: Site Upgrade**

| **Target 3.1: Assess and upgrade concrete hardstand – schedule for submission to EPA** | |
|---|---|
| **Relationship to Objectives and Targets:** | Assess and upgrade concrete hardstand schedule for submission to EPA. |
| **Reason:** | Upgrading the hardstand to a better quality provides a better and safer surface to work and drive upon while helping to prevent environmental pollution from runoff to surface water. |
| **Target:** | March 10th 2009 –Assess Schedule and Submit<br>End July 2009 Completion of works |
| ***Project Summary*** | |
| **Task 1-** Carry out an assessment and evaluation of the resources and materials needed for the works in question: COMPLETE | |
| **Task 2** – Repair and upgrading of hardstand: COMPLETE | |
| **Designation of Responsibility:** | The Health and Safety Manager and Facility Manager are responsible for the implementation and completion of the project. |
| **Progress by December 2009** | This Target has been achieved |

| **Target 3.2: Screen Site** | |
|---|---|
| **Relationship to Objectives and Targets:** | To screen site |
| **Reason:** | To increase site security, to create a sound buffer and to reduce the visual impact of the facility in the surrounding landscape. |
| **Target:** | Assess and evaluate make decision and financial sign off by end April 2009<br>Completion date of December 2009 |
| *14.1* ***Project Summary*** | |
| **Task 1-** Evaluate and research the type of screen/screens needed. Assess the site with regard to landscape design and visual impact: INCOMPLETE | |
| **Task 2** – Erect screens and buffers: INCOMPLETE | |
| **Designation of Responsibility** | The Projects Manager and Facility Manager are responsible for the implementation and completion of the project. |
| **Progress by December 2009** | This Target has been achieved |

| **Target 3.3 Signage on Site** | |
|---|---|
| **Relationship to Objectives and Targets:** | To erect signage on site |
| **Reason:** | To indicate clearly the various areas, materials and waste types in the facility. This prevents risk to human health, and reduces the risk of commingling waste. |
| **Target:** | Assessment by end April 2009<br>Completion by end May 2009 |
| *16.1* ***Project Summary*** | |
| **Task 1-** Assess and evaluate resources needed: COMPLETE | |
| **Task 2** – Construct and erect signage:COMPLETE | |
| **Designation of Responsibility:** | The Health and Safety Manager, Environmental Manager and Facility Manager are responsible for the implementation and completion of the project. |
| **Progress by December 2009** | This Target has been achieved |

## Objective 4: Site Security

| Target 4.1: Install CCTV | |
|---|---|
| **Relationship to Objectives and Targets:** | Install CCTV on site. |
| **Reason:** | To increase site security, reducing risk of breaking and entering and consequently reducing the risk of accidents on site. |
| **Target:** | Installation by end August 2009 |
| *18.1* ***Project Summary*** | |
| **Task 1-** Research and resource equipment needed. Asses location points on site: COMPLETE | |
| **Task 2** – Installation of CCTV: COMPLETE | |
| **Designation of Responsibility:** | Facility Manager is responsible for the implementation and completion of the project. |
| **Progress by December 2009** | This Target has been achieved |

| Target 4.2: Upgrade Site Fencing | |
|---|---|
| **Relationship to Objectives and Targets:** | Upgrade site fencing |
| **Reason:** | To increase site security, reducing risk of breaking and entering and consequently reducing the risk of accidents on site. |
| **Target:** | End March 2009 |
| ***Project Summary*** | |
| **Task 1-** Research the resources and material needed. Assess site and determine fencing layout.: COMPLETE | |
| **Task 2** – Erect site fencing: COMPLETE | |
| **Designation of Responsibility:** | Facility Manager and Project Manager are responsible for the implementation and completion of the project. |
| **Progress by December 2009** | This Target has been achieved |

## Objective 5: Pest Control

| Target 5.1 Pest Control | |
|---|---|
| **Relationship to Objectives and Targets:** | Install 2 probes in Dry recycling shed for application of organic insecticides over infeed and loading bags. In response to fly infestation of summer 2008. |
| **Reason:** | To control pests on site and reduce the risk of fly infestation. |
| **Target:** | May 2009 install probes |
| ***Project Summary*** | |
| **Task 1-** Research pest control types and evaluate what is needed - COMPLETE | |
| **Task 2 –** Probe installation : COMPLETE | |
| **Designation of Responsibility:** | The Facility Manager is responsible for the implementation and completion of the project. |
| **Progress by December 2009** | This Target has been achieved |

**Objective 6: Energy usage Reduction**

| Objective 6: Energy Efficiency | |
|---|---|
| **Relationship to Objectives and Targets:** | To achieve increased energy efficiency per ton of waste recovered. |
| **Reason:** | Achieve a balance between waste recovery rates and the energy required to achieve those recovery rates |
| **Target:** | A 5% reduction in the energy consumption / ton of waste recovered from 2007 figures by 31/12/08 to be reviewed 31/12/08 |
| ***Project Summary*** | |
| **Target 1 -** Conduct energy audit when new equipment has been installed.<br>Task Completion Date December 2009: COMPLETE – SEI report 7th July 2009 | |
| **Target 2** - Energy audit balanced against recovery rates.<br>Task completion date December 2009: COMPLETE | |
| **Designation of Responsibility:** | The Facility Manager and Processing Manager are responsible for the implementation and completion of the project. |
| **Progress by December 2009** | This Target has been achieved |

| Objective 6: Energy Efficiency | |
|---|---|
| **Relationship to Objectives and Targets:** | To achieve increased energy efficiency in the office building |
| **Reason:** | Achieve a reduced energy usage |
| **Target:** | A 10% reduction in the energy consumption.<br>To obtain heat from a renewable resource and to increase energy efficiency – Ongoing |
| ***Project Summary*** | |
| **Target 6.1 -** Conduct an energy audit.<br>Task Completion December 2009: COMPLETE | |
| **Target 6.2** – To reduce the amount of energy used & to obtain the energy from a renewable source..<br>Task completion date December 2009: ONGOING | |
| **Designation of Responsibility:** | The Facility Manager is responsible for the implementation and completion of the project. |
| **Progress by December 2009** | This Target has been achieved |

**17.2 Report for Current Year:**

Table of 2010 Objectives and Targets:

| Objective | Description | Target |
|---|---|---|
| 1 | Training | 1.1 Update Training Schedule |
| 2 | Site Upgrade | 2.1 Screen Site |
| 3 | Energy Use Reduction | 3.1 Identify potential reductions from SEI Report<br>3.2 Implement changes |
| 4 | Provision of CA Site | 4.1 Obtain Planning to follow EPA approval<br>4.2 Construct |
| 5 | Upgrade Office Recycling System | 5.1 Identify requirements & source equipment<br>5.2 Implement system and awareness program |
| 6 | Integrate Hazardous Waste Procedures into EMS | 6.1 Produce draft Hazardous Waste Procedures<br>6.1 Implement and number as part of overall ISO14001 system |

**OBJECTIVE 1: TRAINING**

| **Target 1.1: Update Training Schedule for 2010** | |
|---|---|
| **Reason:** | To ensure all staff are identified and training needs assessed |
| **Target:** | Complete by end May 2010 |
| **Project Summary** | |
| **Task 1-** Identify new and existing staff and update any changes<br>**Task 2**- Assess need for training | |
| **Designation of Responsibility:** | Environmental Compliance Officer |

| **Target 1.2: Provide Necessary Training** | |
|---|---|
| **Reason:** | To ensure all staff are adequately trained to carry out their duties in compliance with W0208-01 |
| **Target:** | Complete by end May 2010 |
| **Project Summary** | |
| **Task 1-** Produce Training Schedule<br>**Task 2**- Carry out training | |
| **Designation of Responsibility:** | Environmental Compliance Officer |

**OBJECTIVE 2: SITE UPGRADE**

| **Target 2.1: Screen Site** | |
|---|---|
| **Reason:** | To improve the aesthetic quality of the facility and act as a buffer between the site main road |
| **Target:** | Complete by end August 2010 |
| **Project Summary** | |
| **Task 1-** Assess suitable screening types<br>**Task 2** – Erect screening | |
| **Designation of Responsibility:** | Facility Manager and Environmental Compliance Manager |

## OBJECTIVE 3: ENERGY USE REDUCTION

| **Target 3.1: Identify and implement potential reductions from SEI Report** | |
|---|---|
| **Reason:** | To reduce energy consumption and increase efficiencies |
| **Target:** | Complete by end December 2010 |
| **Project Summary** | |
| **Task 1-** Identify potential reductions from SEI Report by end June 2010<br>**Task 2** – Implement changes by end December 2010 | |
| **Designation of Responsibility:** | Facility Manager and Environmental Compliance Manager |

## OBJECTIVE 4: UPGRADE OFFICE RECYCLING SYSTEM

| **Target 4: Upgrade Office Recycling System** | |
|---|---|
| **Reason:** | To encourage recycling of all office supplies |
| **Target:** | Complete by end April 2010 |
| **Project Summary** | |
| **Task 1 -** Identify requirements & source equipment<br>**Task 2** - Implement system and awareness programme – communicate to all staff | |
| **Designation of Responsibility:** | Environmental Compliance Officer |

## TARGET 5: PROVISION OF CA SITE

| **Target 5: Provision of CA Site** | |
|---|---|
| **Reason:** | To provide public recycling facility |
| **Target:** | Complete by end December 2010 |
| **Project Summary** | |
| **Task 1-** Obtain Planning Permission by end April 2010<br>**Task 2** – Construct Site by end December 2010 | |
| **Designation of Responsibility:** | Facility Manager and Facility Development and Planning Officer |

**TARGET 6: Integrate Hazardous Waste Procedures into EMS**

| **Target 6: Integrate Hazardous Waste Procedures into EMS** | |
|---|---|
| **Reason:** | To ensure all new procedures are an integral part of ISO14001 EMS |
| **Target:** | Complete by end May 2010 |
| **Project Summary** | |
| **Task 1 -** Produce draft Hazardous Waste Procedures by end February 2010<br>**Task 2** - Implement and number as part of overall ISO14001 system by end March 2010 | |
| **Designation of Responsibility:** | International Hazardous Waste Manager<br>Environmental Compliance Officer |

## Appendices

I Waste Management Programme
II EPC Pest Control Report 2009
III Sustainable Energy Ireland Report
IV EPRTR
V Certificate and Details of Insurance
VI Details of Staffing Structure

**MEMO – 24th March 2010**

Dear all,

As Oxigen Environmental is one of Irelands leading waste management and environmental services companies, it is crucial that we lead by example. In doing so, the Ballymount Office is improving its waste management system and implementing a new recycling program.

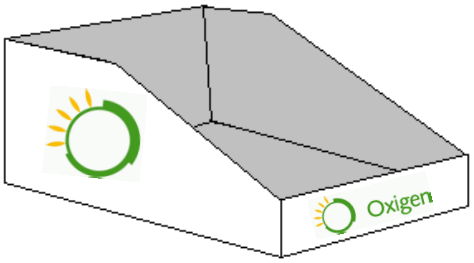
This new system will not only increase cost effectiveness of our waste management and increase the volume of recyclable materials from our waste, but it will also demonstrate our innovation and leadership to prospective customers.

## New Bins

As part of this new system at the Ballymount Office, the black bins that are placed under each individual desk will be removed and replaced by a number of larger bins located at various recycling points around the office building. These points have been selected at locations that endeavor to facilitate all staff as best possible without too much inconvenience.

## Recycling Trays

The Recycling trays which have been distributed around the office are for waste paper only. This waste is to be placed in the Paper waste bin, this is the blue top bin with narrow opening on the top. The waste from the recycling trays should be placed in this bin, at the nearest recycling point at the end of every day (or whenever the user wishes to dispose of the waste). It should be noted that each member of staff is responsible for disposing of his/her own paper waste into the blue recycling bin.




## Recycling Points

There are 4 main recycling points located around the Ballymount Office:

1. Ground Floor (between Reception and the Commercial Office)
2. First floor in the main office

3. The kitchen
4. The hall between the new training room and ladies toilets

There will be various types of bins at these recycling points:

| Bin Type | | Waste Accepted |
|---|---|---|
| **Black Bin** |  | General Waste such as food and non recyclable material |
| **Dry Recyclable Bin** |  | Steel/Aluminium Cans, Plastic bottles/packaging, Light Cardboard, Tetra Pak, Magazines, Newspapers, Pamphlets (Similar to you green bin at home) |
| **Paper only** |  | Waste paper only (Post-its, envelopes, Newspapers and magazines may be placed in this bin also) |
| **Confidential Shredding Bin** |  | Confidential paper only |

**<u>Paper Waste Reduction</u>**

Finally, as part of our new recycling and waste reduction initiative, a number of signs and information charts have been erected around the office. These include instructions on double sided photocopying, ifax and tips for reducing paper waste in the office. Please take note of these signs and play your part in reducing the amount of paper we use at Oxigen.

A formal procedure will be drawn up and will be available in the Environmental Management System Procedures File.

Should you have any queries on the above, please do not hesitate to contact the Compliance Department.

Thank You for your co-operation.

Environmental Compliance Team.

Eastern Pest Control

**Rathfeigh House, Rathfeigh, Tara, Co. Meath**
**Tel: 041-9825105 or 01-8351444 Fax: 041-9825623**

Date: 25 March 2010

# Pest Control Summary Report for 2009

| | |
|---|---|
| **Area covered:** | Ballymount & Robinhood facilities |
| **Number of visits per year:** | Eight |
| **Level of activity:** | During the year level of activity was minimal. As a result of construction work now finished in Ballymount facility the level of activity has remained low. In the Robinhood facility no problems were noted and there were no sightings reported.<br>However there continues to be a problem with bait boxes being damaged by machinery in the Ballymount site. |
| **Observations:** | Due to a build-up of waste on site resulting from problems related to the recession the facility at Ballymount experienced higher than normal levels of fly activity. Extra spraying was carried out during the season and at no stage did the problem become excessive. |

Yours sincerely,

Director of EPC

# Advice, Mentoring & Assessment Programme

## Site Visit Report for

**Oxigen Environmental Ltd.,**

**Merrywell Ind. Est.,**

**Ballymount Road,**

**Dublin 12**

**Prepared by Pat Duke**

**Integrated Engineering Consultancy Ltd**

7th July 09

SEI Client ID: 1559

## Executive Summary

For Oxigen to reduce their energy cost they need to set up an Energy Management Programme which has full support from senior management. Training in energy management, the setting up of an energy team and monitoring weekly energy usage against waste material will be essential for the programme to be effective.

The site visit identified the potential to reduce the overall site energy costs by Euro 29,932 which represents an 11.4 % reduction in the total energy cost. This saving does not include the potential MIC saving of Euro 10,000 or the saving by supplying the 2 off 132 kW motors from the main electricity supply. The mains electrical load profiles indicate a high base load during non working times which needs to be investigated.

Oxigen has an annual energy spend of Euro 262,017. This can be broken down as shown in Table 1A below;

**Table 1A Annual Energy Consumption & Cost 2008/09**

| Fuel | Use kWh | % | Cost | % | Unit Cost c/kWh | Delivery Cost c/kWh | Tonne CO2 |
|---|---|---|---|---|---|---|---|
| Elect. | 1,035,174 | 57.0 | 159,639 | 60.93 | 15.42 | 15.42 | 659.4 |
| Nat Gas | 190,487 | 10.5 | 8,955 | 3.42 | 4.70 | 6.72 | 37.7 |
| Gas Oil | 591,360 | 32.5 | 93,422 | 35.65 | 4.74 | 15.80 | 156.1 |
| **Total** | **1,817,021** | **100** | **262,017** | **100** | | | **853** |

Electricity is mainly used for Waste recycling and lighting. A breakdown of the main electrical energy users is outlined below in table 1B;

**Table 1B Breakdown of Electrical Energy use & Cost**

| Plant Item | Use kWh | Cost Euro | % Total |
|---|---|---|---|
| Waste C&I Plant | 190,488 | 29,376 | 18 |
| Waste Dry Recycling Plant | 434,606 | 67,023 | 42 |
| Lighting | 370,601 | 57,152 | 36 |
| Other | 39,500 | 6,091 | 4 |
| **Total** | **1,035,195** | 159,643 | 100 |

### Table 1C Breakdown of Thermal Energy Use & Cost`

Thermal energy is mainly used for office space heating and driving the generator for the 132 kW motors. A breakdown of the thermal energy users is outlined below in table 1C

| Fuel | Use kWh | Cost | % Total |
|---|---|---|---|
| Office heating | 190,487 | 8,955 | 8.7 |
| Generator (2 off 132 kW motors) | 591,360 | 93,422 | 91.3 |
| Total | 781,847 | 102,377 | 100 |

Savings identified during the survey are outlined in table 1 D.

### Table 1D Savings Identified during Site Visit

| Ref | Opportunity | Indicative Benefits Euro (kWh) | Cost Range | Category | Target Date |
|---|---|---|---|---|---|
| 01 | John Doyle should attend and SEI Energy map training programme | Improved Energy management skills | No / Low | Organisational | 6 Months |
| 02 | Set up an energy monitoring system to measure weekly electricity usage versus weekly material recycled | Provide an Energy Performance Indicator of weekly energy usage | No / Low | Organisational | 3 Months |
| 03 | Review MIC capacity together with switching both 132 kW motors onto site electricity supply | 12, 000 (0 kWh) | Medium | Technical | 3 Months |
| 04 | Draw up an operation schedule for each motor on the Waste Dry Re-cycling Plant to identify motors which can be switched off during break/lunch times | 2,681 (17,384) | No / Low | People | 3 Months |
| 05 | Draw up an operation schedule for each motor on the Waste C&I Plant to identify motors which can be switched off during break/lunch times | 1,175 (7,620) | No / Low | People | 3 Months |
| 06 | Replace the 60 off 400 watt fitting with 250 watt fitting plus occupancy sensor in C& D shed | 8,193 (53,130) | Medium | Technical | 12 Months |
| 07 | Replace the 108 off 400 watt fitting with 250 watt fittings plus occupancy sensor in Paper shed | 14,748 (95,634) | Medium | Technical | 12 Months |
| 08 | Replace the17 off 400 watt fitting with 250 watt fittings plus occupancy sensor in Garage | 2,312 (15,054) | Medium | Technical | 3 Months |
| 09 | Insulate boiler | 1,791 (38,097) | Medium | Technical | 3 Months |
| 10 | Install weather compensating control to boiler | 2,343 (28,573) | Medium | Technical | 3 Months |

## TABLE OF CONTENTS

# 1 Introduction

## 1.1 Site Visit

| | |
|---|---|
| Organisation Name: | Oxigen Environmental Ltd |
| Site Name & Address: | Merrywell Ind. Est., Ballymount Road, Dublin 12: |
| SEI Client ID: | 1559 |
| Date of Visit: | 7th July 2009 |
| Duration of Visit (h): | 3.5 hr |
| SEI Energy Advisor: | Pat Duke, Integrated Engineering Consultancy Ltd., 086 818 25 36 patduke@iol.ie |
| Visit Hosted By: | John Doyle Project Manager |

Pat Duke, Integrated Engineering Consultancy Ltd., undertook a site visit of the Oxigen Environmental Ltd.site at Merrywell Ind. Estate, Ballymount Road, Dublin 12 under SEI's Advice, Mentoring & Assessments Programme for SMEs.

The site visit was hosted by John Doyle Project Manager. Initially the discussion focused on the current energy management system and a review of both electricity and natural gas usage. This was followed by a tour of the site.

This report has been prepared with all reasonable skill, care and diligence and summarises the findings from the half-day site visit. All values quoted in this Report are based on information provided by the Client. All values quoted for energy savings are estimates and may require additional detailed investigation to confirm their validity.

## 1.2 Description of Site

Oxigen Environmental is a waste management recycling company. They recycle approximately 80,000 tonne of Construction & Demolition material annually, usually from skips and approximately 40,000 tonne of dry commercial waste. The plant operates on a 2 shift five day cycle from 6 am to 10 pm. There is approximately 80 staff (20 Office and 60 Processing). The plant consists of two large sheds approximately 12,000 m2

## 1.3 Client's Objectives

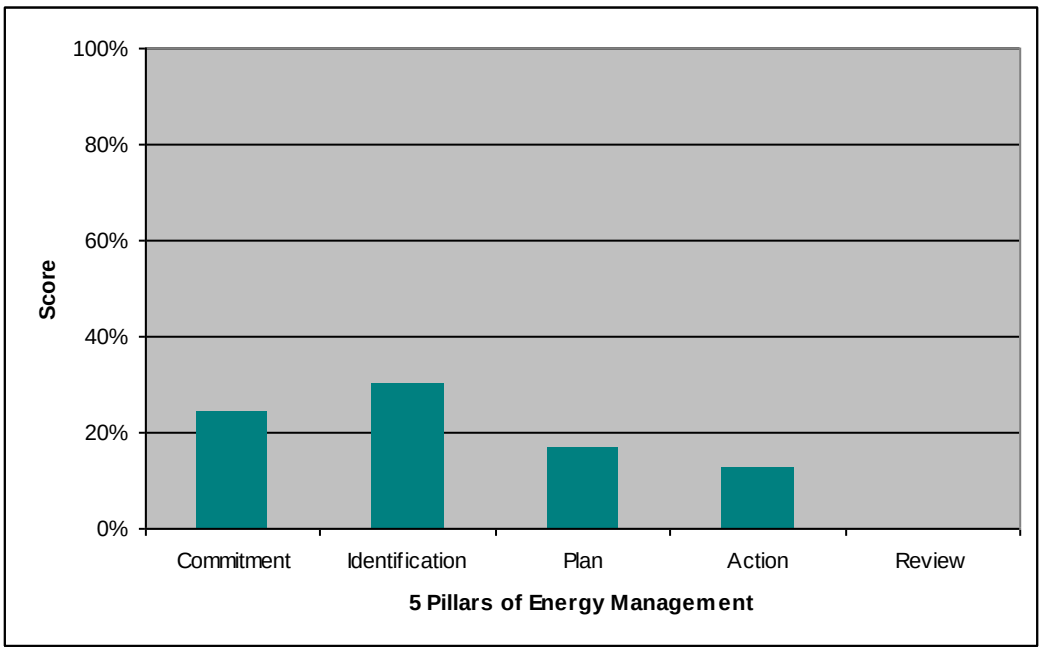
Oxigen aim is to set up an energy management system to control cost not only on this site but also on their six locations in Ireland.

## 2 Energy Management

Energy management is an all-encompassing process that should include every aspect of an organisation from finance, human resources and public relations to maintenance, purchasing and planning.

An Energy Management Diagnostic Questionnaire was completed for the site; the completed questionnaire is included in Appendix A. Oxigen scored 17% overall on this diagnostic. Figure 1 shows the breakdown of the score between the five pillars of energy management.

**Figure 1: Breakdown of Energy Management Diagnostic Score**




The results show that Oxigen needs to increase their activity in all five areas of the Energy Management Pillars if they are to achieve their aim of setting up an effective energy management programme.

The principal barriers to developing, implementing and maintaining a full and effective energy management system at the site are;

- Capital investment which is highly dependent on payback period
- The availability of management/employees resource to operate an energy management programme.
- The need for training of staff in energy management practices.

SEI providing training through their Energy map programme. See option No.1 in table 4 .

There is additional information available on energy management from SEI's Energy MAP website at www.sei.ie/energymap**.**

# 3 Energy Consumption

## 3.1 Annual Consumption

Oxigen Environmental Ltd's have an annual energy cost and consumption of Euro 262,017 and 1,817,021 kWh respectively. Electricity accounts for 61% of the total cost (This does not including the diesel cost to operate the two 132 kW motors). The average unit cost of electricity from the grid is 15.42 c/kWh compared to average unit costs from natural gas of 6.72 c/kWh (based on a boiler thermal efficiency of 70%) and diesel of 15.8 c/kWh (based on an estimated generator efficiency of 30% and an estimated fuel cost of 50 cent/litre for gas oil).

The annual energy consumption is based on the following invoices;

Electricity: June 2008 to May 20099

Natural Gas: 31st January 2009 to 7th May 2009 (extrapolated for full year)

Gas Oil: Base on operating 2 off 132 kW motors using a diesel generator.

The electricity invoices shows a MIC excess penalty charge of Euro 17,153. The site excess MIC has recently increased from 135 kVA to 250 kVA. To reduce this excess penalty the site MIC will need to be increased by at least 250 kVA. This will save approximately Euro 10,000 per annum.

The cost of operating the generator is based on a fuel cost of 50 cent/litre and a diesel generator efficiency of 30%. This equates to a average unit energy cost of 15.8 c/kWh for providing electricity to the two 132 kW motors from the generator, which is slightly higher than the average unit cost of the sites electricity cost of 15.4 c/kWh. If both motors were supplied from the sites electricity supply there would be a saving of Euro 2,225, but this would require cabling to be installed and an increase in the MIC. If the cost of diesel was to increase to 55 cent/litre and the actual diesel generator efficiency was found to be only 25% then the saving would increase dramatically to Euro 32,120. This needs further investigation and should be considered together with any proposed increase of the sites MIC. See option No 3 in table 4.

Details of Oxigen Environmental Ltd's annual energy consumption is set out in Table 1 and summarised in Figures 2, 3 and 4.

**Figure 2: 2008/09 Breakdown of Energy Consumption (kWh)**

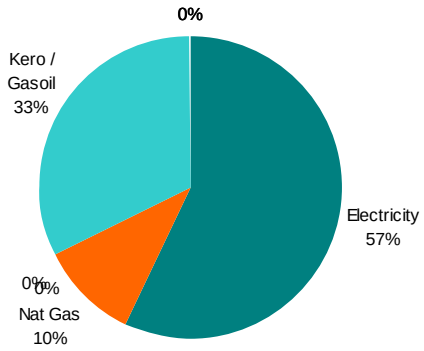



**Figure 3: 2008/09 Breakdown of Energy Spend (net VAT)**

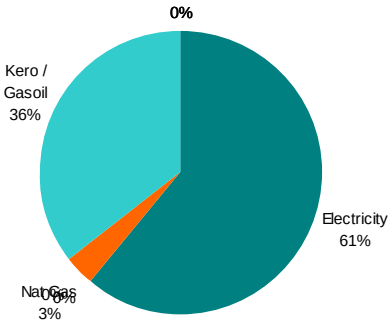



**Figure 4: 2008/09 Breakdown of Energy Related $CO_2$ Emissions**

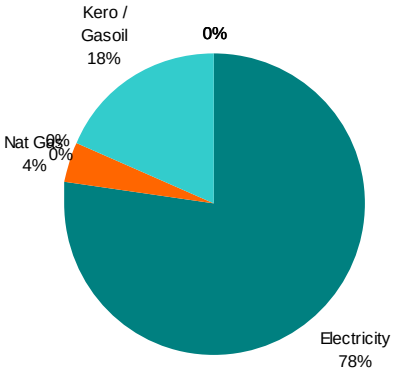


**Table 1: Annual Energy Consumption & Energy Costs**

| Fuel | Use kWh | % | Cost | % | Unit Cost c/kWh | Delivery Cost c/kWh | Tonne CO2 |
|---|---|---|---|---|---|---|---|
| Elect. | 1,035,174 | 57.0 | 159,639 | 60.93 | 15.42 | 15.42 | 659.4 |
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| Gas Oil | 591,360 | 32.5 | 93,422 | 35.65 | 4.74 | 15.80 | 156.1 |
| **Total** | **1,817,021** | **100** | **262,017** | **100** | | | **853** |

## 3.2 Main Energy Consumers

The main energy consumers at the site are summarised in Tables 2 & 3 below. Motive power for the waste sorting/recycling and lighting is the main electrical energy consumers.

**Table 2: Summary of Primary Electrical Energy Consumers**

| Electrical Energy Consumer | % of Total | Comments |
|---|---|---|
| Waste Dry Recycling Plant | 42 | Based on motor schedule |
| Lighting | 36 | Based on survey |
| Waste C&I Plant | 18 | Based on motor schedule |
| Other | 4 | Estimated |
| **Total** | **100** | |

Thermal energy is mainly used for space heating in the offices and driving the generator for the 132 kW motors. A breakdown of the thermal energy users is outlined below in table 3.

**Table 3: Summary of Primary Thermal Energy Consumers**

| Thermal Energy Consumer | % of Total | Comments |
|---|---|---|
| Office Space Heating | 9 | Base on estimated natural gas usage |
| Generator for 2 no. 132 kW motors | 91 | Base on estimated diesel coast and generator efficiency |
| **Total** | **100** | |

### 3.3 Energy Performance Indicators (EPIs)

No energy performance indicators are in use at present. Details are available on the tonnage of material recycled each week and this information could easily be combined with data on electricity usage to give an effective indicator i.e. kWh/tonne of recycle material. To do this the electricity meter should be read every Monday morning at the same time before the start of processing. A weekly index of kWh/Tonne will be established and if trended over time to help identify changes in demand and also any reductions in energy use due to energy conservation actions taken. See option 2 in table 4.

Thermal energy (natural gas) is used only for office heating. This could be trended against degree days but as discussed during the site visit this is more complex and has no relationship with the electricity usage.

## 4 Opportunities for Energy Savings

### 4.1 Recent/Existing Energy Saving Initiatives

The design of both the Waste Dry Recycle Plant and Waste C&I Plant incorporates numerous inverters (variable speed drives) on motive power applications. The potential to improve the efficiency of these sorting processes was discussed with John Clune (Operations Manager) who was involved in the installation and commissioning of the plant. Other than ensuring the plant is operated at its full capacity and that the equipment is not left operating unnecessarily the potential to reduce cost on the Waste Dry Recycle Plant and C&I Plant is limited.

Oxigen are currently reviewing their fuel fleet usage with the view of undertaking some training in driver awareness, as well as investigating the possibility of changing to bio-fuels.

### 4.2 Suggested Opportunities for Energy Savings

We identified a number of opportunities for further energy savings at the site; these are summarised in Table 4 overleaf. Any values quoted for energy savings are estimates and would require further investigation to verify their accuracy. The main areas for energy cost savings are as follows:

1. There is potential to reduce costs in both the Waste Dry Recycle Plant and C&I Plants by ensuring that equipment is switched off when not required. Oxigen have a detail schedule of all motors and its recommended that this list be used to identify those motors that can be switched off at break and lunch times. See opportunity No. 4 & 5 in Table 4.

2. Lighting accounts for approximately 36% of the total electricity cost. There is potential to reduce lighting costs by replacing the 400 watt mercury fluorescent fittings with

more efficient lamps. These light fittings are very inefficient and could easily be replaced with energy efficient fittings which will reduce energy consumption by up to 50% without affecting light output. A new lighting scheme could also incorporate occupancy sensors which would switch lights off when not needed. This is an ideal option for the sheds and garage. See table 4 for opportunities No. 6, 7 & 8.

3. The boiler is over 30 year old and it is recommended that a combustion efficiency test be undertaken to check its efficiency. Given its age the physical condition of the boiler should be checked as it has exceeded its normal life expectancy. It was noted that the boiler is not insulated and this will result in a dramatic reduction in its overall thermal efficiency. There is a strong probability that the results of these tests will indicate a need to replace the boiler. Modern boilers are designed to give greater efficiency, and this option should be seriously considered. Consideration should also be given to installing weather compensator controls which will minimise boiler use by taking the external ambient temperature into account. The savings associated with both theses actions is outlined under opportunities 9 & 10 in table 4.

## Table 4: Opportunities for Energy Savings

| Ref | Opportunity | Indicative Benefits Euro (kWh) | Cost Range | Category | Target Date |
|---|---|---|---|---|---|
| 01 | John Doyle should attend and SEI Energy map training programme | Improved Energy management skills | No / Low | Organisational | 6 Months |
| 02 | Set up am energy monitoring system to measure weekly electricity usage versus weekly material recycled | Provide EPI of weekly energy usage | No / Low | Organisational | 3 Months |
| 03 | Review MIC capacity together with switching both 132 kW motors onto site electricity supply | 12, 000 (0 kWh) | Medium | Technical | 3 Months |
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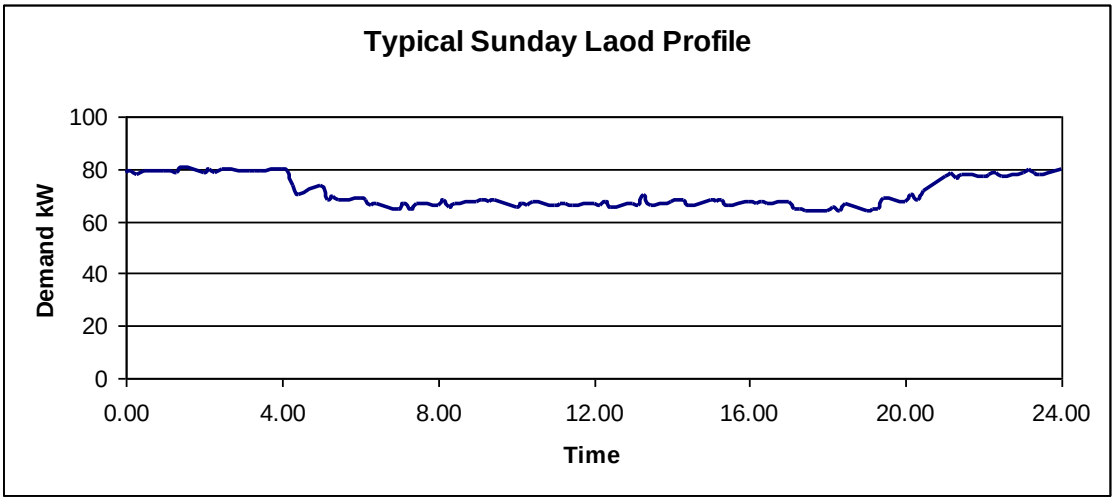
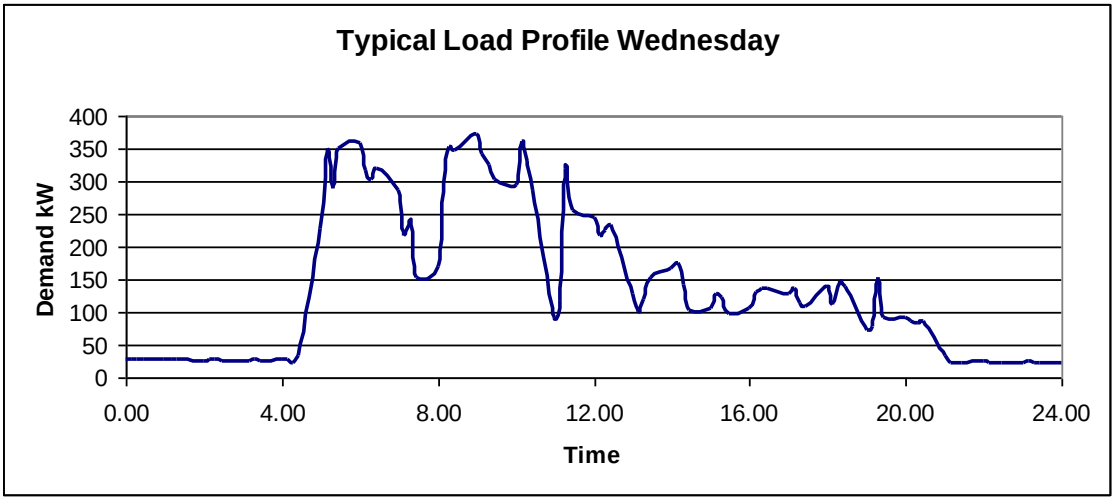
# 5 Additional Information

Oxygen has access to the Airtricity web site and can view their electricity invoices and energy consumption usage and profile. Outlined below are two example of the type of information available. These show a typical load profile for a Sunday (non-working day) and Wednesday.

The Sunday profile shows a base load of approximately 60 kW. This is high for a plant not in use. The security lighting can be seen to operate between 04.00 to 20.00 hours with a load of approximately 15 kW. The high base load needs to be investigated and indicates a potential saving of Euro 20,000 if it can be reduced.



# 6 Next Steps

- John Doyle should review this report and in particular the opportunities for energy savings identified in Table 4.
- Pat Duke will contact John Doyle in about one week to briefly discuss this report and to provide any relevant clarifications.
- SEI has appointed Pat Duke to provide follow-up energy management mentoring to Oxigen over the **next three months**. Pat Duke will contact John Doyle regularly over this period to assist, mentor and encourage Oxigen to implement the opportunities for energy savings identified in Table 4 and in improving energy management.
- Oxigen should use this three month period to kick-start progress on the energy savings opportunities and to improve on the priority areas identified in the Energy Management Diagnostic Questionnaire.
- John Doyle should contact Pat Duke by email or by telephone over this period with any queries relevant to energy management.
- Ms. Mairead Cirillo of SEI will contact John Doyle over the next few weeks with a request to fill out a short evaluation of SEI's Advice, Mentoring & Assessments Programme for SMEs; we would be grateful for co-operation in completing this.
- Additional information on the Acceleration Capital Allowance (ACA) programme (ref Opportunity No.6,7 & 8 in Table 4).is available from www.sei.ie/aca
- Ms. Mairead Cirillo of SEI will be in contact shortly to discuss training opportunities provided by SEI that would be of benefit to John Doyle (ref Opportunity 1 in Table 4)

# Appendix A – Site Tour Checklist

| Item | Score<br>Poor 1 2 3 4 5 Excellent N/A | Observations / Comments |
|---|---|---|
| Physical Condition of Buildings / Plant | ☐ ☐ ☐ x ☐ ☐ | |
| Insulation | x ☐ ☐ ☐ ☐ ☐ | No insulation on boiler |
| Steam / Condensate / Hot Water Leaks | ☐ ☐ ☐ ☐ ☐ x | |
| Boiler House | x ☐ ☐ ☐ ☐ ☐ | No insulation on boiler |
| Compressed Air | ☐ ☐ ☐ x ☐ ☐ | |
| Cooling Systems | ☐ ☐ ☐ ☐ ☐ ☐ | |
| Production Plant | ☐ ☐ ☐ ☐ ☐ x | |
| Lighting | ☐ x ☐ ☐ ☐ ☐ | Good potential to reduce lighting costs. |
| Evidence of Energy Awareness (posters etc.) | x ☐ ☐ ☐ ☐ ☐ | |

# Appendix B- Energy Management Diagnostic Questionnaire

## Appendix B - Energy Management Diagnostic Questionnaire

| | | | |
|---|---|---|---|
| **Site Name:** | Oxigen Environmental Ltd | **SEI Client ID:** | 1559 |
| **Participants:** | John Doyle | **Score:** | 17% |
| **SEI Energy Advisor:** | Pat Duke, Integrated Engineering | **Date:** | 7th. July-09 |

| | Question | Assessment | | | | Additional Comments |
|---|---|---|---|---|---|---|
| Commitment | 1 Is there Senior Management commitment (to Energy Management)? | ○ No interest | ○ Interest but no commitment | ◉ Some commitment, but could do better | ○ Full commitment | If costs savings can be shown |
| | 2 Is there a Senior Manager appointed to sponsor Energy Management? | ○ No | ◉ Informal appointment | ○ Formal appointment but low priority | ○ Formal appointment | Reports to senior management |
| | 3 Is there a Co-ordinator appointed to manage Energy Management? | ◉ No | ○ Informal appointment | ○ Formal appointment but low priority | ○ Formal appointment | |
| | 4 Is there an Energy Management Team? | ◉ No | ○ Informal team | ○ Formal team - does not meet regularly/ function well | ○ Formal team - meets regularly & functions well | |
| | 5 Is there an Energy Policy? | ○ No Policy | ○ Informal Policy | ◉ Incomplete Policy | ○ Complete, formal, well-communicated policy | Environmental policy with requirement |
| Identification | 6 Have you undertaken an overview of past & present energy consumption? | ○ Not at all | ○ Informally (no quantification) | ○ Informally (some quantification) | ◉ Yes, formally (quantified assessment) | |
| | 7 Have you surveyed current energy use & identified significant energy users? | ○ Not at all | ◉ Informally (no quantification) | ○ Informally (some quantification) | ○ Yes, formally (quantified assessment) | |
| | 8 Have you identified the key factors that influence energy consumption & Energy Performance Indicators? | ◉ Not at all | ○ Informally (no quantification) | ○ Informally (some quantification) | ○ Yes, formally (quantified assessment) | |
| | 9 Do you continuously identify energy-saving opportunities? | ◉ Rarely / never | ○ Informally & infrequently | ○ Informally but regularly | ○ Formally & regularly | |
| Plan | 10 Do you set (Energy) Objectives & Targets? | ◉ No | ○ Informally, but performance is not tracked | ○ Informally & performance is tracked | ○ Formally & performance is tracked | |
| | 11 Do you have an Energy Savings Programme Plan? | ◉ No | ○ Informal, unwritten Programme Plan | ○ Informal, written Programme Plan | ○ Formal Programme Plan | |
| | 12 Are adequate resources formally allocated to Energy Management / energy saving activities? | ○ None allocated | ○ Insufficient (informal allocation) | ◉ Insufficient (formal allocation) | ○ Full & sufficient resources allocated | |
| Action | 13 Do you *implement* your Energy Savings Programme Plan (see Q.11)? | ◉ N/a (no Programme Plan) | ○ No implementation | ○ Partial implementation | ○ Full implementation | |
| | 14 Are energy-efficient practices and energy awareness promoted amongst employees? | ◉ Not at all | ○ Informally & infrequently | ○ Informally but regularly | ○ Formal, ongoing programme | |
| | 15 Are key personnel trained in energy efficient practices? | ◉ Not at all | ○ Informally | ○ Yes, but not all relevant personnel | ○ Yes (all relevant personnel) | |
| | 16 Are significant energy users designed, operated & maintained to optimise energy efficiency? | ○ Not at all | ○ Efficiency considered, but not high priority | ◉ Informally but ad hoc | ○ Yes (formal procedures in place) | |
| Review | 17 Do you measure & monitor energy performance & check against targets? | ◉ No (never) | ○ Ad hoc measurement & monitoring only | ○ Yes, but don't check against targets | ○ Yes (continuously) | |
| | 18 Do you identify & implement corrective actions? | ◉ No (never) | ○ Ad hoc only | ○ Yes, but not as a continuous, ongoing process | ○ Yes (continuous improvement) | |
| | 19 Do you periodically review your Energy Management System & identify improvements? | ◉ No (never) | ○ "If it ain't broke I don't fix it!" | ○ Informally only | ○ Yes (always looking to improve) | |
| | 20 Is there periodic management review of Energy Management? | ◉ No (never) | ○ Superficial review only | ○ Incomplete review | ○ Formal review | |

| Barriers | What do you consider to be the 3 most important barriers to developing, implementing and maintaining a full and effective Energy Management System within your organisation? [e.g. resources, training budgets, capital budgets, management time, lack of competent personnel etc.] |
|---|---|
| i | Capital investment will depend on payback. |
| ii | Management /employee resources to operate an energy management programme. |
| iii | Training in energy management. |

Environmental Protection Agency

# urns Worksheet

Version 1.1.10

| | |
|---|---|
| | Limited |
| | Ltd |
| | |
| | |

| No. | class_name |
|---|---|
| 4.4 | Recycling or reclamation of other inorganic materials. |
| 3.11 | Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule. |
| 3.12 | Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule. |
| 3.13 | Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced. |
| 3.7 | ########################################################## |
| 4.11 | Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule. |
| 4.12 | Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule. |
| 4.13 | Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced. |
| 4.2 | Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes). |
| 4.3 | Recycling or reclamation of metals and metal compounds. |
| Address 1 | Ballymount Road Lower |
| Address 2 | Clondalkin |
| Address 3 | Dublin 22 |
| Address 4 | |
| | |
| | |
| Country | Ireland |
| Coordinates of Location | -6.35743 53.3149 |
| River Basin District | IEEA |
| NACE Code | 3832 |
| Main Economic Activity | Recovery of sorted materials |
| **AER Returns Contact Name** | Gillian Free |
| **AER Returns Contact Email Address** | gfree@oxigen.ie |
| **AER Returns Contact Position** | Regional Environmental Manager |
| **AER Returns Contact Telephone Number** | 01 4659868 |
| **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** | 0 |
| **User Feedback/Comments** | |
| **Web Address** | |

**2. PRTR CLASS ACTIVITIES**

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

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

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

Bermingham Hooper Dolan INSURANCES

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Limerick

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F: +353 (0) 61 312726
info@bhdi.ie
www.hooperdolan.ie

24th March 2010

**TO WHOM IT MAY CONCERN**

RE: EMPLOYERS/PUBLIC & PRODUCTS LIABILITY & MOTOR FLEET INSURANCES
**Oxigen Environmental Limited & Oxigen Commercial Ltd T/A Bambi Bins.**

We act as Insurance Brokers for the above named.

We confirm that Employers and Public/Products Liability Insurances are effected with Brit Insurance Company and Motor Fleet with Quinn Insurance and the details are as follows:

**Business Description:**
Refuse Collectors, Recycling Contractors, Wheel Bin Operators, Skip Hirers, Road Sweepers, Vehicle Maintenance and Repair, Gully Cleaners, Landfill Operators, Operators of Civic Amenity Sites, Document Destruction Shredding and Property Owners. Toxic / Hazardous Waste Warehousing and Chemical Transfer Station including cover from point of collection until final destruction and including preparation of waste for collection.

| | |
|---|---|
| **Liability Policy No:** | **A2602620/35136** |
| (a) Employers Liability Limit of Indemnity: any on period | €13 million any one occurrence/unlimited |
| Period of Cover: | 20th March 2010 – 31st March 2011 |
| (b) Public/Products Liability Limits of Indemnity: | |
| Public Liability: | €13M any one occurrence/unlimited during the period |
| Products Liability: | €13M during the period. |
| Pollution Liability: | €13M during the period. |
| Period of Cover: | 20th March 2010 – 31st March 2011 |
| Indemnity to Principles: | General Indemnity to Principles Clause applies. |
| Conditions: | Policy automatically extends to note a Specific Indemnity to any Local Authority who engages the Insured but only in respect Of the Insured's legal liabilities. |

Bermingham Hooper Dolan INSURANCES

Unit 4, First Floor
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Limerick

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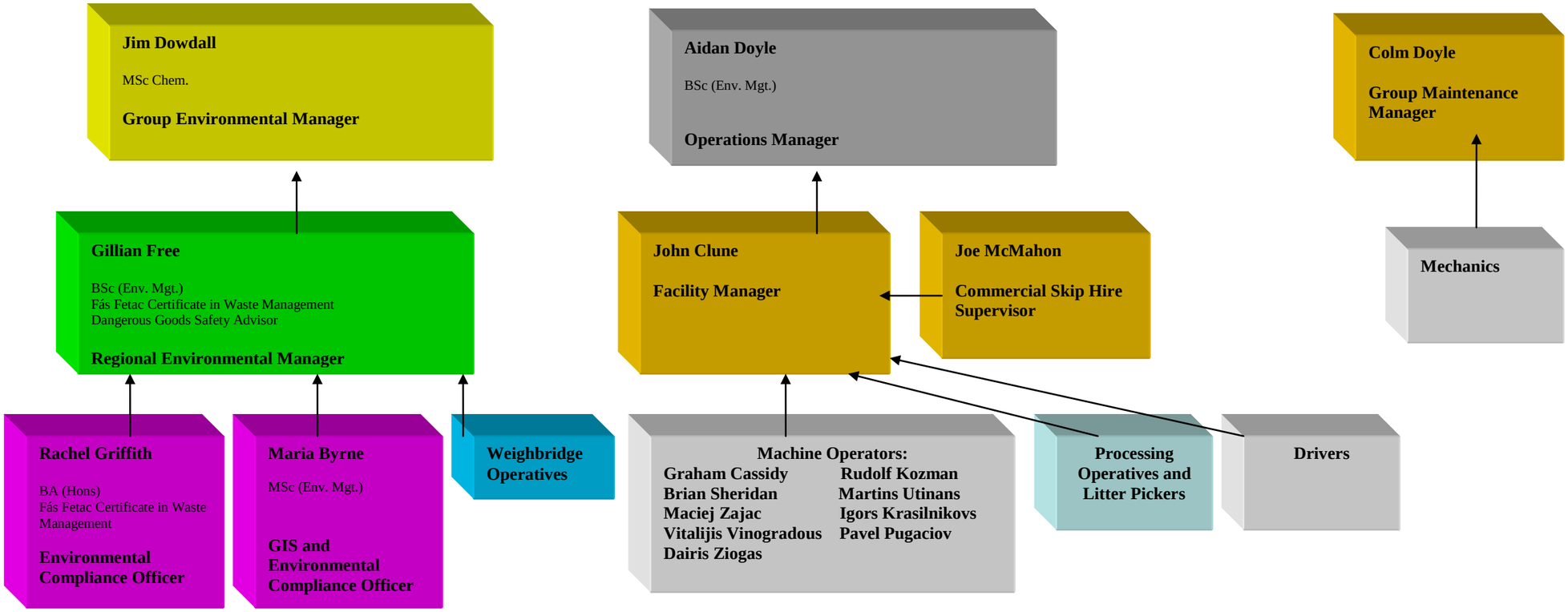
info@bhdi.ie
www.hooperdolan.ie

| | |
|---|---|
| **Motor Fleet Policy No:** | **GEI/QMV/004450133** |
| Cover: | Comprehensive & Third Party |
| Vehicles: | Any vehicle owned and registered in the name of the Policyholder or hired, leased or lent to the Policyholder. |
| Drivers: | 25 to 70 Years |
| Limit of Liability: | €6.5m Third Party Property Damage |
| Period of Cover: | 20th March 2010 – 31st March 2011 |

I trust you find the above in order and should you require any further information please do not hesitate to contact the undersigned.

Yours Sincerely,

**Shane Bermingham BA**
**Managing Director**
**Bermingham Hooper Dolan Insurances**




## Key: Environmental Responsibilities

**Overall Responsibility for Environmental Compliance within the Company.**

**Responsibility to Ensure that all Operations at the facility are carried out inline with Procedures and the Environmental Policy.**

**Responsible for Compliance with Permits and EPA Licence W208-01 as well as Legislative Requirements and any other Compliance issues arising on a daily basis.**

**Responsible for day to day management of Collection Permits and to carry out daily site inspections of the facility to ensure Environmental Compliance.**

**Responsibility to ensure that any oil/grease/diesel spills from their vehicle are cleaned up and any problems with vehicles are highlighted to manager immediately.**

**To ensure that only conforming waste enters the facility and to ensure that this is recorded accurately and appropriately.**

**To ensure that waste is segregated and stored appropriately and to implement procedures to keep the facility complaint at all times.**

**To Ensure that waste is handled appropriately and to ensure that all wind blown litter is picked immediately.**

| Issued on: | Approved by: Group Environmental Manager |
|---|---|
| 28/02/2010 | Revision 01 |