

Castle Waste Services Ltd

Annual Report 2024

Permit No: LP3439HM



Castle Waste Services Ltd
Cardiff Treatment Centre
Old Clipper road
Cardiff Docks
Cardiff
CF10 4LX

Your Ref: LP3439HM

Date: 31/01/2025

Mr Dale Padfield,

Annual Report for 2023 for Castle Waste Services Ltd, Cardiff Treatment Centre, Old Clipper road, Cardiff Docks, Cardiff, CF10 4LX

Please find enclosed our report and associated results for 2024 in accordance with condition 4.2 of Environmental Permit LP3439HM.

Should you have any queries or wish to discuss the matter further, please do not hesitate to contact the undersigned.

Yours faithfully,
for Castle Waste Services Ltd


Operations Director

Enc.

Castle Waste Services Ltd
Cardiff
LP3439HM



Castle Environmental 2024 Site Report – Cardiff – PC 4.2.2a

This report is produced to provide an overview of the site performance over the previous 12 months. The statutory reporting forms detailing annual performance are appended to this document for ease of reference. Performance is compared against previous years within this report.

The waste side of the business continues to serve a number of local and national customers. The construction side of the site has been operated by a third party company since the start of January 2024.

An average of 9 members of staff have been employed within the waste business over the year.

Input waste volumes were below those from 2023 with the site accepting 15,72 tonnes in 2024 compared to 15,720 tonnes in 2023.

A variation to the site permit was issued in 2021. The variation was undertaken in order to align the site permit with the requirements of the Waste Treatment Bref. The permit included a number of Improvement Conditions when issued. Castle have worked through these with NRW and all are now closed out.

Performance

Reported primary electricity consumption was below 2023 at, 972.8 MWh vs 1015 MWh, equivalent to a 4% reduction.

When weighted against waste accepted at the site power consumption is broadly unchanged from 2023 at 65.7KWh/T vs. 64.5KWh

Over 2024 a number of projects have been undertaken and there has been long periods of time when contractors have been performing works at the site. This may have contributed to the electricity consumed at the site.

During 2024 the company took the decision to stop using mineral based gas oil for mobile plant and shift 100% to hydrotreated vegetable oil (HVO). Whilst HVO is a more expensive fuel, it is considered a low carbon alternative fuel.

Due to the changes in the business (third party operation of the construction business), the overall fuel consumption has reduced from 11,182 to 5000 litres. The switch to HVO then further reduced the volume of diesel



purchased to 2000 litres in the year. The switch to HVO within the year represents an avoided emission of 8.16 tonnes of CO_{2e}.

With regard to the primary energy from fuel, when rationalised for waste accepted there was a 57% reduction in consumption.

The total quantity of waste removed from the site in 2024 was 4536.5 Tonnes which is lower than 2023.

Water consumption data for 2024 was collected from meter reads and found to be 16,447m³, this is an increase from 2023 which was 13,705m³.

Improvements

The site management systems have been subject to annual internal and external audits with no issues identified.

The site has continued to operate without the importation of raw material lime.

Throughout 2024 the rolling improvement to infrastructure has continued with significant investment in improvements to civils within the Yard 3 area and investment in waste storage infrastructure. Tank maintenance activities have continued with cleaning and painting activities undertaken.

2024 has also seen the roll out of lean manufacturing techniques and methodologies. This has brought significant benefits with regard to housekeeping and regular auditing at the site.

Continuous Improvements

Within 2025 the site will see investment in rainwater harvesting along with refreshed office accommodation.



Appendix Reporting forms:

WaterUsage1 / 31/01/2025 (Annual data 2024)

Energy1 / 31/01/2025 (Annual data 2024)

Performance1 / 31/01/20254 (Annual data 2024)

Permit Number: EPR/LP3439HM

Operator: Castle Waste Services Limited

Facility: Roath Dock Transfer Station

Form Number: WaterUsage1 / 31/01/2025

Reporting of Water Usage for the year 2024

Water Source	Usage (m ³ /year)	Specific Usage (m ³ /unit output)
Mains water	16447	1.1m ³ /Tonne waste accepted
Site borehole	0	
River abstraction	0	
TOTAL WATER USAGE	16447	1.1m³/Tonne waste accepted

Operator's comments :

Water consumption is measured from metering that has been installed in the process.

Signed [REDACTED] Date...31/01/2025.....
(authorised to sign as representative of Operator)

Permit Number: EPR/LP3439HM

Operator: Castle Waste Services Limited

Facility: Roath Dock Transfer Station

Form Number: Energy1 31/01/2025

Reporting of Energy Usage for the year 2024

Energy Source	Energy Usage Quantity	Primary Energy (MWh)	Specific Usage (MWh/unit output)
Electricity	405346 kWh	972.8 MWh	65.7 kWh/ Tonne waste accepted
Natural Gas	0	0	0
Gas Oil	2000 Litres	23.26 MWh	1.57 kWh/ Tonne waste accepted
HVO	3000 Litres	19.862 MWh	1.34 kWh/ Tonne waste accepted
Recovered Fuel Oil	0		
TOTAL		1016.02 MWh	68.65 kWh/ Tonne waste accepted

* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments :

As of 2010 the density of Fuel/Gas oil is stated to be 0.832kg/l.
IEA/OECD states that 1 Tonne Oil Equivalent (TOE) is equal to 11.63 MWh
Conversion factor 1 Litre HVO = 9.931 kWh
HVO – Carbon emission - 0.03558 kgCO₂e/Litre
Gas Oil – Carbon emission - 2.75541 kgCO₂e/Litre
Data source for above three - <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2024>

Signed [REDACTED] ...

Date...30/01/2025...

Permit Number: EPR/LP3439HM

Operator: Castle Waste Services Limited

Facility: Roath Dock Transfer Station

Form Number: Performance1 31/01/2025

Reporting of other performance indicators for the period 01/01/2024 to 31/12/2024

Parameter	Units
Water Usage	16447cubic metres
Energy Usage	1016.02 MWh (primary energy)
Total Raw Materials Used	0 Tonnes
Waste disposal and/or recovery	4536.5 Tonnes

Operator's comments:

Signed [REDACTED] Date...30/01/2025.....
(Authorised to sign as representative of Operator)