Environmental Performance Report
Bridgend Paper Mill
2024

Reporting Condition 4.2.2

Name: [redacted]

Position: Energy & Environment Manager

Date: 30/01/2025

Wepa UK Ltd
Bridgend Paper Mill
Llangynwyd
Bridgend
CF34 9RS

Permit Number: EP3738NG

Contents

1.0 Introduction

The production of this report is a requirement of the Mill's EPR Permit section 4.2.2.

The aim of this document is to provide a summary report of Bridgend Paper Mill's performance for the calendar year 2024.

The report identifies performance parameters, emissions to air and water, waste disposal, water consumption and energy use information.

2.0 Summary

In 2024, the total papermaking output was 102,715 tonnes, with Jupiter producing 40,014 tonnes and Neptune 62,701 tonnes.

Converting outputs have been consistent with 92,408 tonnes produced in the year and with the Neptune machine being fully integrated has resulted in the site being self-sufficient with no reliance on outside sources of parent reels.

General environmental performance from the site has been maintained throughout 2024 with no breaches of consent limits with data showing a performance well below those limits.

The site was audited against its ISO 14001 environmental management system during the year and received an external verification audit for the Greenhouse Gas (GHG) permit. No significant non-conformances were raised against these requirements.

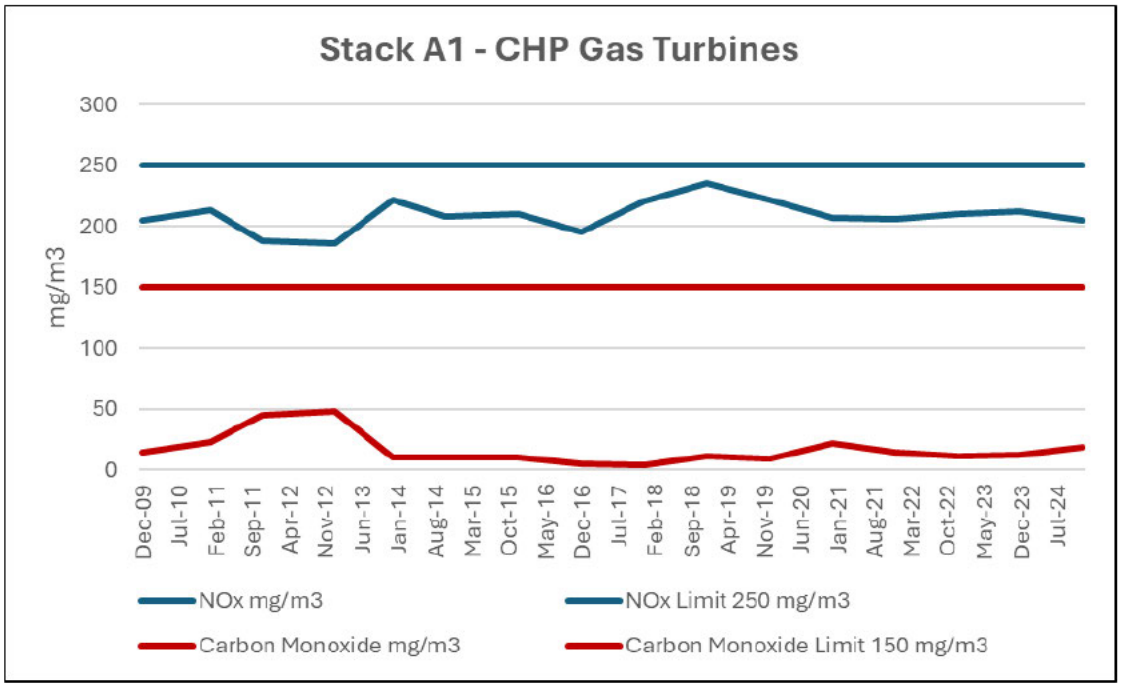
3.0 Performance Parameters

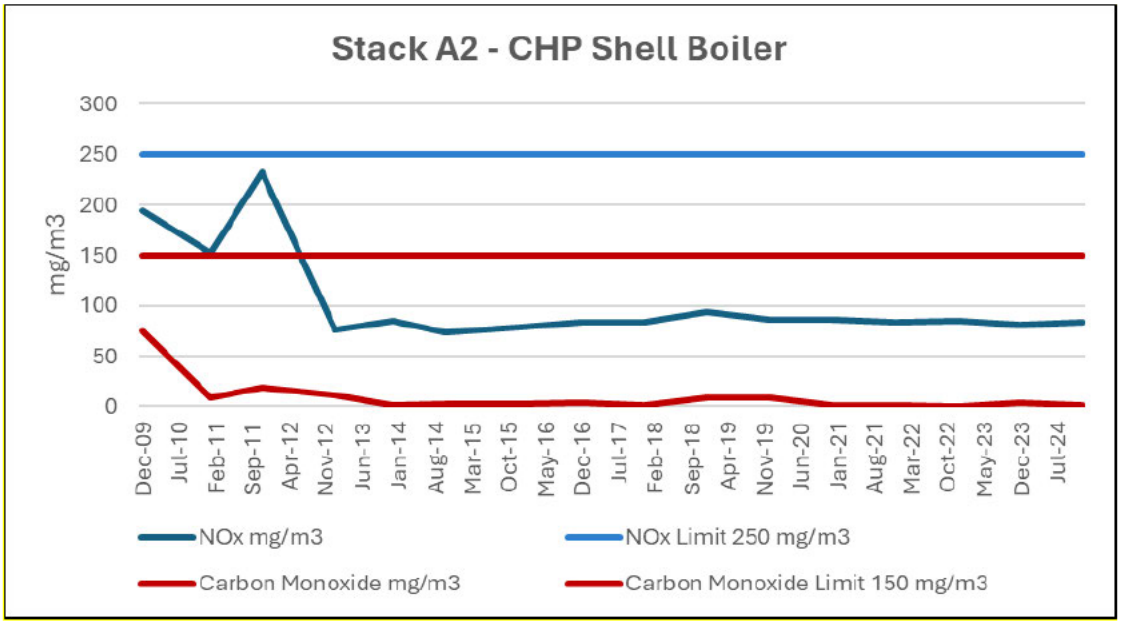
The quarterly returns for the performance parameters remained stable for all parameters throughout 2024.

Parameter	Unit	Q1 2024	Q2 2024	Q3 2024	Q4 2024
NOx/ADT	Tonnes/ADT	0.002	0.002	0.002	0.001
CO_2/ADT	Tonnes/ADT	0.627	0.606	0.598	0.648
BOD/ADT	kg/ADT	0.012	0.011	0.011	0.012
Suspended Solids/ADT	kg/ADT	0.124	0.090	0.118	0.181
Nitrogen nutrient (N) / ADT	kg/ADT	0.030	0.033	0.050	0.058
Phosphorus nutrient (P) / ADT	kg/ADT	0.001	0.001	0.001	0.002
COD / ADT	kg/ADT	0.300	0.283	0.309	0.303
AOX / ADT	kg/ADT	0.001	0.001	0.002	0.006

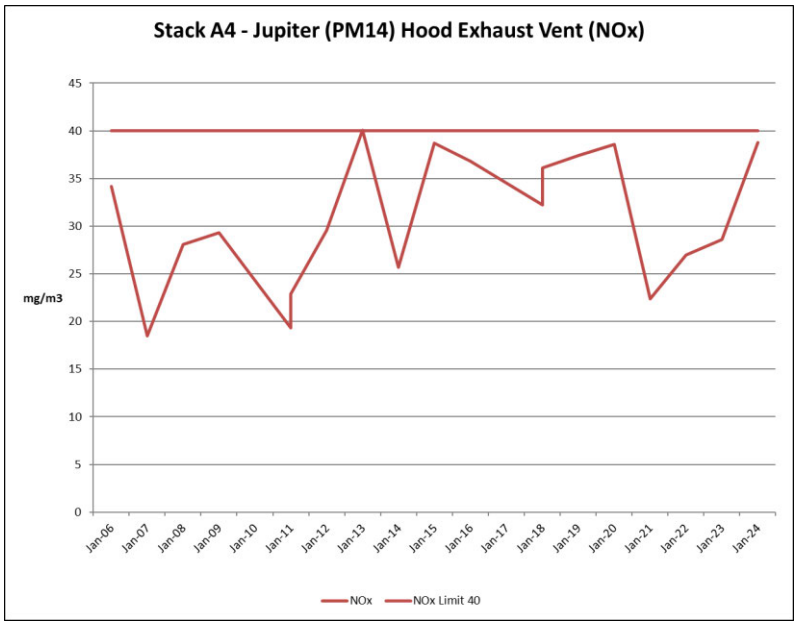
4.0 Emissions to Air

Annual emissions test results for Stack A1 (HRSG 1 & HRSG 2), which is contained within the CHP plant on site, were below permit limits as per previous years testing. All parameters for the CHP shell boiler (Stack A2) remain stable.

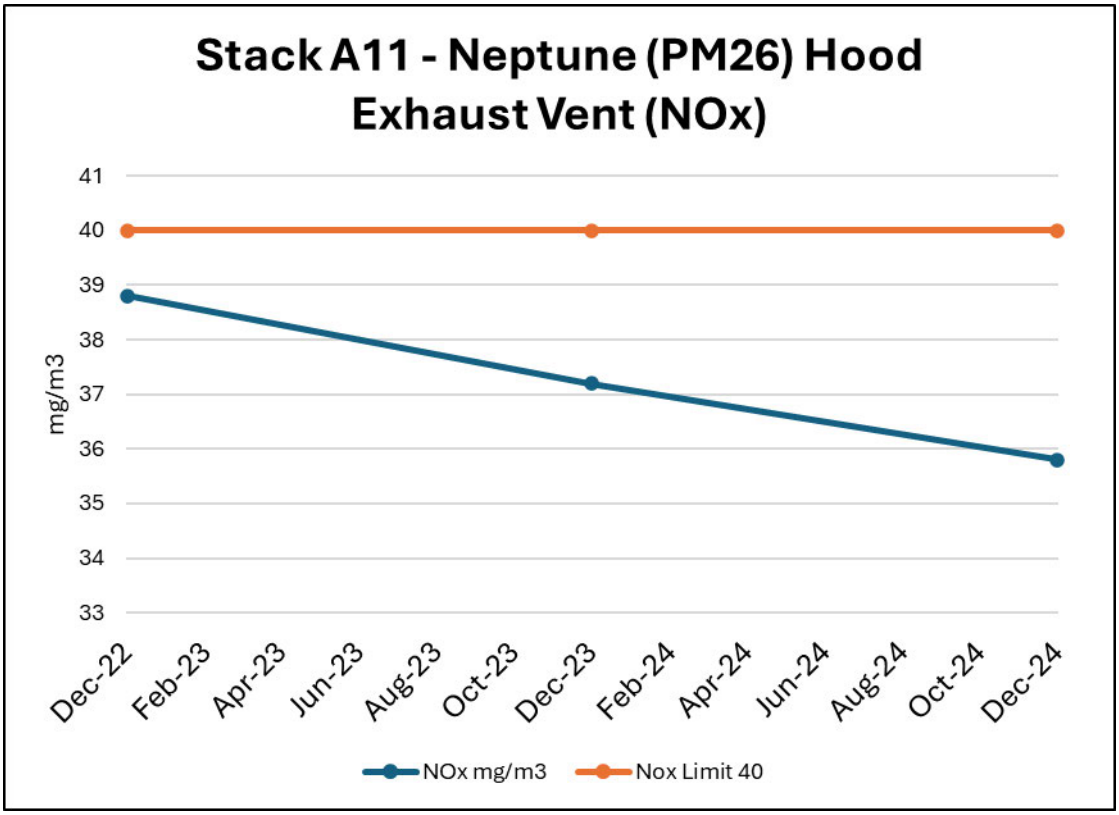




The NO_x emissions test result for Stack A4 (Jupiter Hood Exhaust Vent) was below the consent limit at 38.8 mg/m3.

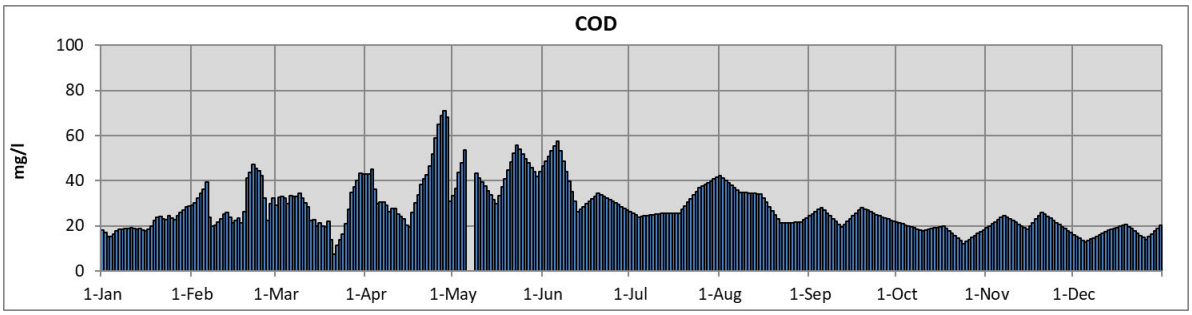


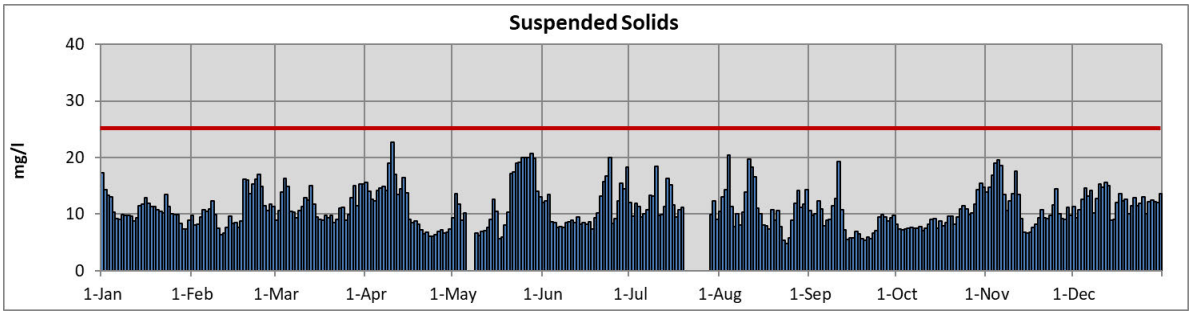
The NO_x emissions test result for Stack A11 (Neptune Hood Exhaust Vent) was below the consent limit at 35.8 mg/m3.

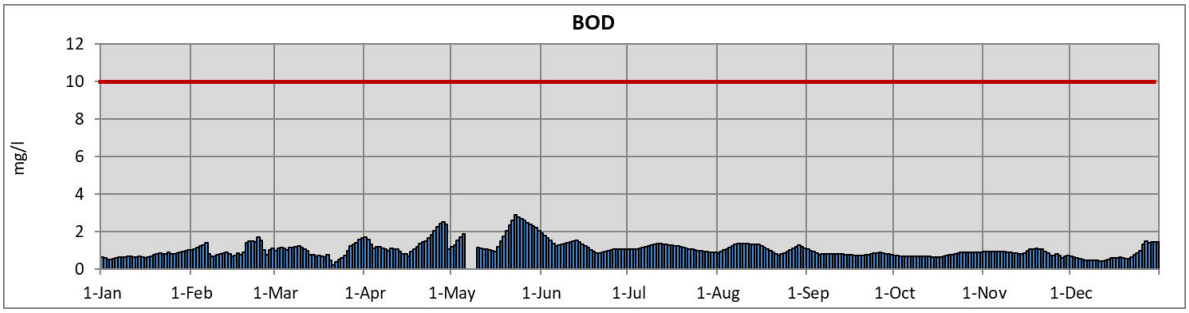


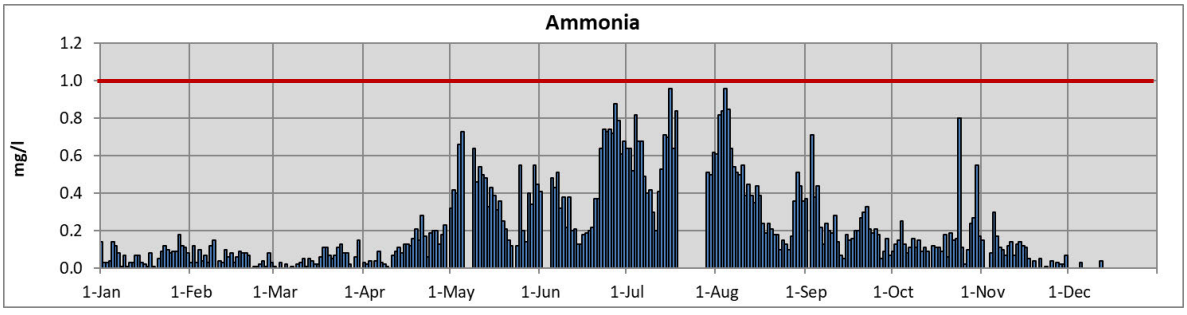
5.0 Emissions to Water

Emissions to water results for 2024 were all compliant with parameters being well below permit limits. This is evident in the graphs below:

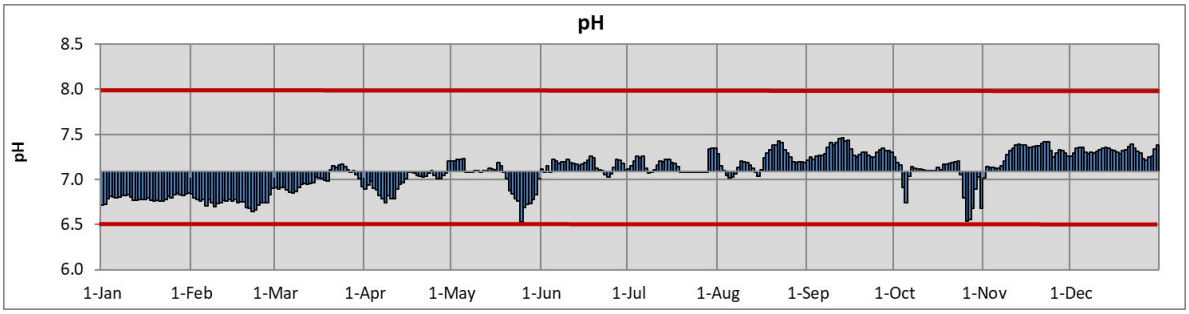




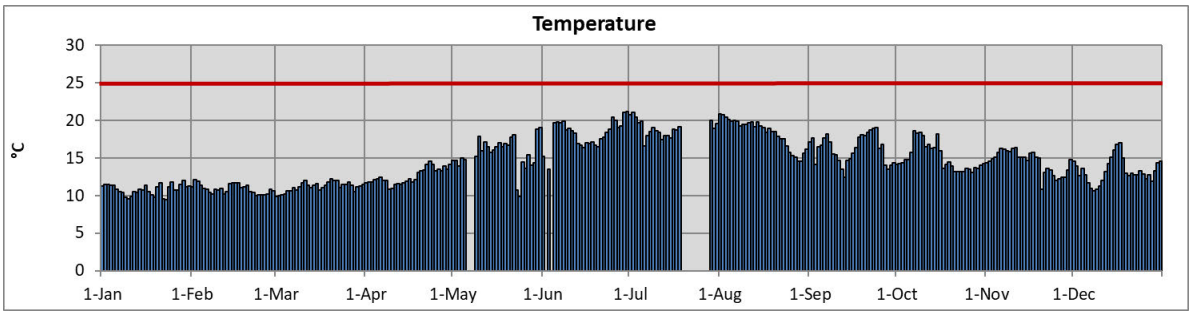




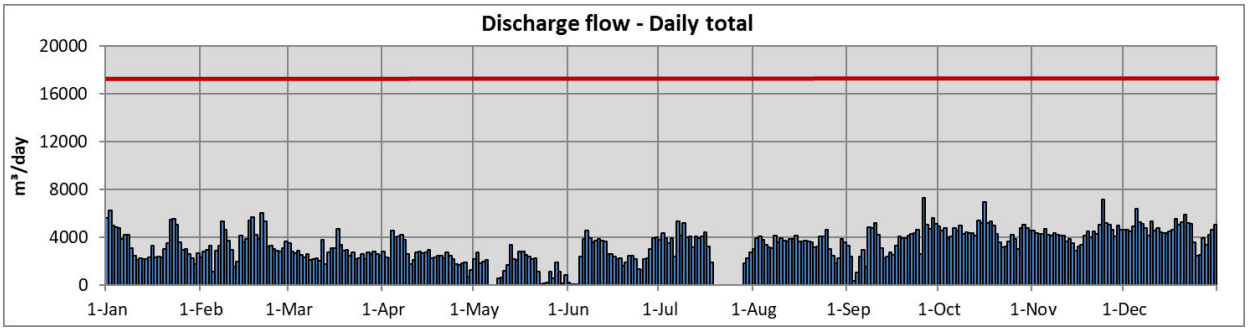
The pH of the effluent discharge to the River Llynfi was within the permit limits for 2024, as is shown in the graph below:



The discharge temperature has consistently been below the permit limit of 25ºC.

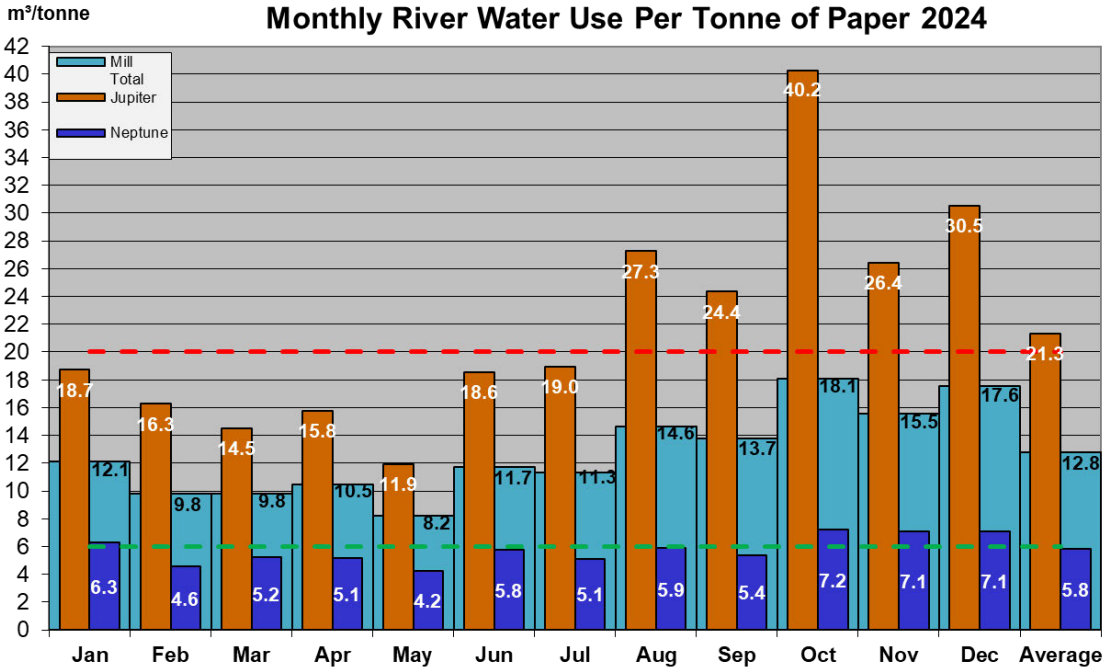


The daily effluent volumes discharged in 2024 were significantly below the permit limit of 17,500m^3 per day and apart from the odd spike, typically less than 4,000m^3 per day.

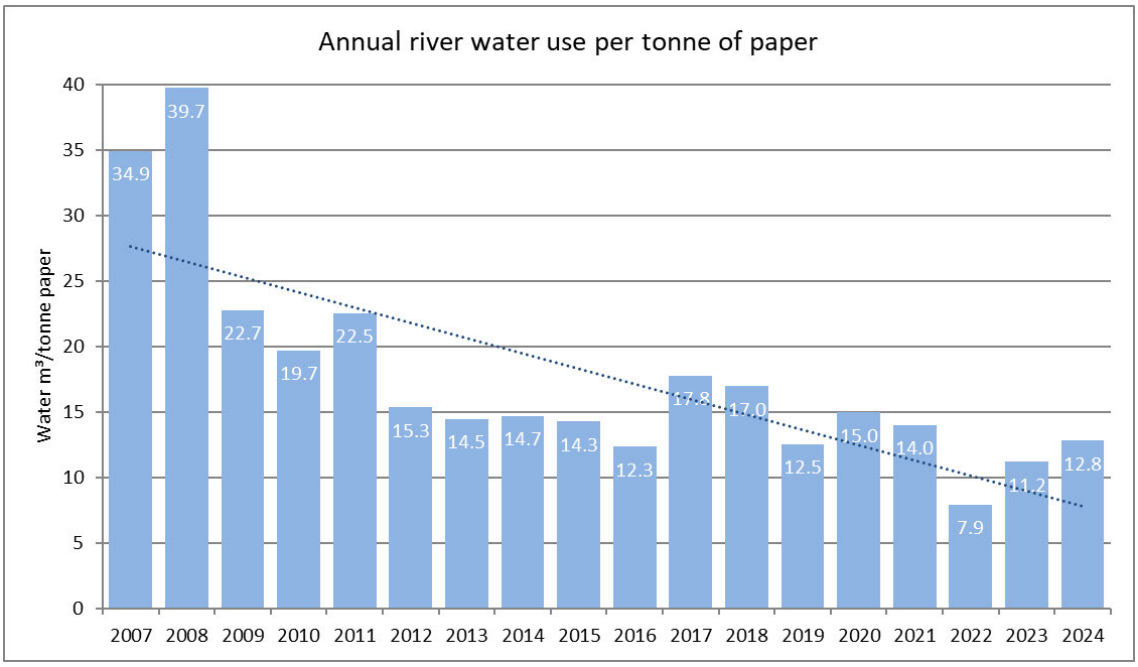


WATER USE CHARTS

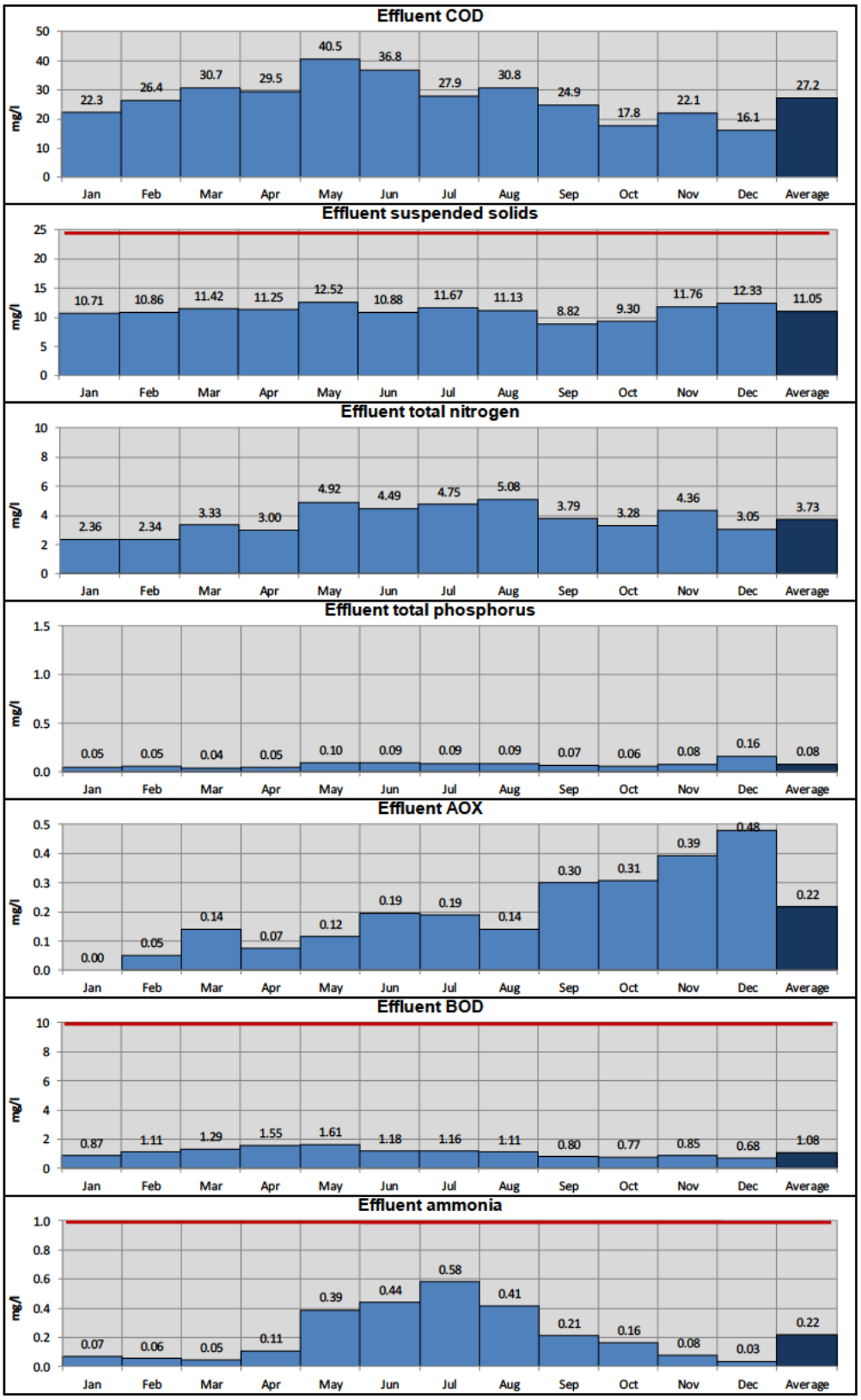
The trend in river water use per air-dried tonne of paper (ADT) was consistently below the revised 2014 BREF target of 20m^3/ADT, ending in an average of 12.8m^3/ADT. Some elevated water usage seen in Q4 2024 on Jupiter paper machine are being targeted with improvement projects scheduled to be delivered in 2025.



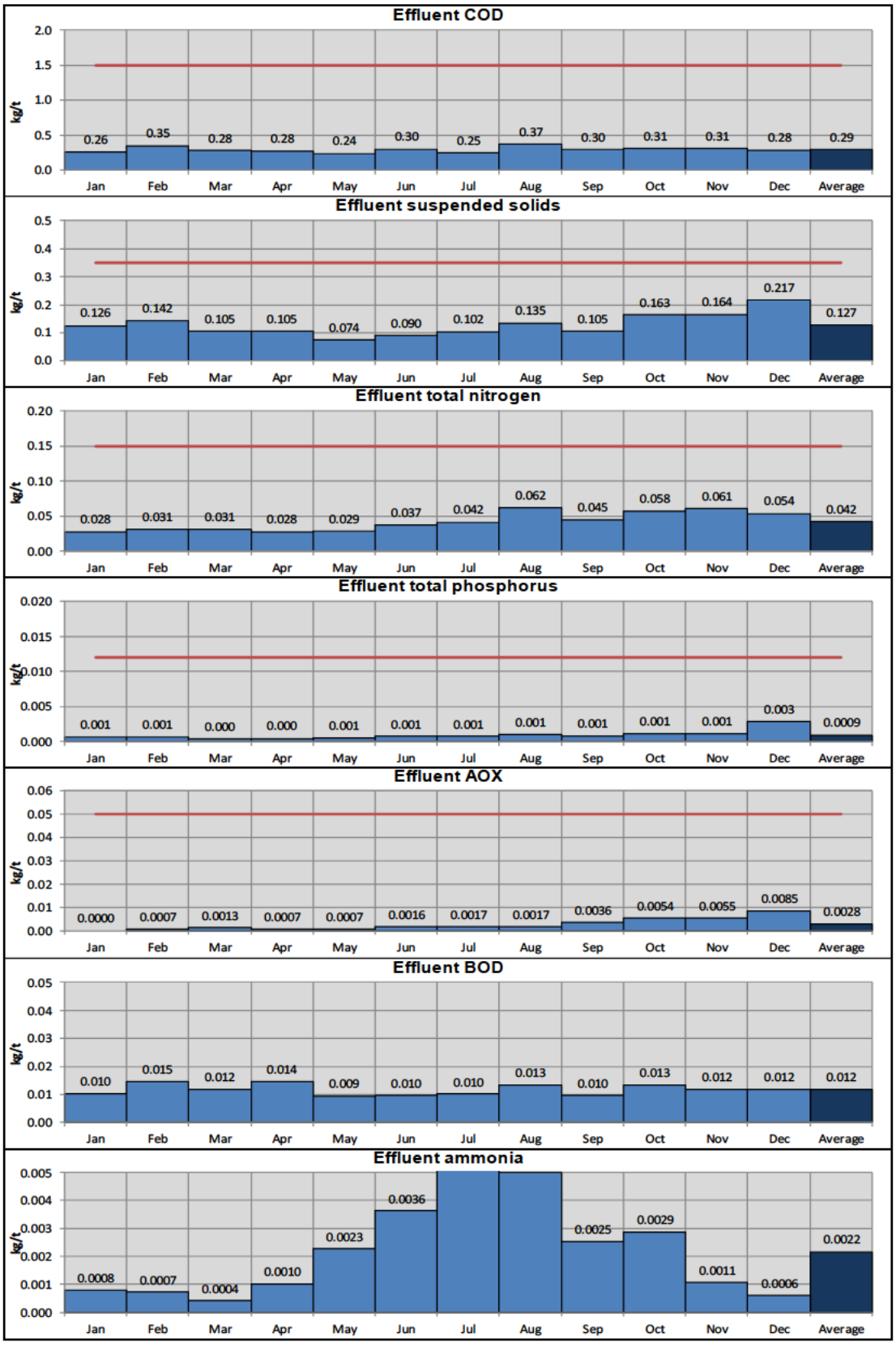
Historic trend demonstrates a downward curve, as can be seen from the graph below despite a slight upward movement in 2017 during commissioning on the new water plant. This downward trend is expected to continue as Wepa continues to identify methods of reduce water usage to stay below the BREF limit.



EMISSIONS TO WATER (mg/l)



EMISSIONS TO WATER (monthly kg/tonne)



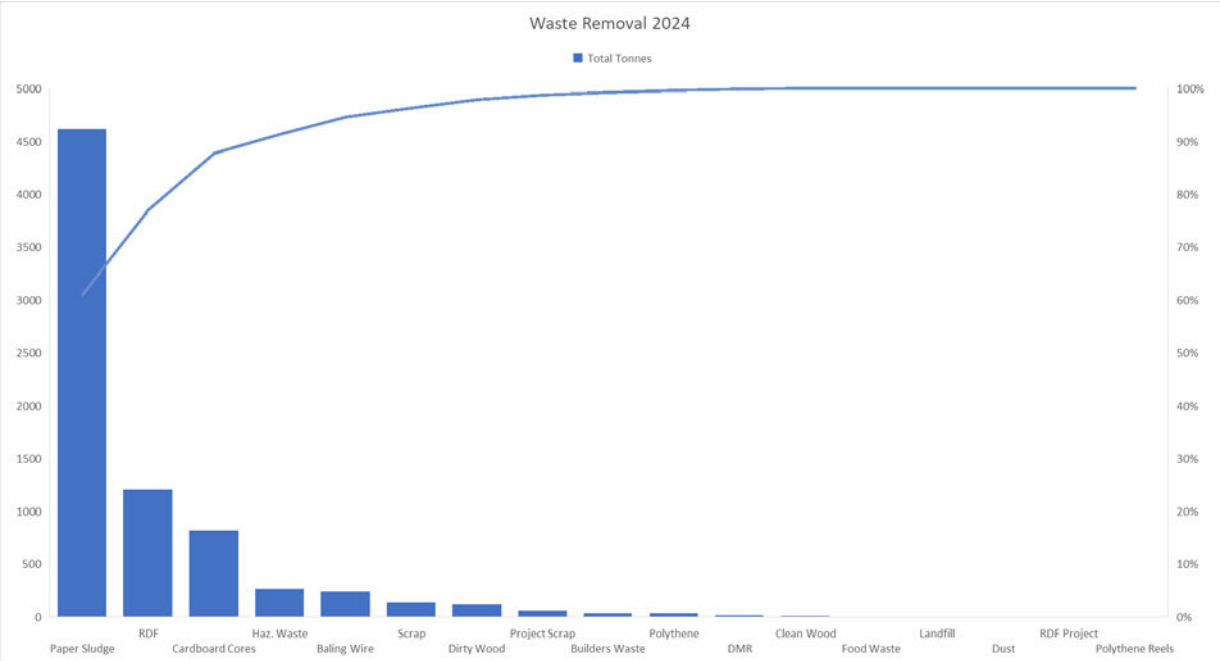
6.0 Waste

The following list is typical of waste streams emanating at Bridgend mill and their respective disposal routes:

1. Paper sludge – primarily cattle bedding
2. General Waste – Treated (Recyclables segregated from general waste) or Recovered (Refuse Derived Fuel Plant)
3. Metals – Recycled
4. Oils – Recovered
5. Cardboard and Polythene – Recycled following separation.
6. Building rubble – Recycled
7. Polythene – Recycled
8. Wood –Recycled
9. Non-standard waste, which includes both hazardous and non-hazardous and have varying disposal routes. These wastes typically include:

   Batteries
   Hazardous wastes
   Paints and solvents
   Process and other chemicals
   PC monitors (W.E.E.E Waste)
   Fluorescent tubes etc.

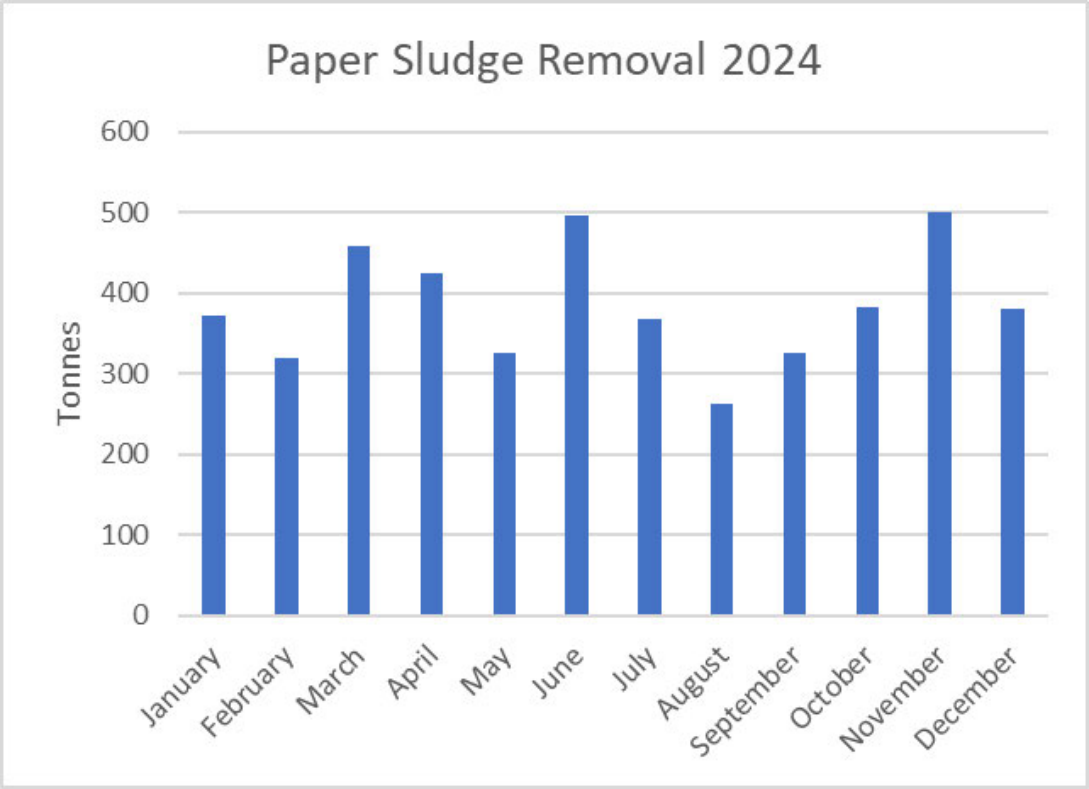
The below graph depicts the annual trend of wastes generated at the Bridgend site during 2024.

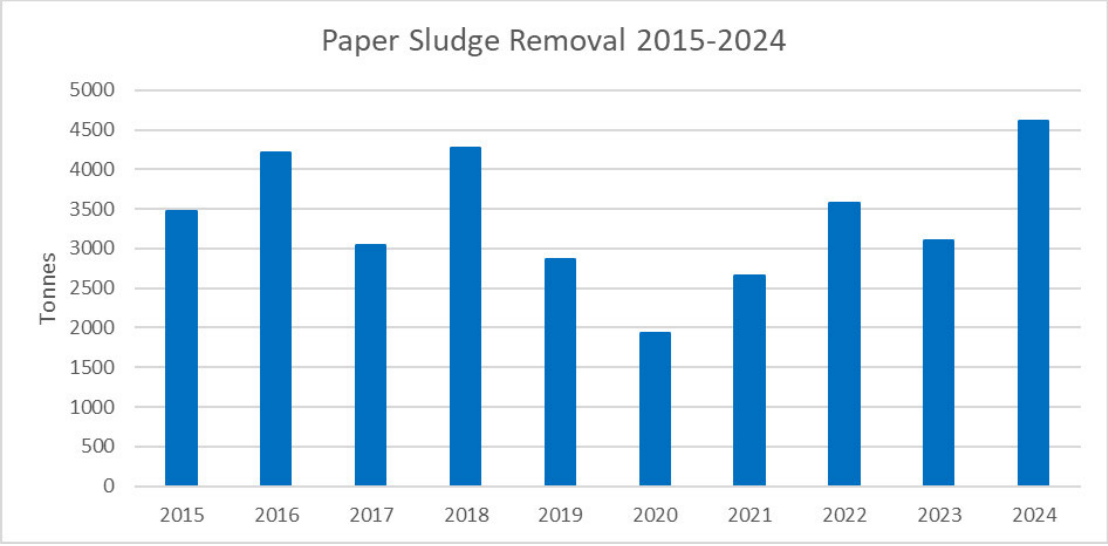


In 2024 we see the introduction of the new Welsh Government workplace recycling legislation which seen more focus on segregation of waste at source, this also resulted in more materials / wastes being recycled.

7.0 Sludge removal

The graph below shows the amount of sludge removed from site in 2024 per month and the graph below that shows sludge removal over the last 9 years.

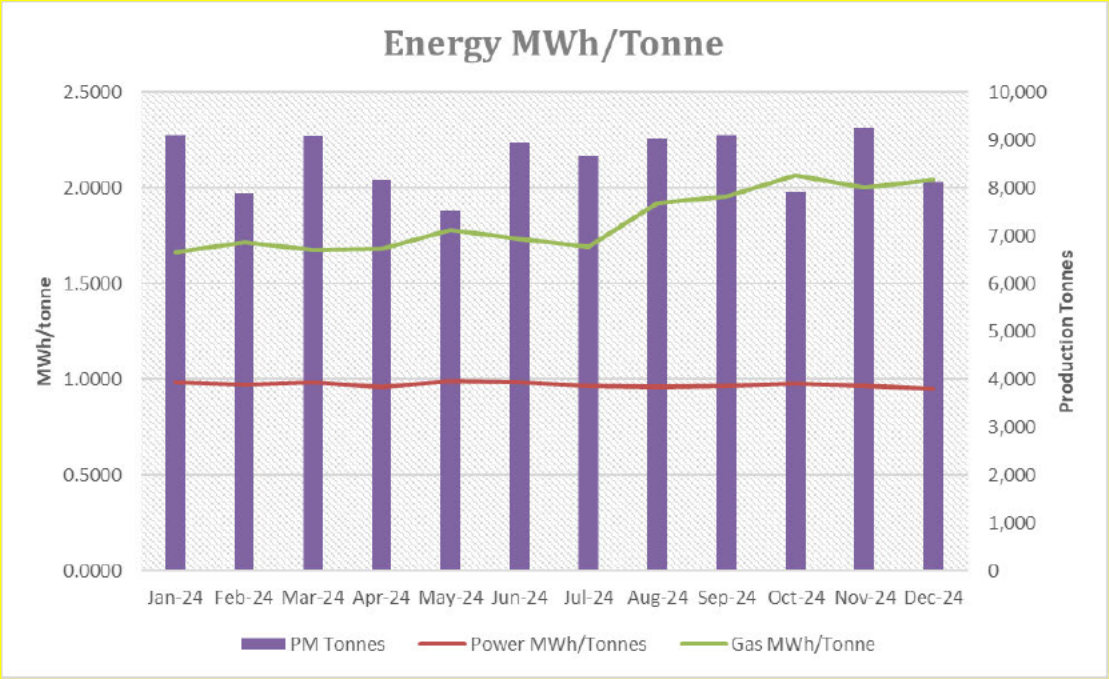




8.0 Energy

Bridgend Paper Mill is a member of a Climate Change Levy Agreement negotiated scheme (Confederation of Paper Industries).

The mill is also registered with the UK Emissions Trading Scheme. This is verified by the Natural Resources Wales through the Mill's Greenhouse Gas (GHG) Emissions Permit as well as the online ETSWAP reporting system. No major non-conformances have been reported in this calendar year.



Energy consumption per tonne of paper was stable month on month in 2024 as the output from the new Neptune machine increased with the commissioning learning curve. The only outlier being October where a two week shutdown was completed on Jupiter.

In 2024, the main energy project was starting the replacement of the current CHP steam generation with a new more efficient boiler plant. This was started in Q3 2024 and is due to be finished and commissioned in Q2 2025.

In terms of energy efficiency, the latest ESOS survey was carried out and subsequent action plan submitted for the rollout of initiatives starting in 2025.

Other energy and carbon related projects in 2024 included the installation of EV charging points on site, exploring a solar PV private wire supply, replacing the site's FLT fleet with hydrogen or electric plus trialling electric HGV movements for finished goods distribution.