2024 Annual performance activity review of Environmental Permit EPR/BB3790FX v1

January 2025

Author: [redacted]

Contents

1. Terms of reference

Condition 4.2.2 of Environmental Permit EPR/BB3790FX requires AluK (GB) Ltd to provide a report on the performance of the activities over the previous year. This report shall include a review of the results of the monitoring and assessment conducted in accordance with the permit including an interpretive review of that data.

The reporting periods for the annual parameters set out in Tables S4.1, S4.2 and S4.3 are from 01/01/2024 to 31/12/2024 and shall use the reporting forms as described in Table S4.4.

The reporting period for the quarterly parameters set out in Table S4.1 will be from 01/10/2024 to 31/12/2024 and shall use the reporting forms as described in Table S4.4.

2. Reporting of emissions to air for the period 01/01/2024 to 31/12/2024

On 1st October 2024 Environmental Compliance Ltd (ECL) attended site to undertake an emission monitoring survey of Emission point A2 at our Chepstow Plant. With regards to the emission monitoring survey of Emission point A1, AluK confirm that the A1 Flash Anodising Process has not been in operation throughout 2024.

The graphs below represent the Emission point A2 emissions to air parameters monitored during the period between 2020 and 2024. It is noted that the values of the parameters monitored continue to remain within the set Emission Limit Values.

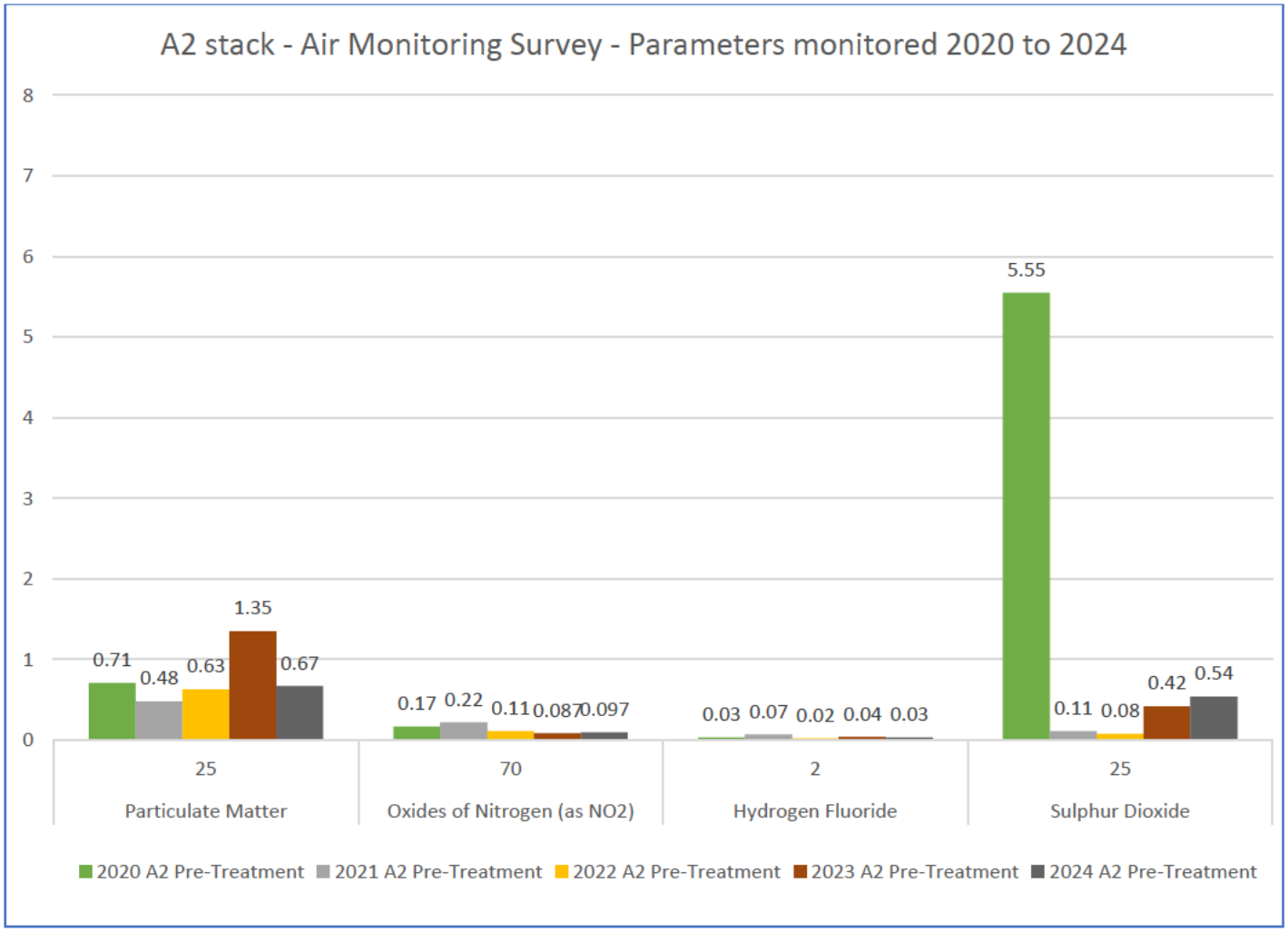


Figure 1 Graph representing the parameters monitored for stack A2

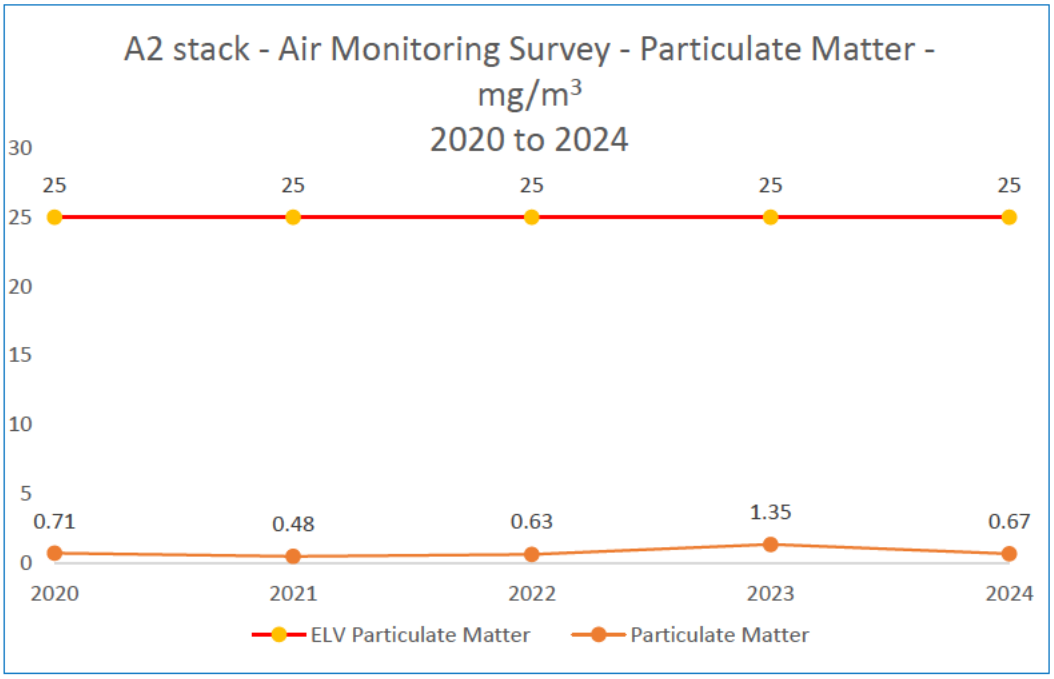


Figure 2 Graph representing Particulate Matter monitored for stack A2

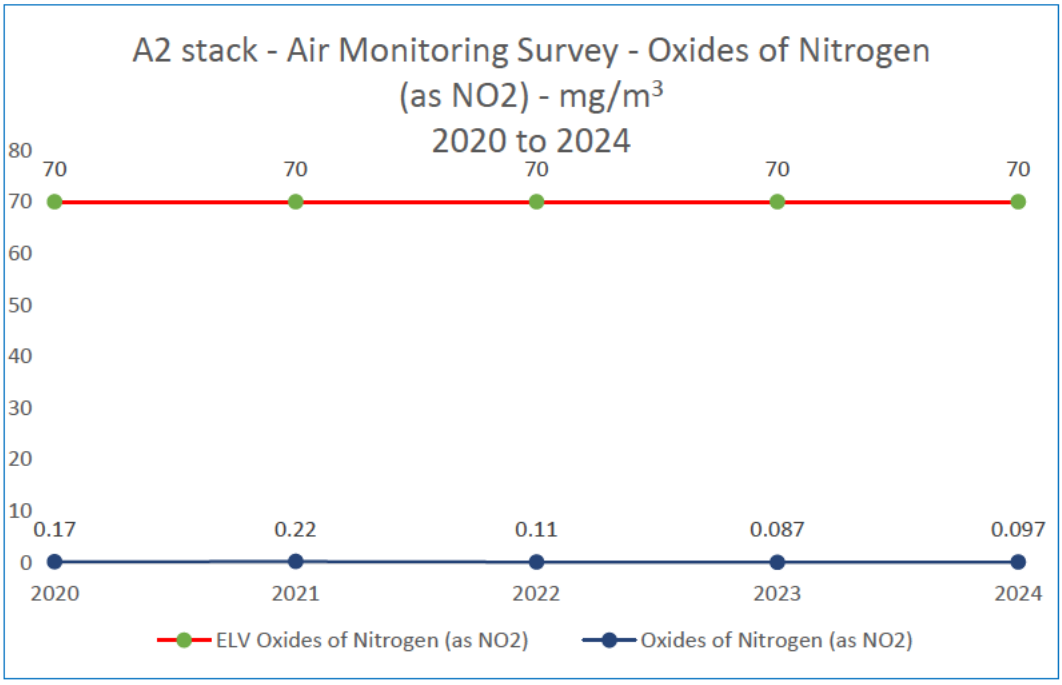


Figure 3 Graph representing Oxides of Nitrogen (as NO2) monitored for stack A2

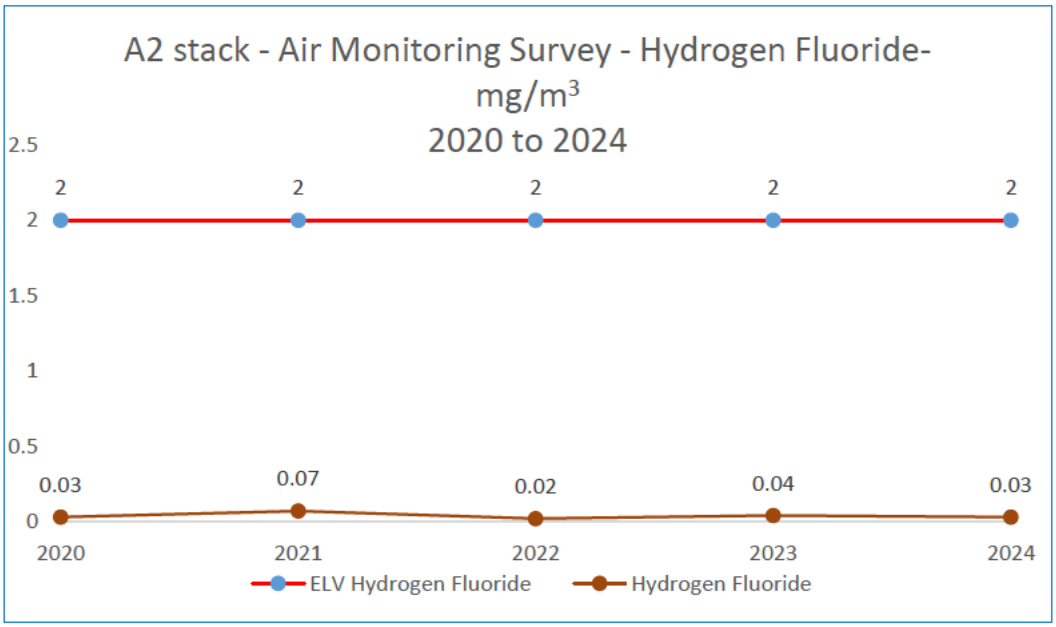


Figure 4 Graph representing Hydrogen Fluoride monitored for stack A2

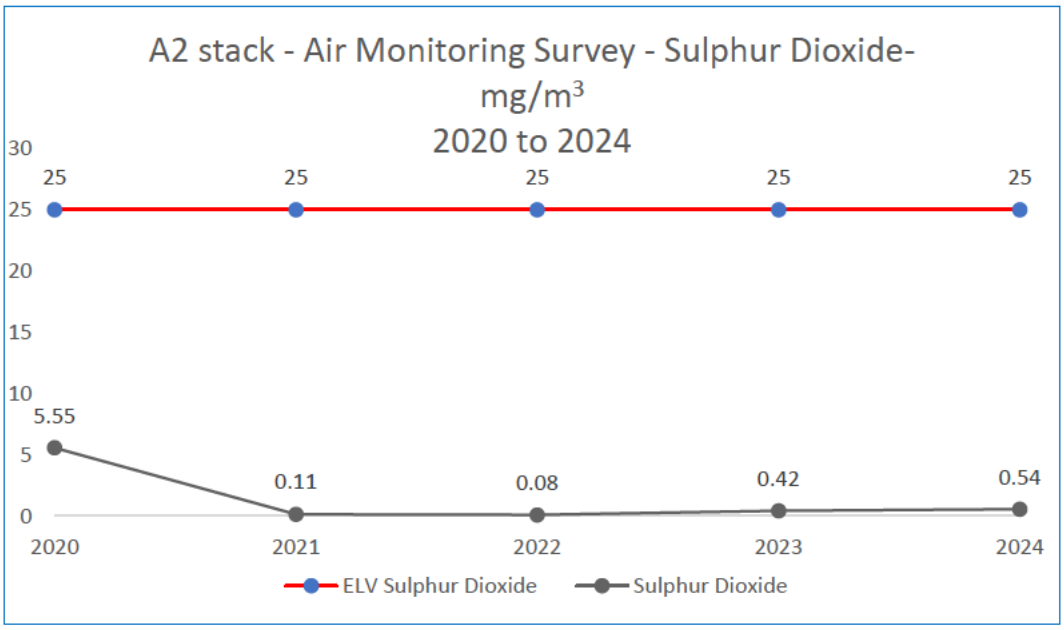


Figure 5 Graph representing Sulphur Dioxide monitored for stack A2

Table 1 below presents the findings of the 2024 emission monitoring survey and indicates Emission Point - A2 as being compliant to the Emission Limit Values as described in Schedule 3 – Emissions and monitoring of Environmental Permit EPR/BB3790FX. A full copy of ECL Emissions Monitoring Survey P5846 is available upon request.

Note - AluK confirm that the A1 Flash Anodising Process not been in operation during 2024

Table 1 Emissions to air - Emission Points - A2

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result	Test Method	Sample Date and Times	Uncertainty
A2	Oxides of nitrogen (NO and NO2 expressed as NO2)	70 mg/m3	Periodic (average over hour)	0.097mg/ m3	BS EN 14792: 2017	01/10/2024 13:45 – 14:45	2%
A2	Sulphur dioxide	25 mg/m3	Periodic (average over hour)	0.54mg/ m3	BS EN 14791: 2017	01/10/2024 11:28 – 12:30	13%
A2	Particulate matter	25 mg/m3	Periodic (average over hour)	0.67mg/ m3	BS EN 13284-1:2017 & MID	01/10/2024 11:28 – 12:30	>100%
A2	Hydrogen fluoride	2.0 mg/m3	Periodic (average over hour)	0.03mg/ m3	PD C EN/TS 17340: 2020	01/10/2024 12:50 – 13:52	13%

3. Reporting of emissions to sewer for the period 01/01/2024 to 31/12/2024

3.1 Emission Points W1 & W2

Emission points W1 & W2 relate to the source emissions to water of uncontaminated surface water drainage via interceptors into two unlined balancing lagoons.

Weekly spot monitoring of emission points W1 & W2 continued during 2024. The Emission Limit Value parameters of both oil and grease (none visible) have continued to remain compliant throughout the reporting periods for 2024.

The spot sampling of the pH (min 6 max 9) parameters for W1 and W2 emission points were within their respective Emission Limit Values throughout the reporting periods for 2024.

To provide a better representation of AluK's emissions to water and sewer the graphs below represent the annual NRW W1 and W2 Emission point pH reporting of emissions to sewer for the period from 01/01/2024 to 31/12/2024.

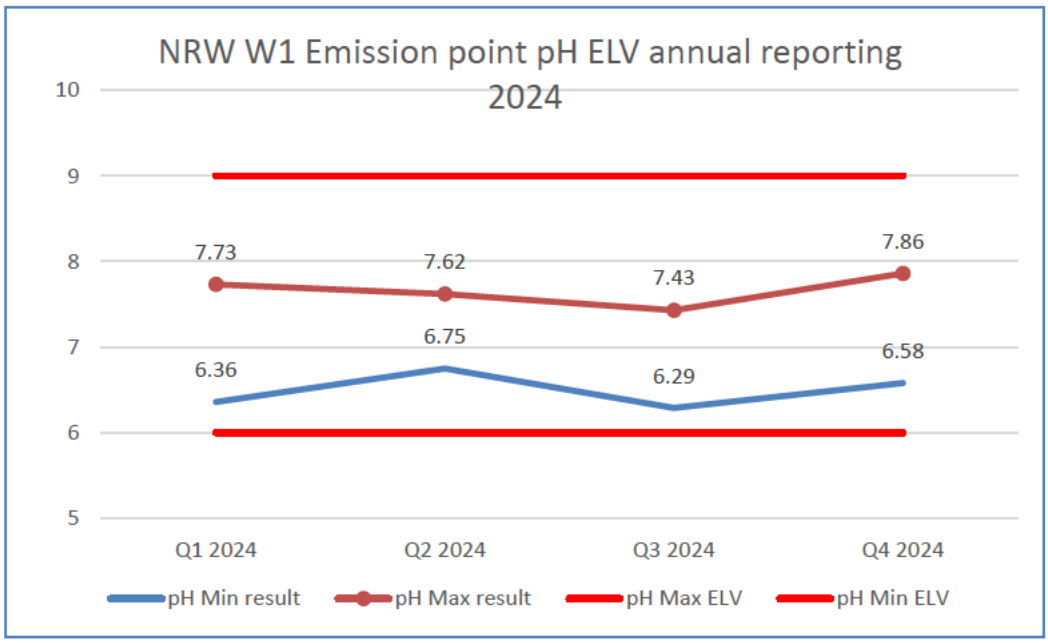


Figure 6 NRW W1 Emission point pH ELV reporting of emissions to sewer for the period from 01/01/2024 to 31/12/2024

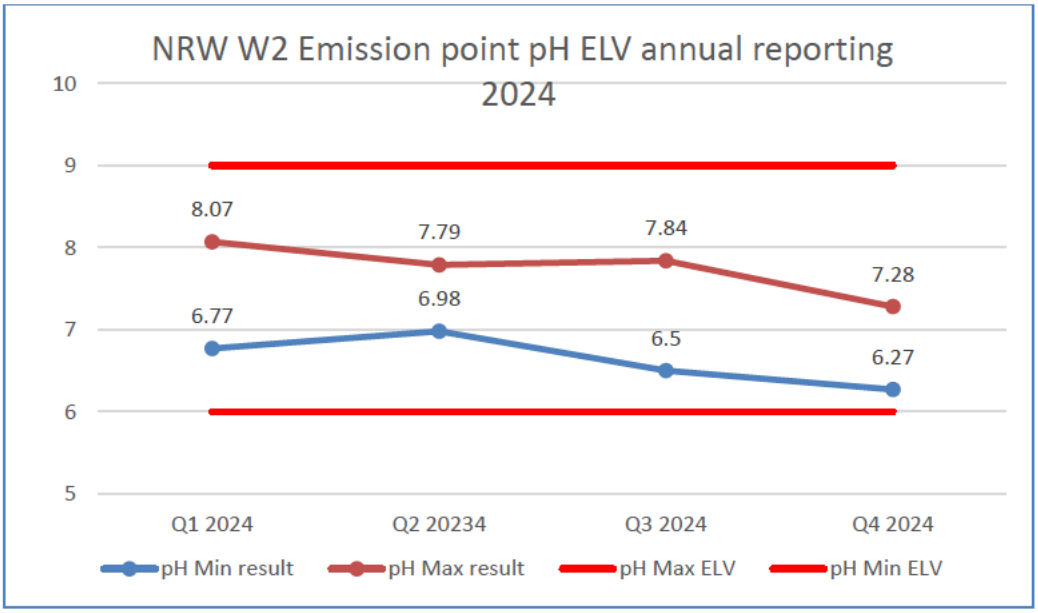


Figure 7 NRW W2 Emission point pH ELV reporting of emissions to sewer for the period from 01/01/2024 to 31/12/2024

3.2 Emission Point S1

Emission point S1 relates to the source emission from the Effluent Treatment Plant.

The S1 Emission Limit Value parameters of pH (min 6 max 9) have not been exceeded during this reporting period of 01/01/2024 to 31/12/2024.

The daily flow limit of 144m^3/day (emission point S1) continues to be within the respective Emission Limit Values during the reporting period of 01/01/2024 to 31/12/2024. The MCERTS flow meter continues to remain operational.

There were no exceedances of the S1 Emission Limit Value for the Total Aluminium (ELV 2.0mg/L) NRW parameter during 2024.

3.2.1 NRW S1 Emission monitoring for period 01/01/2024 to 31/12/2024

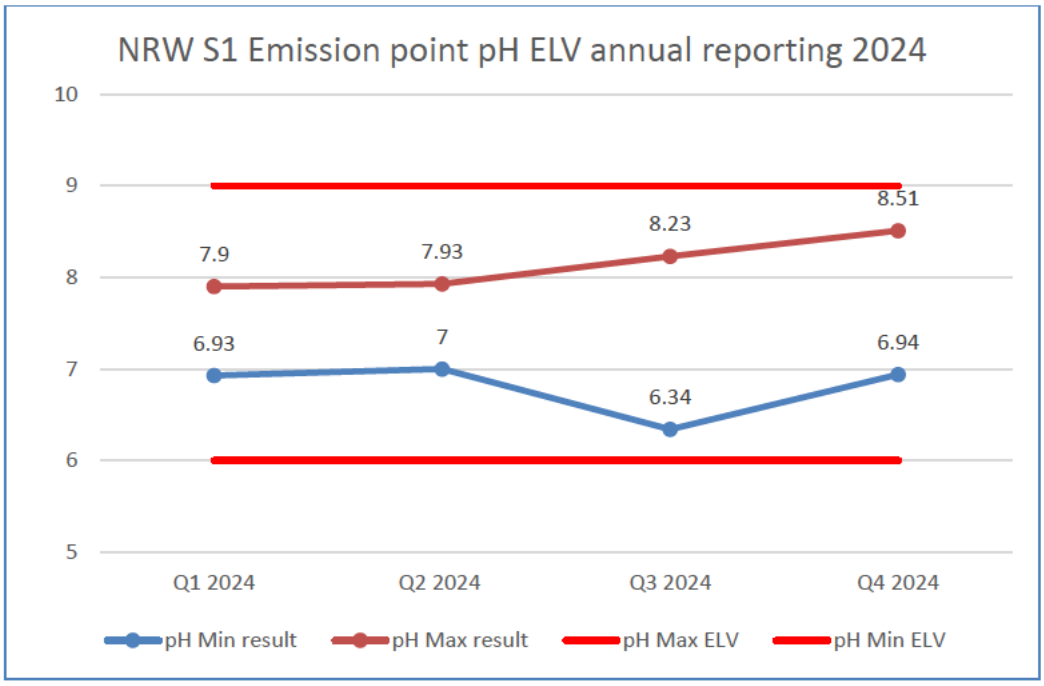


Figure 8 NRW S1 Emission point pH ELV reporting of emissions to sewer for the period from 01/01/2024 to 31/12/2024

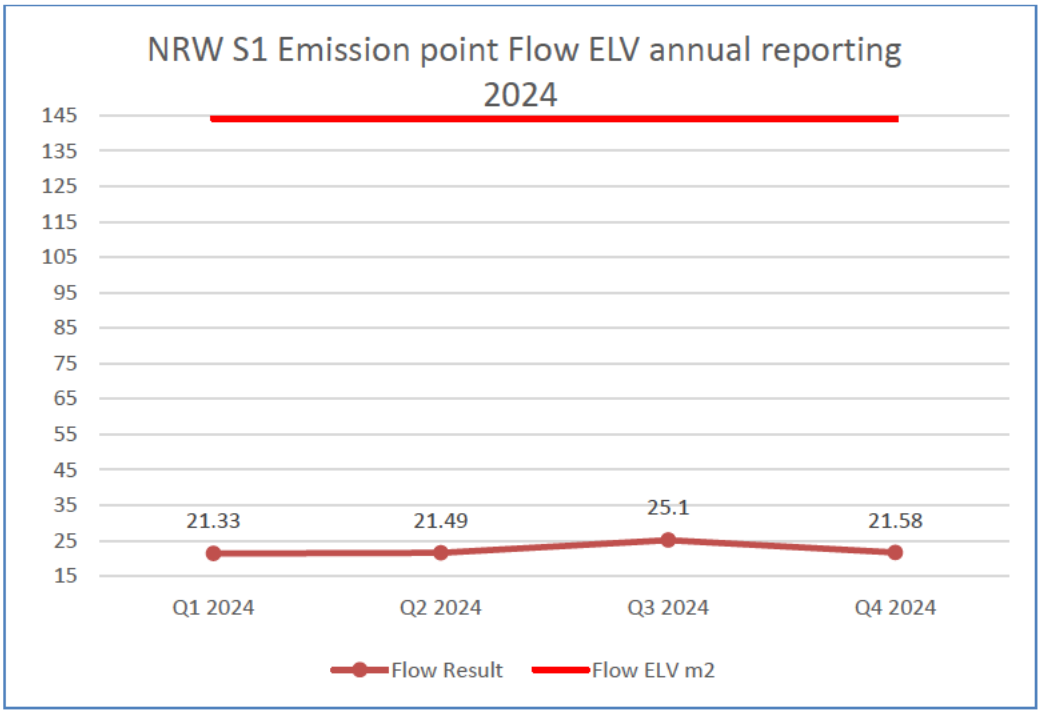


Figure 9 NRW S1 Emission point Flow ELV reporting of emissions to sewer for the period from 01/01/2024 to 31/12/2024

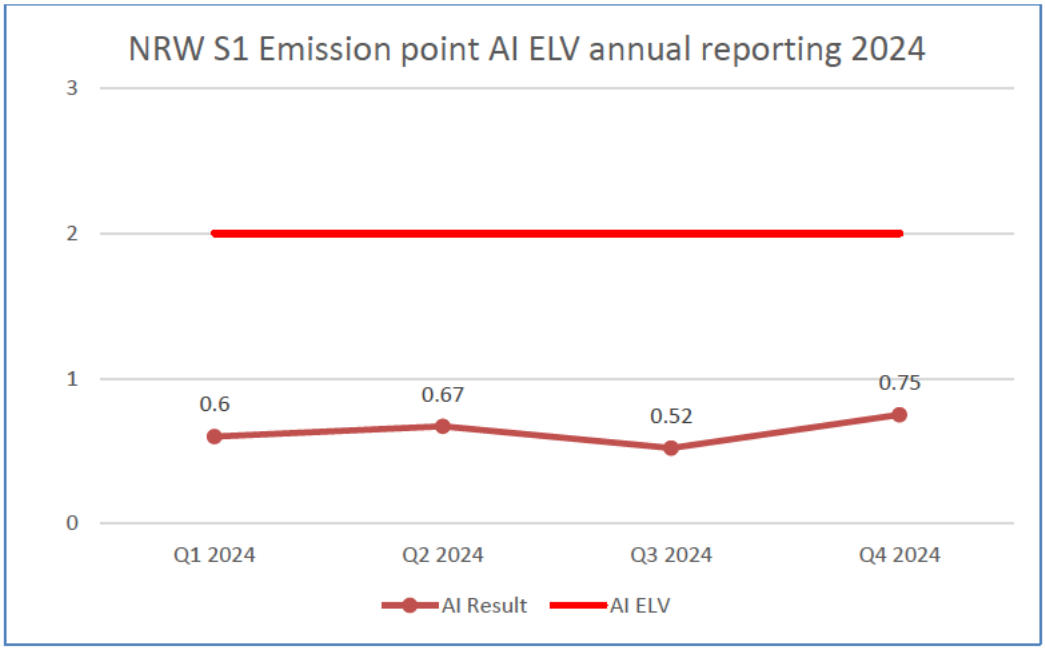


Figure 10 NRW S1 Emission point AI ELV reporting of emissions to sewer for the period from 01/01/2024 to 31/12/2024

4. Reporting of Water Usage for the period 01/01/2024 to 31/12/2024

4.1 Water consumption

Water consumption recorded during 2024 was 11,541m³. This was an increase of 1429m³ or 14.13% than 2024. The increase in water consumption is reflective of an issue relating to a water tank ball cock issue experienced during 2024.

Water consumption

	2024 m³	2023 m³	Variance m³	Variance %
Total	11,541	10,112	1429	14.13

Carbon footprint

	2024 Tonnes/CO2	2023 Tonnes/CO2	Variance Tonnes/CO2	Variance %
Total	4.62	4.04	0.58	14.36

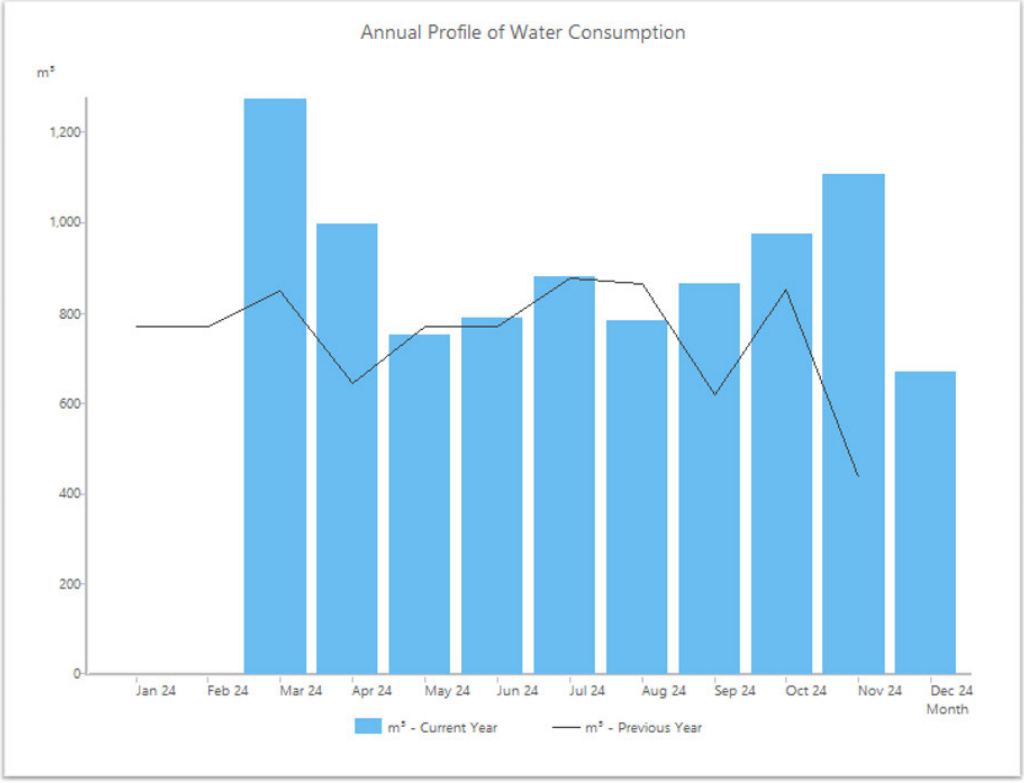


Figure 11 Water consumption 2024

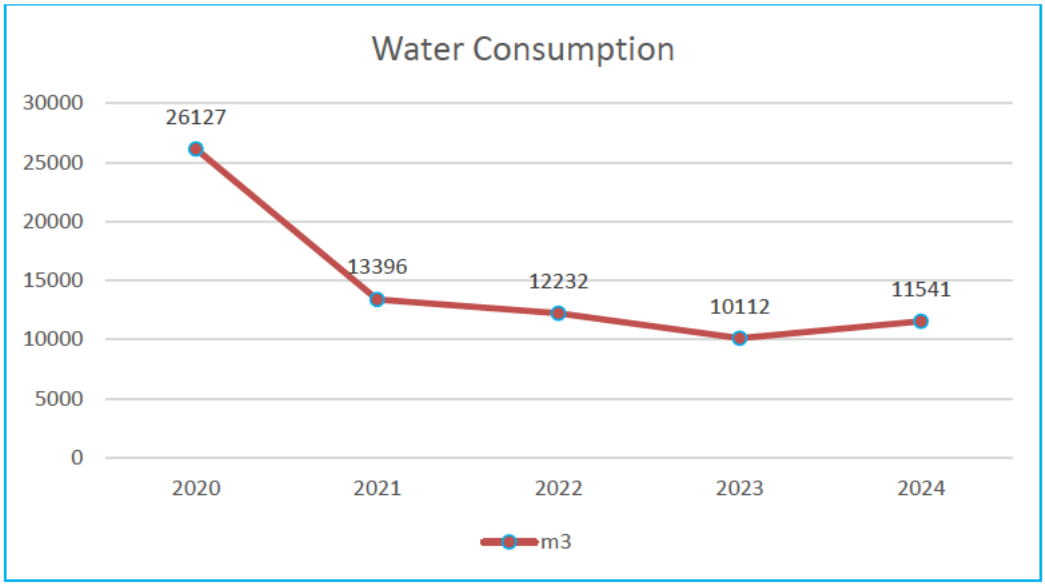


Figure 12 Graph showing Water consumption 2020 to 2024

5. Reporting of Energy Usage for the period 01/01/2024 to 31/12/2024

5.1 Electricity

Electricity consumption during 2024 was 1,597,860kWh. This was 126497 kWh or 7.33% less than 2023. The turning off of unused and unnecessary lights continued during 2024 and coupled with lower production volumes for the same period contributed to the variance.

Carbon emissions fell by 6.98%.

Electricity consumption

	2024 kWh	2023 kWh	Variance kWh	Variance %
Total	1,597,860	1,724,357	-126,497	-7.33

Carbon footprint

	2024 Tonnes/CO2	2023 Tonnes/CO2	Variance Tonnes/CO2	Variance %
Total	360	387	-27	-6.98

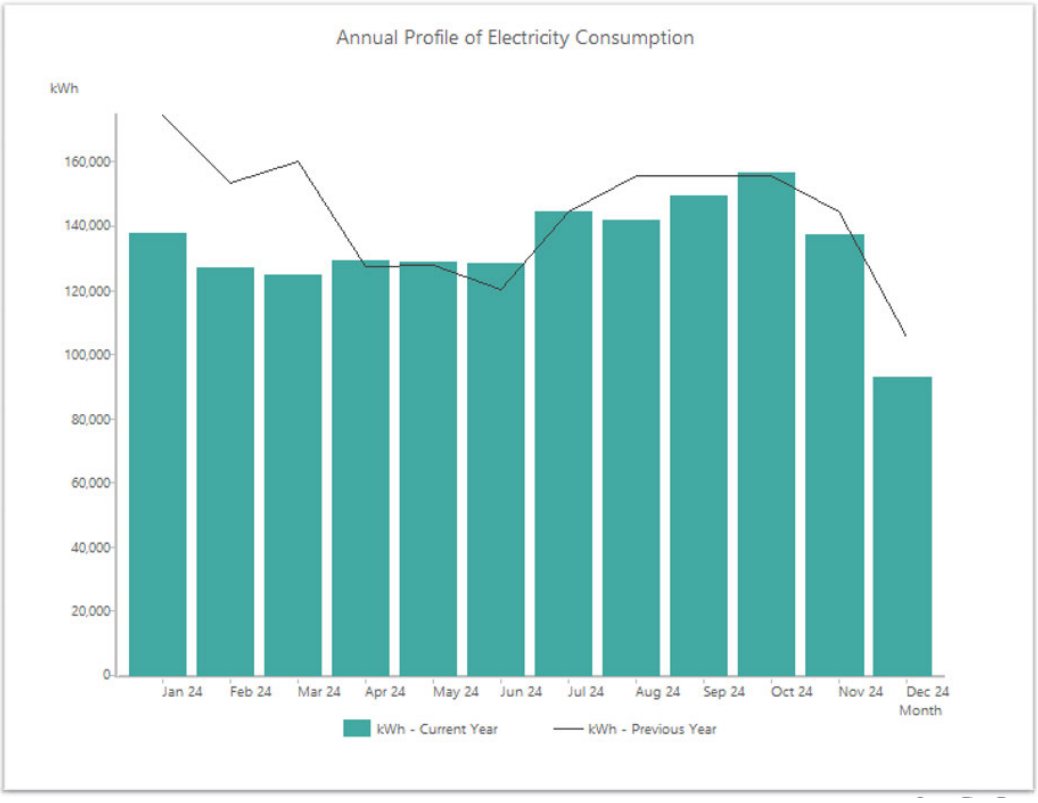


Figure 13 Electricity consumption 2024

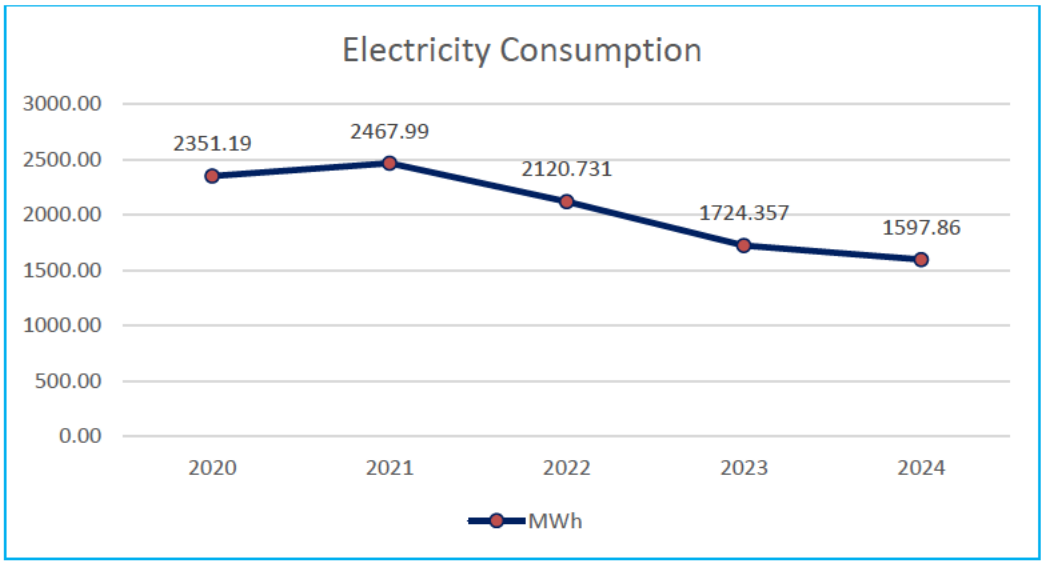


Figure 14 Graph showing Electricity consumption 2020 to 2024

5.2 Gas

Gas consumption during 2024 was 2,252,021 kWh. This was 315,706 kWh or 12.30 % less than 2023. The difference in gas consumption reflects lower production volumes during 2024.

Carbon emissions also fell by 11.03%.

Gas consumption

	2024 kWh	2023 kWh	Variance kWh	Variance %
Total	2,252,021	2,567,727	-315,706	-12.30

Carbon footprint

	2024 Tonnes/CO2	2023 Tonnes/CO2	Variance Tonnes/CO2	Variance %
Total	411	462	-51	-11.03

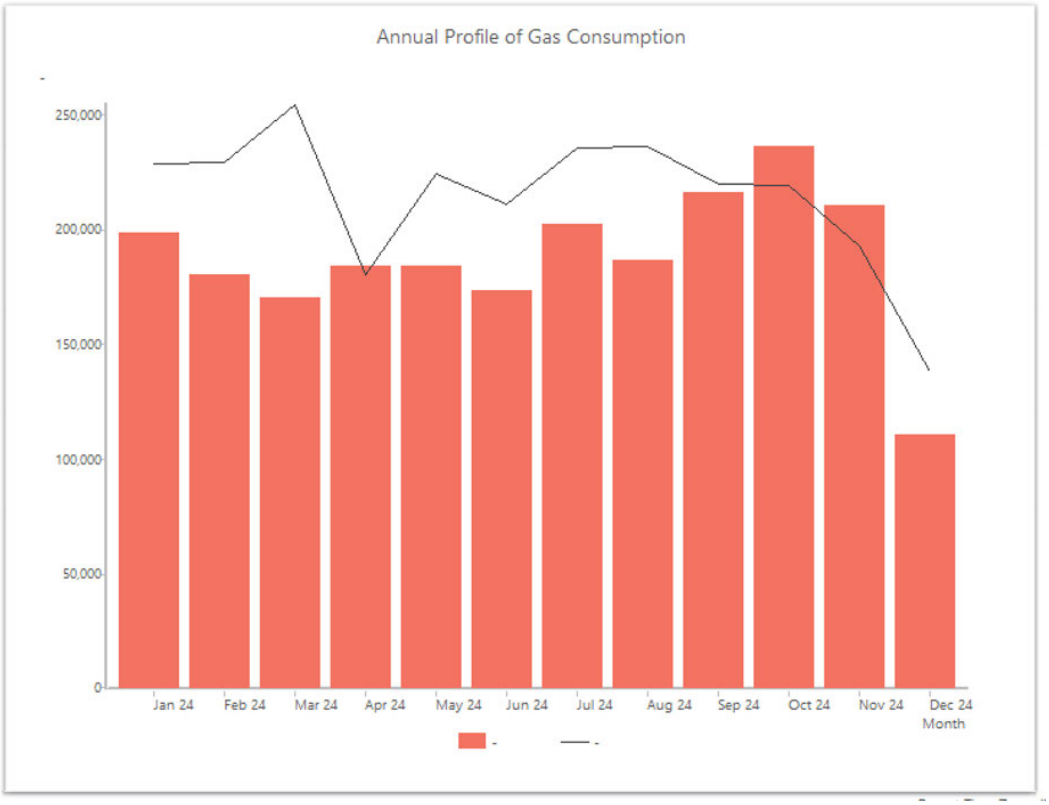


Figure 15 Gas consumption 2024

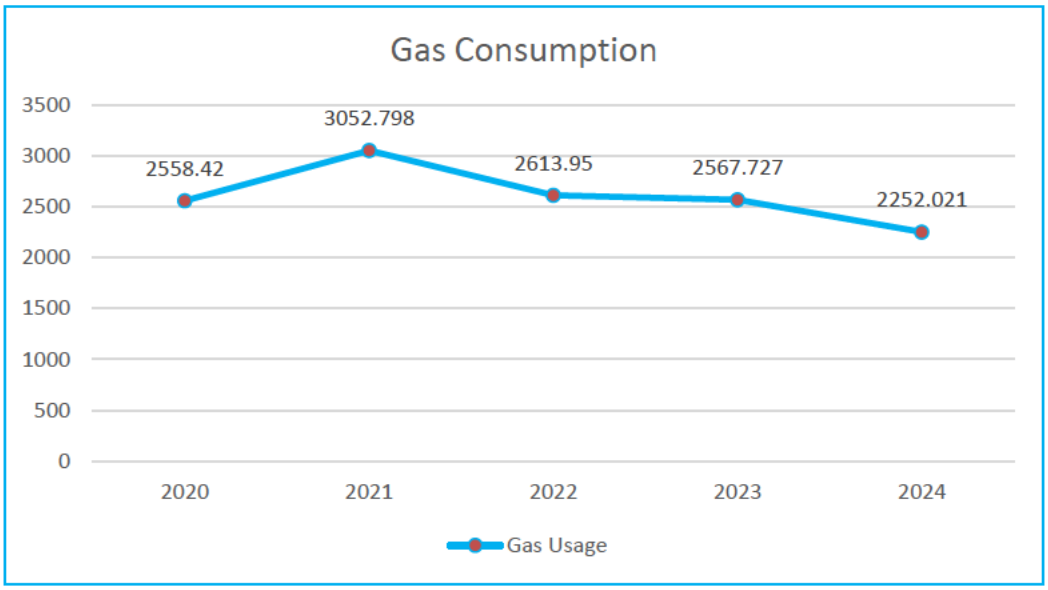


Figure 16 Graph showing Gas consumption 2020 to 2024

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

6.1 Finished Product

The finished product tonnage and unit data for the period 01/01/2024 to 31/12/2024 continued to reflect current market conditions. The continuation of the market downturn, ongoing Ukrainian situation and cost of living continued to impact our market and business with orders and sales affecting our budget. Sales growth continues to be the main focus and priority.

The two graphs (Figures 17 & 18) overleaf reflect the Finished Product in Tonnes and Units for the periods 2019 to 2024.

Finished Product 2024						
Year	2019	2020	2021	2022	2023	2024
Finished Product (Tonnes)	3892.046	3755.15	4302.26	3537.81	2859.198	2289.490
Finished Product (Unit)	962900	939736	1098872	865405	733189	597877

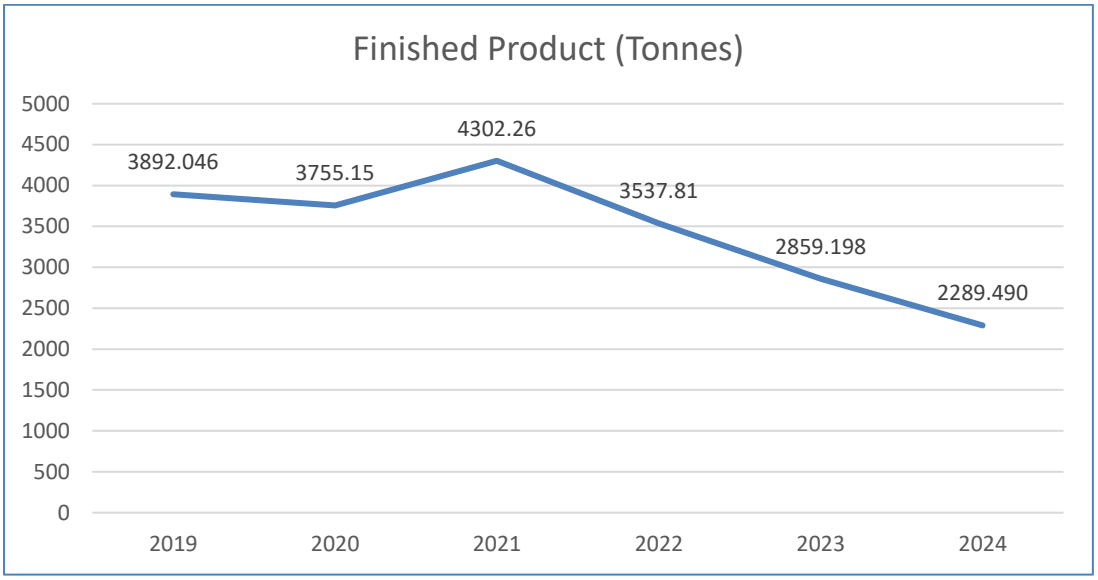


Figure 17 Finished Product (Tonnes) 2019 to 2024

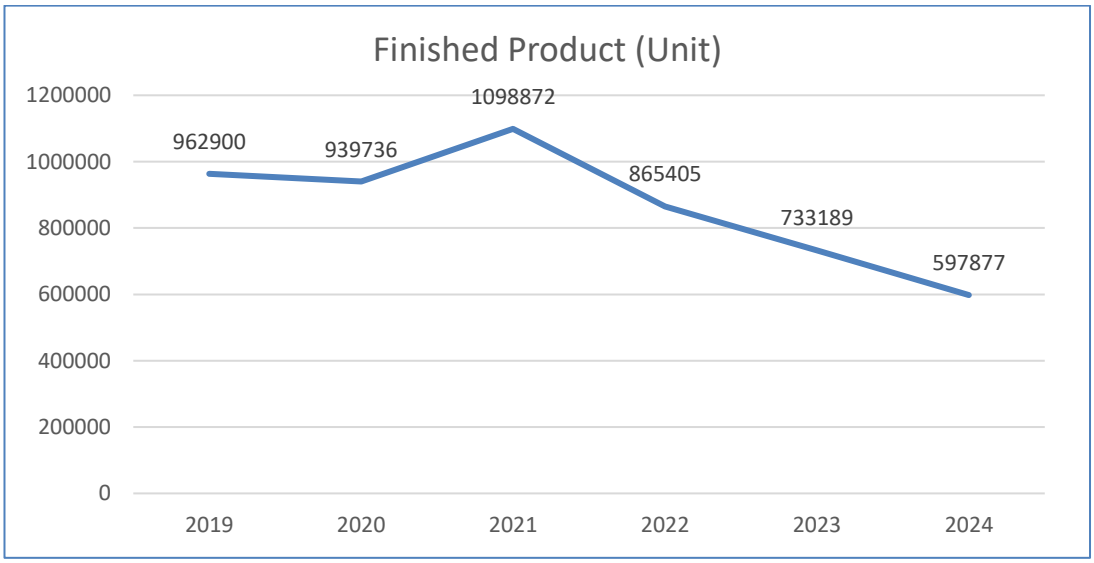


Figure 18 Finished Product (Units) 2019 to 2024

6.2 Waste Product

Total waste produced for the reporting period 1st January 2024 to 31st December 2024 was 415.871t. This was an increase of 72t or 21% % when compared to 2023. The increase, whilst still below previous years, was attributed to the preparations and stock adjustments necessary for the successful transition from account packages SAGE to SAP.

Of this waste 113.97t went to landfill, 49.67t was diverted and 252.23t was recycled.

AluK generated 53.76t of cardboard, 78t of filter cake, 28.93t of powder paint, 2.262t of food waste, 28.263t of Non-Hazardous Industrial (NHI), 6.92t of wood Grade C, 3.245t of Cardboard & Paper and 1.452t Tins, Cans & Plastic.

In addition AluK generated 9.08t of glass, 1.651t of mixed municipal waste, 8.469t of Plastic, 14.46t of Hazardous waste, 2t of spent activated carbon, 7.04t of waste sand & clays, and 170.34t of metal waste.

Year	2019	2020	2021	2022	2023	2024
Waste Produced (Tonnes)	494.49	428.4	488.66	462.72	343.7	415.87

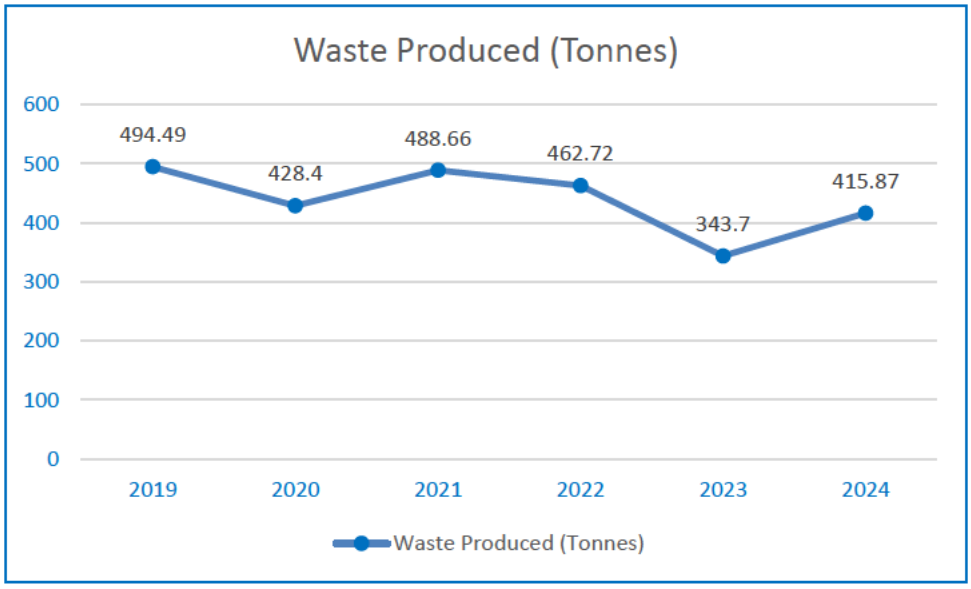


Figure 19 Waste Produced 2019 to 2024 (Tonnes)

7. Environmental Initiatives

7.1 Environmental objectives

7.1.1 To reduce Landfill tonnage to under 100t

The objective of reducing Landfill tonnage to under 100t has not been achieved. The tonnage sent to landfill during 2024 was 113.97t.

Whilst the reduction in landfill tonnage was not achieved, AluK will continue to implement and improve waste management strategies to ensure that landfill tonnage remains low, even when production volumes increase. This will help AluK to achieve a sustainable reduction in landfill waste, independent of production fluctuations.

7.1.2 To reduce energy consumption by 10%

The goal of reducing electricity consumption by 10% during 2024 was not achieved. The recorded electricity consumption for 2024 was 1,597,860 kWh, which is a reduction of 126,497 kWh or 7.33% compared to 2023. The continuation of initiatives such as the turning off of unused and unnecessary lights continued during 2024, coupled with lower production volumes during the same period, contributed to this reduction.

However, the goal of reducing gas consumption by 10% during 2024 was achieved. The recorded gas consumption for 2024 was 2,252,021 kWh, which is 315,706kWh or 12.3% less than consumption in 2023. The primary factor influencing gas consumption was lower production volumes experienced during 2024. Further strategies continue to be explored to achieve the desired reduction in gas consumption.

7.1.3 90% AluK employee completion of the iHasco Environmental module

The objective of achieving a 90% AluK employee completion rate of the iHasco Environmental module has been achieved. The final completion rate is recorded as 90.98%. This objective generates employee climate change awareness supporting climate change initiatives.

7.2 Cradle 2 Cradle

AluK Uk has been supporting AluK Group in working towards bronze level certification of The Cradle to Cradle Certified® Product Standard which provides the framework to assess the safety, circularity and responsibility of materials and products across five categories of sustainability performance:

1. Material Health
2. Product Circularity
3. Clean Air & Climate Protection
4. Water & Soil Stewardship
5. Social Fairness

It is expected that certification will be achieved during March 2025.

7.3 Group carbon reporting – Aktio platform

During 2024 AluK Group engaged with Aktio to capture and measure the carbon footprint of each business unit which will allow for an accurate assessment of the direct and indirect emissions of activities undertaken. Data has been compiled and submitted for this financial year which runs between 1st September 2023 and the 31st August 2024. AluK GB are currently awaiting the results.

7.4 MCERTS

On 10th September 2024, an MCERTS surveillance audit was conducted by Ruth Morrison of CSA. The audit concluded that AluK's management system satisfies the scheme requirements.

AluK was issued the MCERTS Inspection Certificate (no. Sira ME2022 639 rev) on 21st October 2022, with a renewal date set for 8th December 2026. This certificate verifies that the effluent flow monitoring arrangements at AluK's Chepstow site comply with the Environment Agency's MCERTS standard.

The flow measurement, located at the S1 effluent discharge to the sewer, utilises a Siemens Mag 5000 magnetic flow meter. This system is maintained through regular activities to ensure optimal performance. AluK continues to collect and retain evidence of continuous flow monitoring, demonstrating their commitment to environmental responsibility.

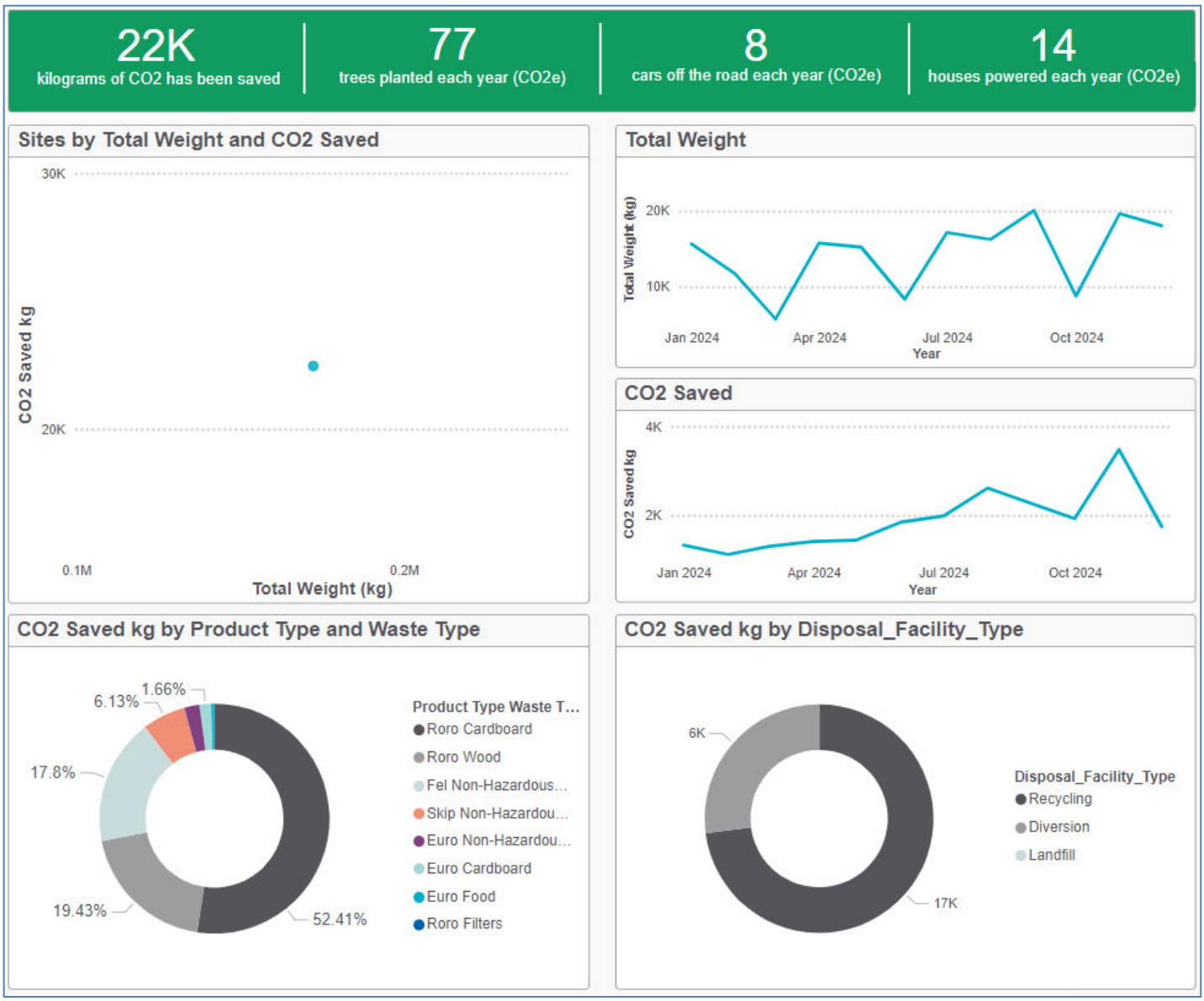
7.5 Environment Permit Review meeting

Monthly Environmental Permit Review meetings continued during 2024. The agenda covers Emissions to air, Discharges to Water, Operator Monitoring Assessment (OMA), Monitoring Certificate Scheme (MCERTS), NRW compliance project, Compliance Assessment Report (CAR), Permit Review, Process changes, Staffing changes, Equipment changes, Material changes and AOB. In addition a review of our EPR/BB3790FX Parameter Emission Limit Values (ELV) and data is also undertaken.

Minutes to this meeting are communicated to the attendees and Top Management and are available upon request.

7.6 Carbon Footprint

22,462kgs of CO2 emissions were saved during 2024. This reduction is equivalent to planting 77 trees, taking 8 cars off the road, and powering 14 houses.



7.7 EHS meetings

Monthly and fortnightly top management meetings continue and include an environmental update and review of our EPR/BB3790FX Parameter Emission Limit Values. These inclusions underscore our commitment to environmental responsibility and continuous improvement.

7.8 14001:2015

Successful recertification of the 14001:2015 certification took place on 31st July and 1st August 2024. Effective utilisation of resources continues to be made available to sustain this certification. The next surveillance audit has been scheduled for 2nd and 3rd April 2025.