Building 58, Castle Works, East Moors Road
CARDIFF CF24 5NN
Tel: 029 2035 1800

31st January 2025

Mrs E A Parr
PPC Compliance Assistant
Natural Resources Wales
Rivers House
St Mellons Business Park
St Mellons
CARDIFF
CF3 0EY

Dear Mrs Parr,

RE: Melt Shop EPR Permit TP3639BH 4.2.2. Annual Returns 2024

In accordance with CELSA Manufacturing (UK) Ltd Environmental Permitting Regulations (EPR) Melt Shop Permit TP3639BH, permit condition 4.2.2 requires the following:

4.2.2 For the following activities referenced in schedule 1, table S1.1 A1 to A13. A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resources Wales) each year. The report(s) shall include as a minimum:

- *a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data.*
- *b) the annual production/treatment data set out in Schedule 4 Table S4.2, and*
- *c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.*

1.1 Introduction

CELSA's Manufacturing Mission Statement states we are 'the UK's leading environmentally focused integrated steel manufacturer'. Despite an exceptionally difficult market, CELSA are committed to achieving continual improvement of our environmental performance.

The Melt Shop's environmental performance in 2024 has been reviewed, including the environmental Objectives and Targets which have been set for 2024 in conjunction with senior management. CELSA received 6 complaints via NRW in 2024 concerning noise. Two sources of these complaints were scrap handling and a chain conveyor for the de-dusting plant. Both have been investigated and addressed. The action for the scrap handling involved the provision of toolbox talk to the crane operators to reduce the height at which the scrap was been dropped into the furnace baskets, whereas the action for the chain conveyor involved the installation of a sound proofing barrier. Currently the techniques used for mitigating fugitive emissions are in alignment with the most up to date BAT guidance.

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1.2 Environmental Performance Review

1.2.1 Production and Energy Consumption

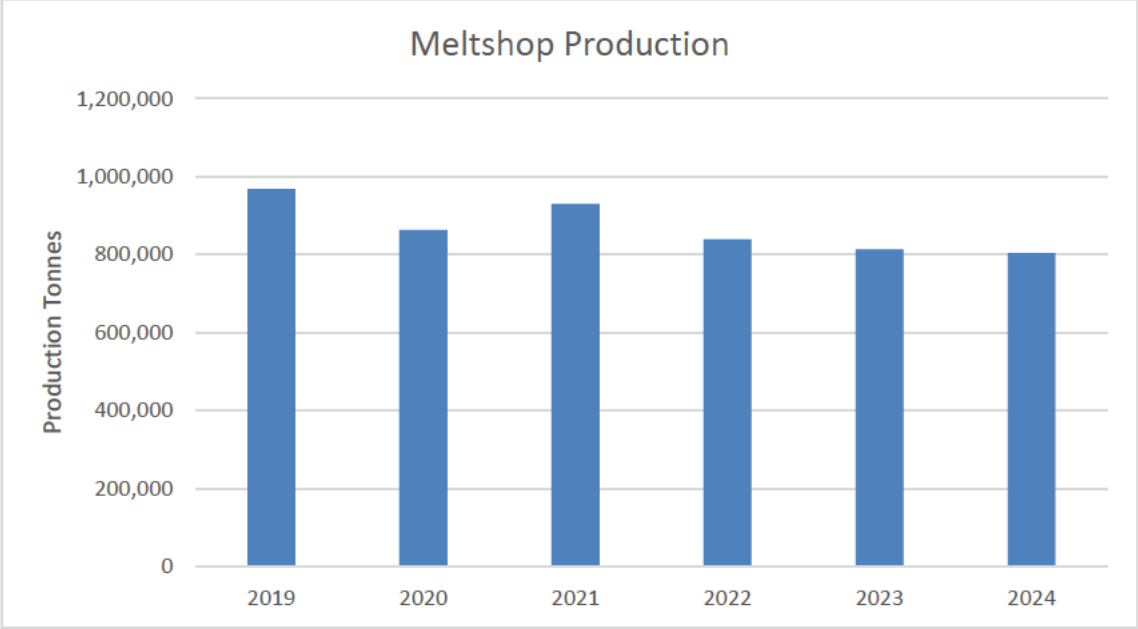

Figure 1: Finished Steel annual production from activity A1. There was a decrease in production of 1.2% from 2023 to 2024.

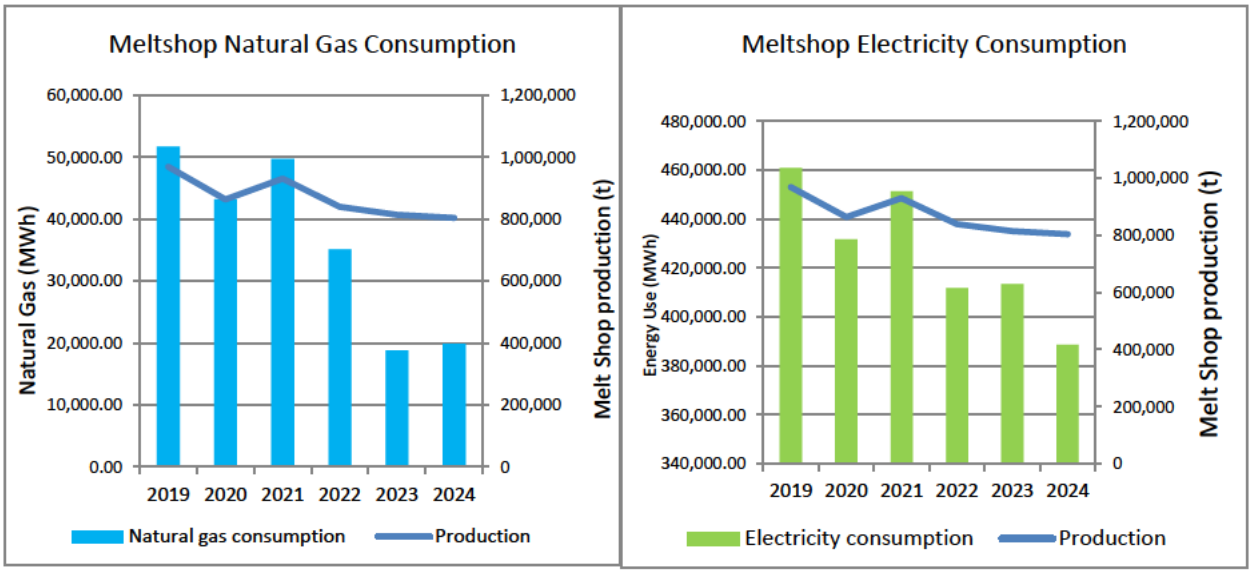

Figure 2: Melt Shop Energy Consumption
The electricity consumption at the Melt Shop decreased by 6.4% instead the gas consumption has slightly increased of 0.3% in comparison to 2023 usages. The Melt Shop will continue to focus on energy as part of their Objectives and Targets throughout 2025.

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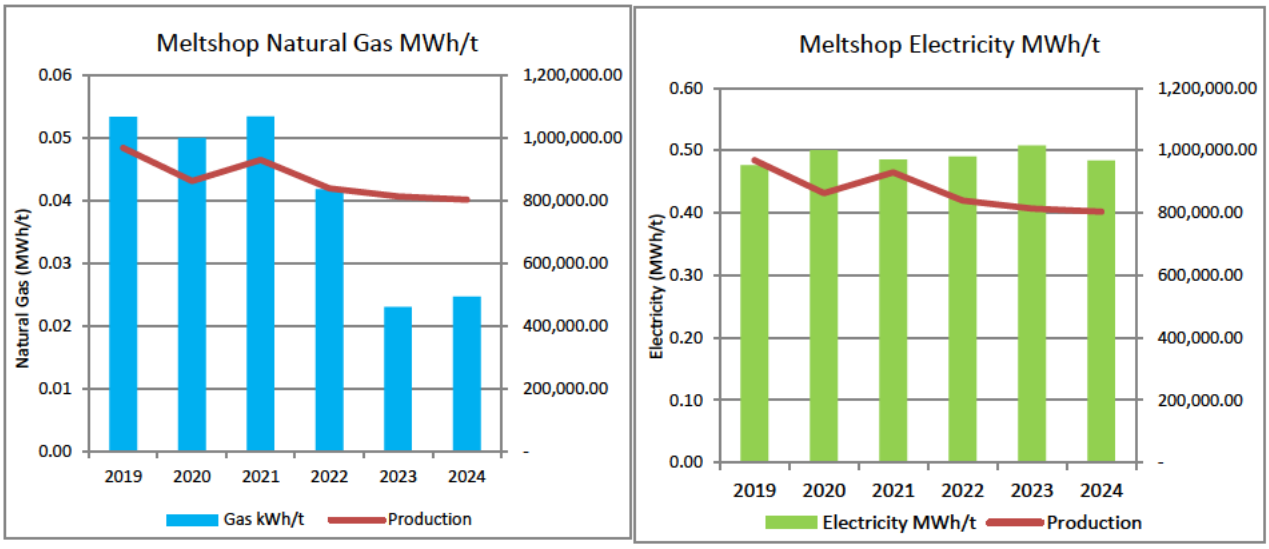

Figure 3: Melt Shop Energy Consumption per tonne (MWh/tonne)
From 2023 to 2024, per tonne of steel produced, electricity consumption decreased by ~5% while natural gas use increased by ~6%.

The absolute electricity consumption decreased in 2024 of 6.4% compared to 2023. This is largely due to the efforts made in line with CELSA's Net Zero by 2030 strategy. Actions included:

- Optimisation of electrical and oxy patterns to optimise the performance of the furnace arc and reduce electricity consumption.
- Optimisation of furnace scrap blend to improve the furnace melting performance.

Whereas the absolute natural gas consumption for 2024 has basically remained the same as per previous year. However, Celsa has improved its natural gas monitoring compared to 2023.

Melt Shop electricity consumption per tonne decreased in comparison to 2023 performance. This is due to the actions mentioned above.

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1.2.2 Air emissions

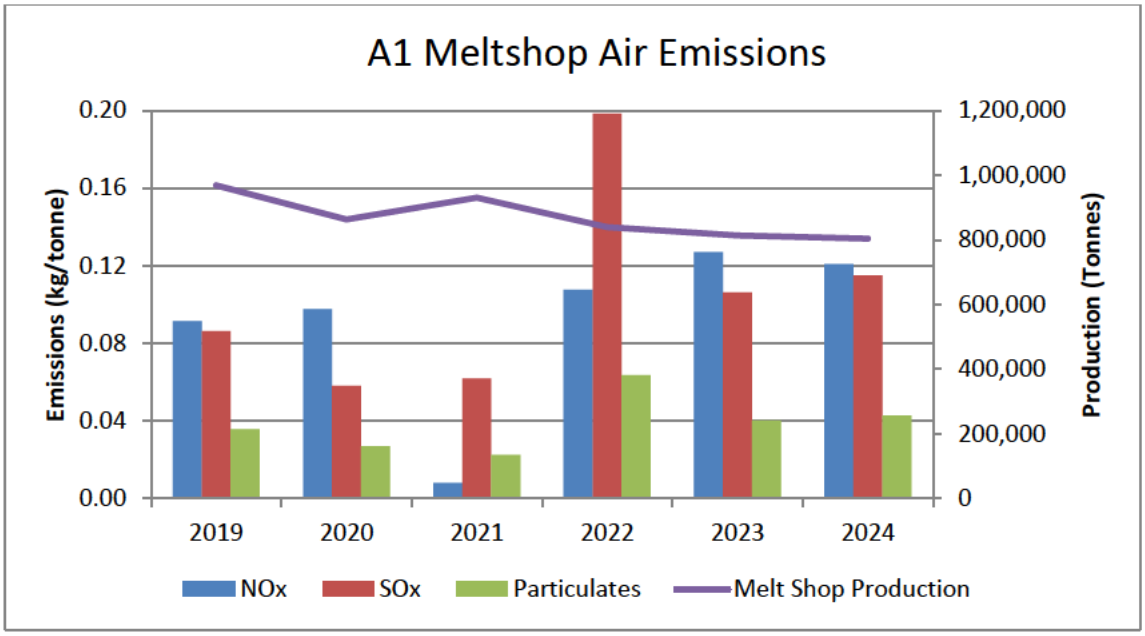

Figure 4: Melt Shop Air Emissions (kg/production tonne)

Emissions figures per tonne of steel billets produced remained similar from 2023 to 2024 based off of results obtained from a spot sample once each year.

1.2.3 Waste Water Quality

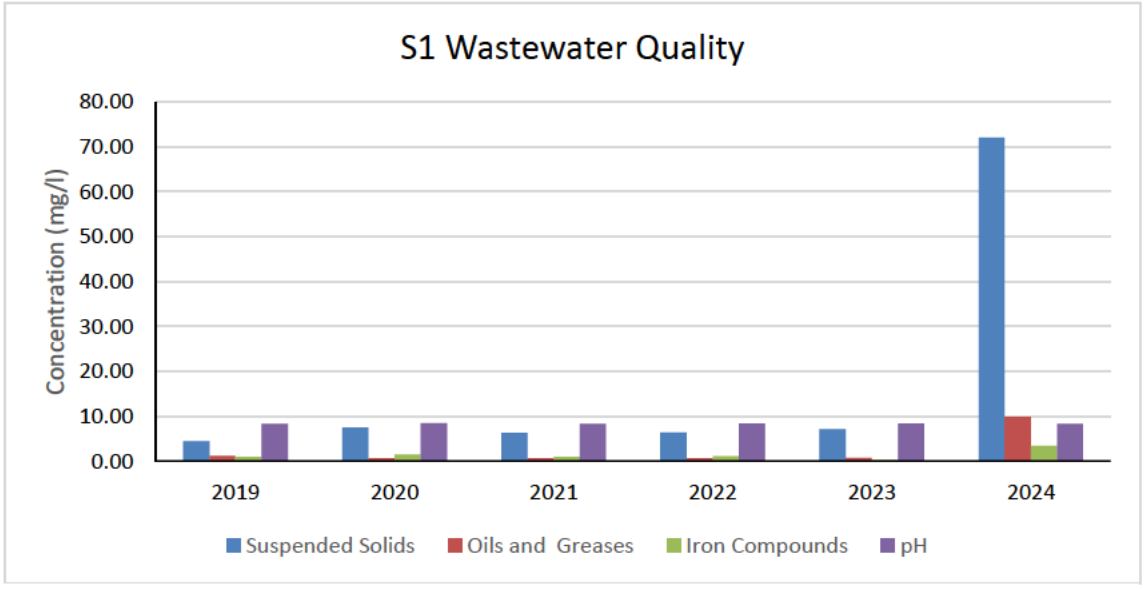

Figure 5: Melt Shop Waste Water Quality (mg/l)

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Water Consumption

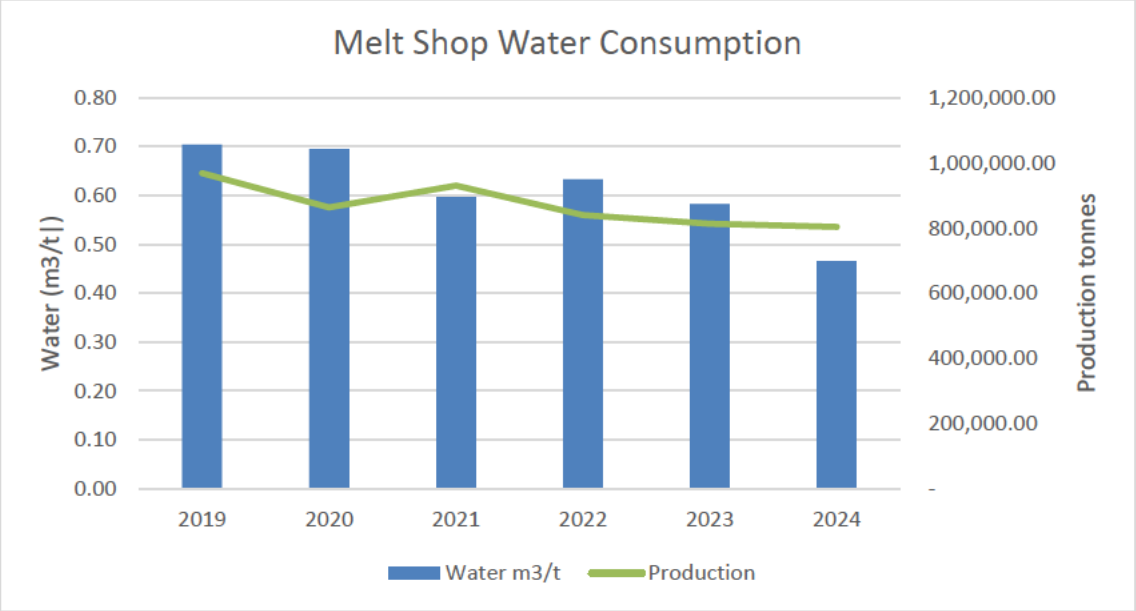

Figure 6: Melt Shop water consumption (m³/tonne)
2024 water consumption in the Melt Shop decreased in comparison to 2023 from 0.58m³/t to 0.47m³/t.

1.2.4 Waste Production

Figure 7: Melt Shop waste production (tonnes)

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1.2.5 Fugitive Emissions

Particulates are formed as a consequence of EAF steelmaking and are created from the volatilisation of the steel scrap during the electric arc melting process. Large volumes of fume are generated during the melting process. Fume is drawn off both the electric arc and ladle furnace using extraction fans. The main fume discharge and any fugitive releases in these areas are captured by the roof canopy (total capture system) and conveyed by ducting to the abatement plant (bag house).

CELSA completed a large amount of maintenance work which has had a beneficial impact at reducing fugitive emissions some of this work includes:

- Repairs to Melt Shop roof:
  - Replacing with higher quality materials to minimise need for future repair have been completed, and now general maintenance has been put in place.

- A1 de-dusting plant:
  - Revised Maintenance Schedule for de-dusting plant to ensure all dust bags are inspected regularly and thoroughly. This included using the installed probes within each cabinet to monitor dust levels, helping to detect any issues early.
  - Real-Time Monitoring and Flushing System to continuously track dust levels across cabinets. If elevated dust levels are detected, affected cabinets are flushed out to minimize any release into the environment.

Slag is produced during the making of steel and is a normal by-product of the EAF process. Slag from the EAF is tipped to flow beneath the furnace onto the slag bed. As this is conducted within the main Melt Shop, any emissions arising from this are captured by the air collection and abatement system. The slag is then moved by a specially adapted bulldozer to an outside intermediate staging area, to blade the material out and allow cooling water to be sprayed onto the slag. The slag is kept in the staging area until a cooled economic load has been assembled. It is then transported via dedicated wagons to the slag reprocessing plant on the other side of the Rover Way.

As part of the secondary steel process an artificial slag is generated on the steel ladle. Subsequent to casting, this slag will be tipped to the ground. When cooled, it is also transported to the slag handling plant across Rover Way. As part of CELSA's circular economy business model, our by-product is sold to our contractor to be used in the Asphalt production process at their on-site plant. The asphalt produced at the plant is used in the construction of new roads.

At the mineral site, where slag is cooled and weathered, BAT techniques are implemented to minimise fugitive dust lift off, such as the operation of a dust suppression system using groundwater abstracted with a submersible pump.

CELSA has one Turnkey Optical Particle Analysis System (TOPAS) and one Oizom dust monitors in place in the local community.
The primary monitor, located at Willows High School, enables CELSA to gain a greater understanding of dust levels in Tremorfa. The dust particulate results are reported to NRW on a quarterly basis. The second reserve monitor is located on the roof of Baden Powell, the local primary school to enhance CELSA's understanding of dust levels in Tremorfa. This also provides us with supplementary data should the Willows High School monitor fail.

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Additional 2 particulate monitors are installed at the material handling site adjacent to the Melt Shop operations on Rover Way. The information that these monitors provide will further aid efforts to minimise fugitive dust emissions from activities on site. Currently, CELSA uses dust mitigation measures in accordance with the most recent Best Available Techniques (BAT) reference document for iron and steel production to manage fugitive dust generated by this activity.

1.2.6 The review of annual production/treatment data set out in Schedule 4 Table S4.2

A1 Monthly Average Concentrations

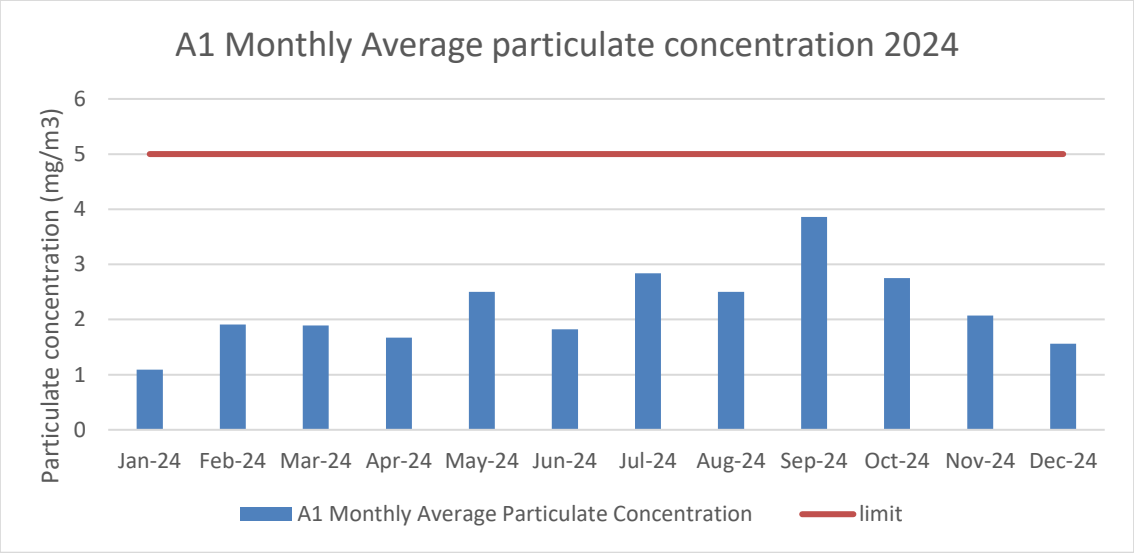

Figure 8: 2024 Melt Shop Monthly Average Concentration of continuous monitoring (mg/m³) – A1

CELSA's A1 continuous emissions are monitored and analysed throughout each shift and discussed in the daily morning meetings with the Melt Shop senior managers, production personnel and engineers. Investigations are conducted in order to identify any issues that could contribute to negative data trends and any permit breaches.

In 2024 there were 12 breaches for A1 CEMS where the daily average exceeded the permit limit of 5.0 mg/m^3. The majority occurred between the date of 10th Sept to 14th Oct 2024. This breach was investigated internally by the Melt Shop to identify a root cause and apply corrective measures, on this instance bag filters in the dust plant had failed and were replaced. Action plans to prevent future occurrence of particulate breaches were immediately implemented including a revised maintenance programme for the extraction system. There were no further CEMS particulate breaches for the A1 stack following the actions put in pace.

A5 CEMS monitor is continuously tracked to minimise the possibility that the operator of the Asphalt Plant exceeds the trigger level of 20 mg/m^3. In the event the trigger level is exceeded an investigation takes place and an action plan developed to correct and rectify the issue.

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Conclusion

In summary, improvements have been made in a number of areas, especially electricity consumption. As CELSA looks to progress on its decarbonisation journey, ongoing improvements in resource efficiency will be continued. In 2024 challenges posed by the volatile energy market disrupted usual production patterns, impacting the progress that could be made in this area. CELSA's wastewater continues to be monitored; however, the Melt Shop wastewater quality has deteriorated through the second part of 2024 and parameters such as TSS, Total hydrocarbons, Total iron and Total Arsenic have been above permit limits. This could have been potentially caused by the dosing of a chemical (Turbodispin) used to combat legionella. However, an investigation and review is in progress of the performance of the onsite water treatment plant to determine if improvements are required.

The Environmental Induction Training provided to all new members of the company continues to be actively improved upon to ensure that individuals can make educated decisions with respect to environmental matters from their first day with the company onwards. Training refreshers on specific topics are also sent out and communicated once a month to refresh and update existing employees on the importance of the environment, and how their actions can have an impact.

In 2025, CELSA will continue to manage and improve environmental impacts through the Environment Management System and strive to achieve the challenging targets set.

If you require any further information, please do not hesitate to contact the Environmental Department.

Yours sincerely,

[redacted]

Environmental Manager