Department for Energy Security & Net Zero

Milver Metals Ltd Industrial Heat Recovery Support Case Study

Industrial Heat Recovery Support (IHRS) Programme

March 2023

Context

Milver Metals Company Ltd applied to receive funding from IHRS to purchase and install heat and energy saving equipment in their production site in Coventry. Hi-Fire Burners, Gwyn Thomas Fabrication Ducting, and a Econotherm Heat Recuperator were identified as key to enabling the factory to reduce heat and energy consumption by up to 24%.

How IHRS has supported the project

Based on our original plans, the estimated energy saving from the manufacturer was 24%. However, this would vary depending on the fluctuating heat generated by the furnace due to its door being open for different durations during operation.

IHRS provided additional funding to help purchase the relevant materials and installation equipment for our first furnace, acting as a test to ensure the energy saving would deliver on the expected levels. If it does, then the support of IHRS will mean that we can then roll out these heat recovery integrations to the two additional holding furnaces on site.

Benefits and added value

The new ducting has helped with improved airflows and assisting in the removal of pollutants more efficiently into our advance DISA filtration systems, resulting in environmental benefits which have been noted by the Environment Agency's regular monitoring of the site.

We have an external company compiling our Scope 1 and Scope 2 emissions to arrive at a calculation, showing us our saving in CO2 as well as a reduction in natural gas consumption. This will help us towards our goal of reaching net-zero and reassure us in our decisions when considering Blue Hydrogen as a natural gas substitute in the future.

Lessons learned

Within our heat recovery CAD designs, we had to reconsider components due to the fluctuation of temperature in the aluminium foundry. This is affected by the type of aluminium alloys we are producing and the type of Post Consumer Scrap we feed into the furnaces.

We considered a mild steel damper, but found it unsuitable and had to redesign on in stainless steel to accommodate temperature peaks that would have exceed typical melting points of aluminium. This resulted in unforeseen delays and additional cost, but we remained committed to commissioning the project and are excited about the energy and CO2 savings that lie ahead.

“The IHRS staff have been very supportive and the grant has contributed significantly to helping us achieve this milestone.

As the first secondary aluminium plant in the UK to use this type of technology, we are humbled to spearhead this initiative and set the standard for cleaner and greener initiatives with the support of BEIS and the wider UK Government.”

- I.D. Bell, Director Industrials, AMC Group PLC

Rebuilding of sections of the EMP furnace to which the Recuperator is attached to ensure that the equipment maximises energy savings.

New ducting - part of the same Recuperator / EMP furnace chain.

New refractory bricks and lining put in place and rear of furnace fabricated to accept the transition piece to the Recuperator