Department for Energy Security & Net Zero

NGF Ltd Industrial Heat Recovery Support Case Study

Industrial Heat Recovery Support (IHRS) Programme

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Contents

Context

NGF, a specialised designer and manufacturer of specialised glass cord products, serves automotive and domestic industries. Recently, a new pollution control plant (PCP) was installed to treat waste gases from a cord coating process, so IHRS conducted a project study to investigate the possibility of using waste heat from the local PCP to eliminate the natural gas required to heat the room.

How IHRS has supported the project

Since the glass filament requires a lengthy, low-grade heat requirement, the waste heat required from the PCP is insignificant and therefore viable as a heat recovery project. The potential to reduce natural gas consumption by >1.6GWhr per year – and reduce CO2 emissions by ~300 tonnes per year – was quickly identified by the study.

Also, the IHRS funding (in a relatively low capital value project) positively impacts the investment case. The Covid-19 pandemic has stressed the business performance globally and projects with an attractive investment case and positive environmental impact have been prioritised. The IHRS funding has helped improve the investment case, resulting in the approval of the Feasibility Study and Preliminary Engineering works.

Benefits and added value

The requirement to look at various heat recovery options and calculate the efficiency of each has led to an incredibly efficient and cost-effective proposal.

As well as environmental and cost benefits, the proposed heat recovery system has an integrated recirculation system which allows humidity control in the conditioning room – something which currently doesn't exist. Pus, it has the potential to improve glass filament quality which could result in yield improvements down the line.

Lessons learned

The proposed solution reached was not in line with our initial expectations, but the process encouraged idea generation and the assessment of alternative technologies. It led to a solution lower in cost than our initial estimates, and with addition controls that could improve product quality and downstream processing. The process with the IHRS has been well structured and the contacts I made have been responsive in both in technical and reporting areas..

"The IHRS support and funding has allowed NGF to invest in a thorough, upfront design phase, resulting in a technical solution optimised for heat recovery and efficiency. Provisions are in place for the implementation of the project and within the next 12 months, I am positive

that the project will be completed and provide the site with positive environmental and economic benefits."

(Sam Hurst, Engineering and Process Development Manager)

Picture of RTO where waste heat recovery is possible