

Plant Steam Boiler Optimisation

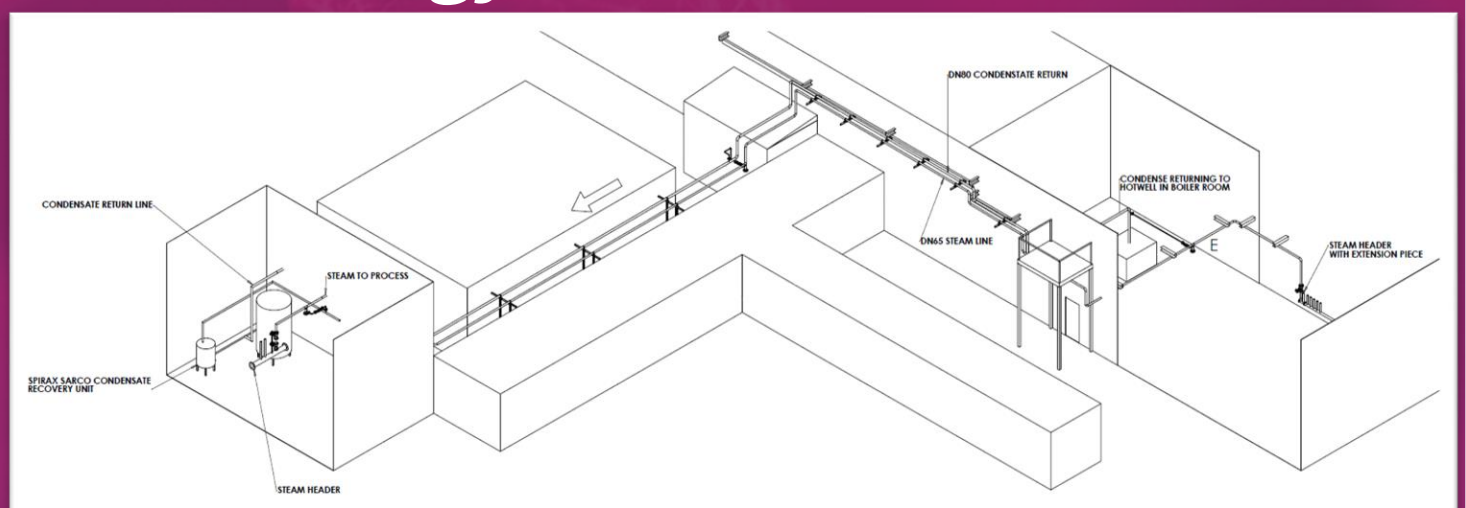
Summary of issue or opportunity being addressed

Fluctuations in plant steam demand from installed meters showed low utilisation of the boilers resulting in:

- Poor boiler efficiencies
- Boilers utilising energy in hot standby

Introduction to technology or solution

Opportunity identified to link the plant steam systems



Impact of solution

- Energy consumption reduced by 543,000 kWh per year
- 102 t per year reduction in CO₂ emissions

Considerations during implementation

This project enables delivery of additional efficiency projects:

- Installation of combustion optimisers
- Sequence controllers to manage boiler duty
- Economizers to utilize flue gas waste heat for feed water pre-heat.

These initiatives will deliver a further 110 t per year reduction in CO₂ emissions

Refrigerant Gas Replacement & Leak Detection

Summary of issue or opportunity being addressed

Fluorinated gases (F gases) and in particular hydrofluorocarbons (HFCs) are still widespread in refrigerant systems.

Their Global Warming Potential (GWP) is significantly higher than that of CO₂

Introduction to technology or solution

- Replace refrigerants with alternatives with lower GWP
- Implement detection systems on site
 - Continuous monitoring of 30 locations by 70 detectors capable of detecting 10 PPM and covering the highest risk GWP refrigerants
 - Exceeding regulatory expectations

Impact of solution

- **Up to 56% reduction** in GWP from alternate refrigerants
- **15% reduction** is the site's total GWP associated with refrigerant gases



Considerations during implementation

The UK is phasing down HFCs by 79% by 2030. At Ipsen Wrexham we have committed to a two-pronged approach to combat the potential impact of our refrigerants.