



One Man's Waste is Another Man's Treasure

John Wainwright & Co. Ltd predict savings of £14K* for first year of new heat recovery system.

Our knowledge and experience in heat transfer, fluid mechanics, process engineering and hydraulics were put to good use recently at an asphalt production facility in Avonmouth. Here we provided a bespoke heat recovery system for John Wainwright & Co. Ltd.

This industrial heat recovery project benefited from the Department for Business Energy and Industrial Strategy's (BEIS) IHRS programme, with the funding application supported by Essco as part of a package of services.

The heat recovery system is operational and has a forecasted reduction in CO2 emissions of around 145 tonnes per annum. This translates to an anticipated fuel saving of up to 4%, which is around £14,000 per annum*.

Kevin Saunders, Business Improvement Manager at John Wainwright & Co. Ltd comments,

"This project represented a significant investment and is the epitome of our commitment to the environment. Under the guidance of Simon Lumkin (Project Lead) and with continued support from Lawrence Rogers, a great team worked extremely hard to deliver an energy efficient system we believe is the first for our industry. The system was carefully designed by Lawrence ensuring it delivered energy savings without compromising the production process."

*John Wainwright
& Co. Ltd, Asphalt
Production Facility in
Avonmouth*

Contact Lawrence Rogers, our heat recovery specialist, on **07776 150538** or email **projects@esscogroup.co.uk** to find out how we can add value to your next project.

*The saving quoted is based on current volumes and costs. This will fluctuate when demand increases or decreases.



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TECHNICAL DETAILS

The system design at the Wainwright's facility operates by recovering waste thermal energy through the aggregate drying process and re-injecting this recovered energy into the process to reduce the burnt fossil fuel consumption on site.

Air to water heat exchanger technology is used to capture the otherwise wasted thermal energy in the exhaust flue and transfer this to a hydronic system. This recovered thermal energy is used to pre-heat the combustion air onto the 19MW gas burner resulting in a reduction in fuel usage onsite.

Additional waste thermal energy is also recovered from a nearby air compressor, and this is injected into the combustion air pre-heating process to further boost the efficiency of the system and reduce the fossil fuel consumption.



John Wainwright & Co. Ltd, Asphalt Production Facility in Avonmouth

Lawrence Rogers, Principal Design Engineer at Essco Energy comments,

"This was a fantastic project to be involved with, designing a bespoke package offering with attractive energy savings alongside low parasitic loads and with minimal risk to current production. The project was not without its challenges (COVID aside), such as the harsh environment the equipment must operate in, however these challenges were overcome and a robust, low maintenance system was delivered."

INDUSTRIAL HEAT RECOVERY SUPPORT (IHRS) PROGRAMME

The Government's Industrial Heat Recovery Support (IHRS) programme made an important contribution to enabling this project at a time when decarbonising industry and optimising energy use is vital. The grant funding received was crucial, as without it the project did not meet the Company internal rate of return. Research undertaken for the Feasibility Study identified two key areas for heat recovery which would help to decarbonise the process and support Environment, Social and Governance benefits.

Essco work closely with the Government's Industrial Heat Recovery Support programme (now Industrial Energy Transformation Fund IETF) and can advise where this may be a suitable option and take care of the application process from start to completion.

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