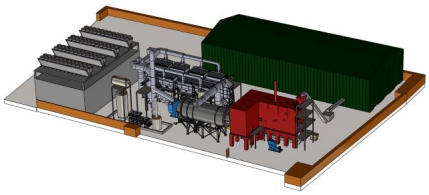

Organic waste and Energy-from-Waste (EfW) solutions specialist, Tidy Planet , has sold a new plant to Brooke Energy, in Exeter.

The Small Waste Incineration Plant (SWIP) is replacing a redundant biomass facility that Brooke Energy recently acquired.

The new combined heat and power system will process three tonnes per hour – 24,000 tonnes per annum – of refuse derived fuel (RDF) from local waste collectors.

This will maximise waste throughput and energy recovery, while remaining within the local authority permitting regulations.

The plant is the first full-size RDF EfW system in the UK that uses industrial boiler manufacturer Sugimat's new solid waste-fuelled Horizon+ thermal oil boiler technology – specially engineered to process high-ash-content fuels – to produce thermal power for Turboden's Organic Rankine Cycle (ORC) electricity-generation equipment.

Commenting on the project, Glyn Brooke, director of Brooke Energy, said: "While we have extensive experience with the wood chip market – with three operating biomass-based power plants in the South of England – it's our first-ever RDF EfW facility.

"We wanted a compliant, future-proofed solution that would be quick to plan and implement – providing a faster route to generating both energy and revenue."

The heat generated from the facility will be sent to a local district heating scheme, while the electricity will be exported to the National Grid.

Simon Webb, managing director of Tidy Planet, added: “We’re seeing rising demand for our SWIP solutions across the industry – and this one contains the largest solid waste-fuelled thermal oil boiler to be installed in the UK.

“Companies are feeling the pain with the rising cost of energy and waste disposal as the global legislation is making RDF difficult and expensive to dispose of.

“As a result, more organisations are searching for alternative solutions that offer lower costs of energy production and a guaranteed future revenue stream.”

The return on investment for the system – which has a 20-year design life – has been calculated at three years, depending on site-specific factors.

“Another crucial advantage of a SWIP, is that it can be permitted by a local authority in six to nine months,” Simon added. “However, larger facilities outside of this scheme require a full permit from the Environment Agency – which currently takes years to obtain.

“Along with our partners, we’re proud industry champions of ‘recoverable energy’, and it is great to be working with Brooke Energy to help the company close the loop and implement a more environmentally and financially sustainable energy model.”

The new plant is set to be installed in 2023.

For further information visit www.tidyplanet.co.uk