HEAT to POWER

What is the Market?

UK industry loses £4bn (48TWh) in recoverable Low Grade Waste Heat (<100°C) each year. On a global scale, industrial waste heat increases to 3.7PWh: enough energy to power the USA. Any heat intensive industry or process offers opportunity: Server Farms, Food & Drink, Manufacturing & Founding, Petro-Chem, Power-Gen, CHP. Many industries pay to cool their products which can be avoided by heat recovery whilst simultaneously generating profitable power, CHP & DHN are proving good applications.

How is the FeTu device used?

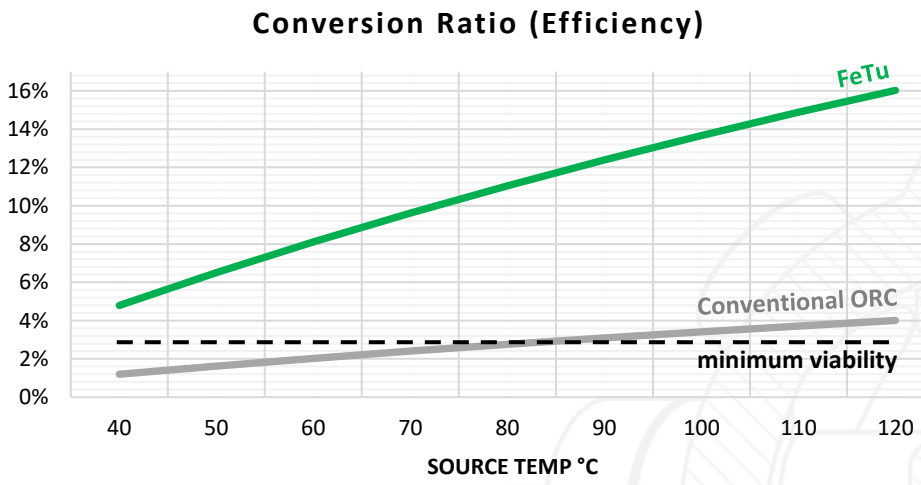
FeTu have realised groundbreaking performance as an **Expander** within an Organic Rankine Cycle (ORC): a renown thermodynamic cycle capturing waste heat by evaporating a fluid > producing pressure > kinetic energy, via FeTu technology.

Performance

Due to the revolutionarily Expander performance, FeTu enables profound new efficiencies (60% Carnot) which bring commercial viability to recovery temperatures as low as 40°C. i.e. converting 10% kW(thermal) > 10% kW(electricity) from a 60°C source.

Whether your heat source is 100kW or 5MW, FeTu typically offers a 3-year CAPEX payback (subject to run hours), whilst providing Green Kudos, with immediate impact upon Carbon Levies & Carbon footprint.

Check out how you could benefit at **h2p.co.uk** for our online performance calculator.



Company Overview

Who are FeTu?

Established 2016 by Jon Fenton: CEO, FeTu Ltd are an Innovation Driven Enterprise that has created a simple heat engine, a revolutionary 'green' energy device targeting carbon reduction across a broad range of energy systems and industries, with IP in the 'Global top 40' territories. Multi-award winning, most recently, the Institute of Physics (IOP) Business innovation award. This is a British brand who innovate, design and manufacture in-house using world class 5-axis CNC machine tools to exacting time & cost-effective quality standards.

What is the FeTu Technology?

The unique, patented, architecture of this new engine generation is pure of form and idealised by function, a simple, elegant, energy motor with ruthless class leading efficiency. Its unique 'continuous flow + positive displacement' functionality combines the benefits of both centrifugal & reciprocating piston engines. Cycling four fluid displacement chambers per revolution in a balanced, power dense & compact design.

The chambers collapse to zero volume (500:1), giving easy access to a wide range of Volume Ratios from 1:1 to 10:1 , with incredibly high Volumetric Efficiency (+95%).

Internal parts have no contact other than 'frictionless' bearings. A double acting action means the dynamic internals have equal expose to suction & discharge zones, yielding a self cooling, low friction design of ultra-high thermo-mechanical efficiency (+95%).

100% recyclable, this power-dense unit is lightweight & scalable, with power-to-weight & power-to-size ratio beyond that of competitive fluid energy systems.

Use Cases?

FeTu have an established pedigree and extensive technical runtime data, in application as a gas Expander (Heat-to-Power) and, in reverse, as a gas Compressor (Heat Pump).