

## Engine Manufacturers. Genset integrators.

### **Bowman cogeneration solutions turn waste heat into valuable 'free' energy!**

**By recovering waste heat from the jacket water and exhaust gases, it's easy to convert a reciprocating engine based genset into a high efficiency CHP solution.**

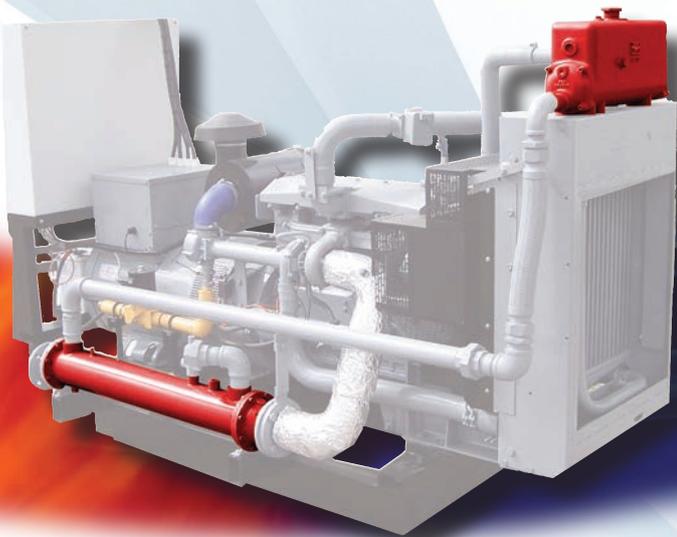
Bowman Heat Exchangers are the simple, proven way to achieve this, enabling a more profitable, environmentally sensitive product to be offered at a competitive price. The benefits are impressive and include:

- Free heating and hot water – no additional fuel required or CO<sub>2</sub> generated
- Up to 60% recovery of the engines waste heat energy
- Suitable for use with both conventional or alternative fuels
- Extremely compact units – very easy to install
- Fully welded stainless steel construction on all exhaust gas units – maximum reliability and durability
- Fast delivery from stock
- Recover even more energy with Bowman Charge Air and Oil Coolers.

By installing Bowman heat exchangers to recover waste heat energy, engine manufacturers and genset integrators can increase the efficiency of their equipment from around 30% (power only) to up to 90% (CHP).

Bowman manufacture one of the most comprehensive ranges available, which includes Exhaust Gas Heat Exchangers, jacket water Header Tanks, Charge Air Coolers, Oil Coolers and Fuel Coolers. Our products are proven worldwide in some of the most demanding applications, where waste heat recovery is required for 16 kW to 1 MW CHP systems.

All Bowman heat exchangers are produced to the highest quality in the UK at our dedicated manufacturing centre to ISO 9001:2008 standards. Most models are available from stock and are fully supported with technical advice, product support and rapid delivery. Additionally, a comprehensive replacement parts service is provided worldwide by the company.



# **BOWMAN**<sup>®</sup>

A World Leader in Heat Exchanger Technology

# Turning waste heat into vital energy throughout the world!

From the depths of an Antarctic winter, to the heat of the Australian outback, Bowman heat exchangers can be found operating efficiently and reliably in the most remote and extreme conditions on earth.



## Affordable power for the Canadian North

In Northern Canada, Bowman charge air Coolers and exhaust gas heat exchangers are playing a vital role in a cogeneration system that has halved electricity costs in a remote community. At Fort Providence, where winter temperatures can fall to -40° C, utility and diesel costs are extremely high. A massive 60% gain in heat capture due to the high efficiency Bowman units has helped reduce amortised cost per kWh to \$0.24\* compared to \$0.51\* for commercial grid power – a 52% saving.



## Major breakthrough in waste heat recovery

With the demand for electrical power ever increasing, Bowman units are being used on leading edge technologies that capture waste heat from the genset and convert it into more electricity. In the USA, Bowman heat exchangers are at the heart of a ground breaking waste heat recovery technology that could dramatically increase the efficiency of diesel powered gensets and reduce fossil fuel usage by up to 10%.

\*Based on figures provided from 2013/14

## Comprehensive range

### Exhaust Gas Heat Exchangers

Exhaust Gas Heat Exchangers recover waste heat from the engines exhaust stream and convert it to hot water for district heating. Bowman units are suitable for use with Biogas, Diesel and Natural Gas for applications up to 1MW.



### Oil Coolers

Bowman units can recover heat from the engines lubrication system, ensuring optimum performance by maintaining the correct temperature, whilst contributing to overall CHP system efficiency.



### Header Tank Heat Exchangers

Bowman Header Tank Heat Exchangers are a highly efficient way to recover waste heat from the engines cooling stream and convert it to valuable energy for heating and hot water as part of a CHP system.



### Charge Air Coolers

Charge Air Coolers improve fuel efficiency and enhance engine performance by cooling turbo charged air prior to it entering the engine. Bowman's standard Charge Air Cooler range is suitable for engines up to 800kW.



## Surviving the Antarctic winter

The British Antarctic Survey's (BAS) new research station, Halley VI, is proof that Bowman products can deliver sustainable, reliable power, in the harshest environment. With winter temperatures in the Antarctic plummeting to -50 degrees C and snow falling for half the year, the research station is cut off throughout the winter period. The Bowman heat exchangers are a vital part of the CHP system that supplies lifesaving energy to the base for space heating, hot water, lighting, ventilation and electrical power.



## Green heat for Turnberry Golf Course

As one of the world's premier golf courses, Turnberry has hosted the British Open Championship four times. Now a 'Luxury Collection Resort' it combines a hotel, spa, plus sporting and outdoor leisure activities. With demand for energy expanding, it was keen to reduce energy costs and CO2 emissions by generating power on site through an independent CHP system. Working with I Power Energy Systems, Bowman supplied a series of exhaust gas heat exchangers to capture waste heat from the generators and convert it to free energy for hot water and space heating.

Technical product literature is available on request for all Bowman Heat Exchangers and Oil Coolers, or alternatively they can be downloaded by visiting [www.ejbowman.co.uk](http://www.ejbowman.co.uk)

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