

Case study: Commercial

## Office block cuts carbon emissions with climate control from MHI



### Fact file

Project	Large office block in Telford
Project outline	Replace an inefficient gas central heating system
Installer	Eco-Electrical Contractors
Products	MHI KXR 3-pipe heat recovery system



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# Office block cuts carbon emissions with climate control from MHI



A new VRF air conditioning system from Mitsubishi Heavy Industries (MHI) is encouraging better working productivity – and qualified for a grant from the Carbon Trust for 25% of the capital cost – for tenants of a large office block in Telford. Stratum House has replaced an inefficient gas central heating system with a heat recovery system from MHI's KXR inverter range for simultaneous heating and cooling as and where required. It achieves a CoP of up to 3.4 and improves the building's overall energy efficiency.

The old gas central heating at Stratum House would simply heat the whole of the two-storey building in winter, which meant that occupants on the warmer south facing side were often too hot, while in the summer portable air conditioning units had to be hired to keep them cool. To address this problem, main tenants APT Solutions approached climate control experts and co-tenant, Eco-Electrical Contractors. "A KXR three-pipe heat recovery system from MHI is the perfect solution for this type of application where orientation can mean heat loss/gain varies on each side of the building," says Eco-Electrical's MD Ian Mottershaw. The system offers highly sophisticated control to provide heating or cooling operations to individual units according to single office or multiple area requirements. Surplus heat on the sunnier, south facing side is recovered to provide useful energy for the cooler, shadier side of the building. Energy efficiency is also maximised by MHI's inverter controlled compressors which

adjust automatically to meet the precise demands of indoor units to save energy and reduce temperature fluctuations.

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Ground and first floor offices on the east side of Stratum House are served by two KXR outdoor units from MHI with a combined cooling capacity of 80kW. These are connected to a total of 20 MHI indoor units, either FDT 4-way ceiling cassettes or FDK wall-mounted units depending on the location, with cooling / heating capacities ranging from 2.2kW to 11.2kW. Fourteen FDT indoor units and one FDK unit are installed over two floors on the west side of the building and are connected to a 56kW KXR outdoor unit. Eco-Electrical's experienced team was able to complete installation of the new MHI VRF air conditioning system at Stratum House during normal working hours without causing any disruption to tenants' business operations.

