

CHP helps fire fighters cut carbon

Mini CHP units are playing a key role in the innovative strategy of the London Fire Brigade (LFB) to dramatically cut its carbon emissions.

LFB – the world’s third largest fire fighting organisation – is upgrading its stations with a combination of low carbon technologies. 18 London fire stations have already installed Dachs mini-CHP SE kits – consisting of a CHP unit, a condenser and a buffer vessel – to work alongside wind turbines, solar thermal systems and photovoltaic (PV) rigs in a bid to dramatically reduce the environmental impact of these energy intensive facilities.



More stations are in the process of installing the mini-CHP systems, which are manufactured in Germany by SenerTec GmbH, a Baxi Group company.

“Our green work is continuing apace, with more and more fire stations now being far less reliant on traditional energy sources,” said LFB energy manager Ian Shaw. “Due to the nature of our work, our facilities are energy intensive. We are, therefore, determined to deliver as much of our needs as possible from sustainable sources close to the point of use.

“In this way, we act as a suitable local role model and deliver demonstrable benefits to the environment.”

Between July 2007 and October 2007 Battersea Fire Station’s Dachs mini-CHP unit generated 4,100 kW of electricity and the PV system delivered 1,730kW of ‘free’ electricity. The two systems combined are expected to reduce the organisation’s carbon footprint by 13 tonnes a year.

Battersea Fire Station, which registers the energy produced and carbon saved by the CHP system in ‘real time’ on a prominently displayed digital panel, has reported a £2,500 annual saving on fuel costs. This means that the payback on the purchase cost of the CHP system will be less than six years.

LFB prides itself on a pioneering approach to energy. In 2005, Richmond Fire Station became the UK’s first to be solar powered and today more than 40 of its 112 fire stations have been or are being fitted with some form of renewable energy source.

LFB is managed by the London Fire and Emergency Planning Authority (LFEPA), which is part of the Greater London Authority. London has a carbon reduction target from buildings of 15 per cent by 2010 and overall the Brigade has already made a 17 per cent reduction from its 1990 levels.

Dachs mini-CHP engines are designed to be robust and reliable so will run for thousands of hours, delivering up to 440 MWh of electricity and 1,200 MWh of usable heat at a combined efficiency of over 90 per cent. They will also reduce carbon emissions by over 100 tonnes during their operating life compared with conventional methods of delivering heating and electricity.

“Fire stations are ideal for mini-CHP,” said David Shaw (no relation), business manager of Baxi-SenerTec UK. “They are 24-hour, 7-days-a-week buildings with a high demand for hot water and heating. Any building with a significant heat load will get the most out of their mini-CHP system as it will be running almost continuously generating generous amounts of electricity.

“As well as being low in carbon emissions, this makes CHP very financially attractive particularly following the dramatic increase in energy prices.”



Using reliable internal combustion engine technology, the Dachs unit generates electricity while it is running and produces heat as a by-product, which is captured and used for water and space heating. By generating power at, or close to, the point of use, it avoids the massive wastage of central power stations, which lose around two thirds of their fuel energy in waste heat and during transmission.

For more information go to: www.baxi-senertec.co.uk