

Media Information

BT0017

December 2004

UNIVERSITY FIRST FOR MINI-CHP UNITS

The University of Nottingham is believed to be the first higher education establishment in the UK to utilise mini-Combined Heat & Power (CHP) units. The university's School of The Built Environment has installed two DACHS units within its highly innovative Sustainability Research Building (SRB). The DACHS mini-CHP units have been supplied and commissioned by Baxi Technologies UK, the Baxi Group division responsible for developing sustainable energy systems and technologies.

The £2 Million SRB, located on the University Park campus, provides laboratories and studios for students and researchers. However, it has also been designed to be one large laboratory in itself, and a testing ground for new building materials and power sources which may be commonplace in the future. This includes self-cleaning glass, daylight and ventilation stacks, rainwater harvesting and a rooftop wind turbine and photovoltaics for electricity generation, in addition to the DACHS mini-CHP units.

This is the second DACHS installation carried out by Nottingham based contractor J. Tomlinson Ltd, having completed their first at a sheltered housing scheme in Worcester earlier this year. Barry Judd, commercial maintenance manager for J. Tomlinson Ltd commented, "We continue to be impressed with how easy it is to install these mini-CHP units. This is the second DACHS project we have worked on, and despite there being two units, a slightly more complicated flue arrangement, and the addition of heat metering, the installation still remained relatively simple."

More....

BT0017/2

December 2004

Each of the DACHS units will produce 12.5kWth of heat and generate 5.5kWe of electricity, with an overall fuel efficiency of around 80%. The units will act as the lead heating appliances within the SRB to provide space heating, working alongside high efficiency condensing boilers. The electricity generated by the DACHS units will either be used by the building itself or be fed to other areas of the campus via the university's private wire network.

In the summer months during periods of low or no space heating load, the 25kWth combined thermal output from the DACHS units will be used to drive an ejector cooling cycle system for air conditioning within the building.

This element of the project will incorporate a sponsored Phd programme with the objective to produce a proto-type small scale tri-generation system aimed at domestic and commercial applications. Tri-generation is the generation of electricity, heat and cooling from a single fuel. Project activities will include full monitoring of the operation and performance of the mini-CHP package, selection and design of the cooling equipment, and economic and environmental assessment of the whole system.

Commenting on the project, Dr Rabah Boukhanouf, of the School of The Built Environment said "The two DACHS units installed in the School of the Built Environment, University of Nottingham are extremely well built, easy to operate, have low noise level and efficiently provide most of heat energy required for space heating in the newly built three-storey SRB building. The building is used by over 60 full-time researchers and equipped with a 150-capacity lecture theatre used for teaching purposes. The units are connected to the university electricity grid network so that excess generated electricity is fed back into the local grid, assisting the university as a whole to reduce its energy bill and enhance the projected ethos of a 'green campus'. In addition, the School, in collaboration with industrial partners, is extensively involved in developing energy efficient technologies and the DACHS units are the subject of a PhD research programme initiated with Baxi Group to monitor energy performance and design a cooling system that can be run by excess heat from the units to form an integrated "Tri-generation package". This package would be capable of operating throughout the year to provide heat, electricity and cooling as needed in a building.

More....

BT0017/3

December 2004

The DACHS units are also demonstrated to our private and public partners and visitors as a good example of an energy efficient system capable of reducing energy bills and helping the environment. Last but not least, the units are also shown to our students in building services engineering as part of a teaching course on energy efficient systems”.

The DACHS was developed by Baxi Group company SenerTec GmbH – Europe’s leading exponent of the use of internal combustion engine technology for CHP applications. SenerTec and its partner network have now installed over 10,000 units within Europe, predominantly in Germany, working as stand-alone heating and electricity generating solutions, as well as in tandem with existing and/or new hot water boilers. This makes the DACHS one of the most successful CHP products in Europe.

National sales and marketing manager for Baxi Technologies UK, Yan Evans, commented, “We are delighted to be part of this extremely innovative project which displays a huge commitment by the university to environmental education. With greater consumer demand for air conditioning, the development of a small-scale tri-generation system means that relatively small properties could be served with a very efficient and environmentally friendly solution.”

Yan added, “We are starting to see an increase in interest in mini-CHP from further and higher educational establishments. Applications vary from research buildings such as the SRB at the University of Nottingham, to energy centres not only being used to provide campus buildings with electricity and heat but also being used as educational centres for training students and lecturers in the latest commercially available and emerging technologies. Student accommodation blocks also present a good application opportunity for the DACHS within this sector”.

As well as energy cost savings a single DACHS unit can reduce primary energy needs by around 30 per cent, significantly reducing carbon dioxide emissions when compared to centralised power generation and conventional gas fired boiler plant. If operated for 17 hours a day, 365 days of year a single DACHS unit would reduce CO₂ emissions by around 5 tonnes per annum.

More....

BT0017/4

December 2004

Baxi Technologies UK have experienced a significant increase in the uptake of DACHS projects during 2004 as the public sector becomes increasingly more focussed on environmental sustainability driven by targets to reduce carbon dioxide emissions. DACHS units are already operating successfully and reliably in a number of properties in the UK, some of which have now been in service for over a year, delivering energy cost savings and significant environmental benefits to a variety of end users.

-ends-

Issued on behalf of Baxi Technologies UK by **The Bright Consultancy**, 1 Henley Court, High Street, Henley-in-Arden, West Midlands B95 5BA. For further information please contact Andrea Matthews/Ruth Barrows at Bright on Tel: +44 (0) 1564 795535 Fax: +44 (0) 1564 795560 or Email: pr@bright-consultancy.co.uk.
