

PRESS - RELEASE

New Prototype from BAXI INNOTECH GmbH at the Hanover Trade Fair

Fuel Cells to Reduce CO₂ Emissions in Homes

Hamburg, 13th April 2007 BAXI INNOTECH GmbH – formerly the European fuel cell company – is presenting the BETA 1.5 PLUS, an improved prototype of its Fuel Cell Heating Unit, at the Hanover Trade Fair. In just a few years this technology, by generating heat and electricity will be making it possible to reduce CO₂ emissions from private households by an anticipated 30 to 50 per cent.

Discussions on the greenhouse effect have made carbon dioxide (CO₂) the focus of our attention – and to achieve a turning point in global warming by 2020, the EU plans to reduce emissions by 20 per cent. New technologies are expected to contribute to this, including fuel cell technology. The deployment of fuel cells is currently being tested in many areas, for example as a power source for vehicles. But fuel cell technology can also become a reality for private individuals who want to build their own house – in the form of a compact generator of heat and electricity operating from the cellar.

BAXI INNOTECH GmbH, a company based in Hamburg, is one of the pioneers in this field. This subsidiary of the British BAXI Group, one of the leading manufacturers of heating equipment in Europe, is working intensively on the series production of this new heating technology. “The heart of the unit is the fuel cell stack, where hydrogen and oxygen from the air generate heat and electricity in an electrochemical process”, explains Guido Gummert, mechanical engineer and Managing Director of BAXI INNOTECH GmbH. The only waste product is water – which presents no problem for the environment.

First, however, the hydrogen required for this process has to be produced, as it does not appear in its pure form as one of the world’s natural resources. For this reason the fuel cell is combined with a device called a reformer, in which hydrogen is extracted from natural gas – which can in turn be accessed by a large number of households.

The company is exhibiting the new BETA 1.5 PLUS fuel cell heating unit at the Hanover Trade Fair (Hall 13, Stand E 12-3). “The BETA 1.5 PLUS is the further development of a unit that we put through a comprehensive test process last year in the field, under genuine operation conditions,” Mr Gummert explains. “The new field trial system is based on the results from these tests. It contains fewer components, many of which are at a stage that is very close to series production”.

The Fuel Cell Heating Unit is expected to be technically ready for the market launch at around 2010. The costs of producing a unit that, in its operation, is also financially interesting compared with traditional heating equipment will be at the right levels a few years later. Mr Gummert stressed that fuel cells produce both electricity and heat. “This

is in fact a combined heat and power (CHP) generation unit without any moving parts – so there are no vibrations and noise. With an electrical output of 1.5 kW, the fuel cell heating unit will in future be covering up to 75 per cent of the electricity requirement and 65 per cent of the heating requirement for a single family house", Mr Gummert assures us. The requirement for heat during peak periods is covered by means of an integrated auxiliary calorific boiler and any additional electricity required comes from the mains connection.

Mr Gummert is convinced that his strategy will bear fruit as, below the line, the CO₂ result is positive. "By reducing the amount of energy required from power stations, which are the cause of considerable amounts of emissions, the CO₂ emissions per household will be reduced by at least 30 per cent". Mr Gummert goes on to say that "We are, however, striving towards a 50 per cent reduction. We can achieve this through operation systems that adjust to individual habits within the household in terms of heating and hot water use."

Mr Gummert attaches great importance to the fact that his company does not exclusively rely on his suppliers, and in fact a large part of the product development is carried out as part of his own remit. "Many large manufacturers have to wait for any developments that their suppliers achieve. We, on the other hand, are actively involved in our development process. In this way we are accelerating the creation of the production processes for this technology, and thereby adding momentum to the environmentally friendly generation of heat and electricity using the existing natural gas infrastructure."

Around a third of the CO₂ emissions generated in Germany result from the heat and hot water requirements of private households. As 640,000 units of heating equipment per annum are newly installed or replaced in Germany, this represents an enormous potential for saving on carbon dioxide emissions. This is a significant market in Europe which should not be underestimated.

BAXI INNOTECH GmbH is ready to meet this challenge. By changing its name, the company – trading under the name of european fuel cell until a few months ago – is, with its parent company, now in a position to make its innovations accessible to its market all over Europe.

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picture caption: Guido Gummert, managing director of BAXI INNOTECH GmbH,
BETA 1.5 PLUS, Hamburg, Germany

press contact:

IMA Institut GmbH

Claudia Palozzo

Alstertor 1

D- 20095 Hamburg

Tel. +49 (0) 40 30 96 96 -0

Fax: +49 (0) 40 30 96 96 -66

Email: c.palozzo@ima-gination.de

www.ima-gination.de