

PRESS RELEASE

At the “Hydrogen and Fuel Cells” exhibition stand: Baxi Innotech at the public forum of the 2010 Hanover Trade Fair

Running uphill on the home stretch – support for the stationary fuel cell must continue

Ideas for the mobile application of hydrogen-driven fuel cells featured as one of the central themes of the Hanover Trade Fair. The stationary fuel cell heating unit, however, is already a step further in its realisation as a technically mature development. In spite of the advances made in the use of stationary fuel cells in the home, current political discussions could have a lasting effect on the market development of fuel cell heating units if they result in a reluctance to invest. Baxi Innotech, the Hamburg-based development company and manufacturer of the fuel cell heating unit, stated their position on this at the trade fair.

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“By generating electricity and heat at the same time, you save on fuel and take the strain off the environment.” That is how the German Government began the explanation of its stimulus programme for micro CHP installations that generate electricity and heat simultaneously. The objective of this programme is to support manufacturers and users who want to work with low energy consumption and low CO₂ emissions. For this purpose the German State has already set up a clearly defined framework of conditions and development funds to drive ahead this proven, forward-looking technology and replace obsolete systems.

Considerable uncertainty is arising from current party political discussions about future energy generation, particularly with regard to investment in new technologies. The fuel cell heating unit, however, is a technically mature development. It has achieved considerable success in the Callux project, the largest field test programme in Germany in preparation for the marketing of fuel cell heating units for single family homes. The Callux programme is promoted by the German National Innovation Programme for Hydrogen and Fuel Cells (NIP). In his contribution at the public forum of the “Hydrogen and Fuel Cells” exhibition stand, Guido Gummert, Managing Director of Baxi Innotech, went into great detail about the importance of this technology as part of the future energy mix.

Sensibly deployed, natural gas is efficient and saves on CO₂ emissions

Natural gas, as the cleanest of the fossil fuels, is the most frequently used source of energy for hot water supply and heating in Germany today. There is also a widespread natural gas infrastructure throughout Europe.

The GAMMA 1.0 fuel cell heating unit from Baxi Innotech, that is easy to connect to the natural gas network, is just one logical further development of the existing boiler technology. And, by generating heat and electricity at the same time, the fuel cell heating unit saves more than 50% of primary energy when compared with separate electricity and heat generation. There is also no loss of energy as the heat and electricity is generated locally, on the spot. Compared with conventional boiler technology, the fuel cell heating unit also reduces CO₂ emissions by more than 50%.

With the very latest technology, the fuel cell heating unit provides energy efficiency without any compromises on heat requirement

The fuel cell heating unit covers 100% of the heat requirement in a single family home and ensures that peak demand is met by means of an additional device. The GAMMA 1.0 performs to its best advantage in combination with a separate heat storage unit and a sophisticated control system. There are no problems in connecting the unit to the existing heating circuit in single family homes. In combination with a heat storage unit and an energy manager integrated within an extensive building management system, the fuel cell heating unit can adjust completely to the individual heat and electricity requirements of the users. When adjusted to meet requirements, all three components working together yield the greatest possible savings potential.

Taking a detailed look at this technically sophisticated technology, we can see that the GAMMA 1.0 has a level of performance perfectly suited to the requirements of a single family home. The ratio of power to heat generation is so effective that, with an output of 1.0 kW, 32% electrical efficiency is achieved at full and partial capacities. This means that, unlike with other forms of energy generation, there is no unnecessary build-up of reserve capacities. There is sufficient electricity generated throughout the year to cover more than 70% of the energy requirement for a single-family home.

The heating unit works with a low-temperature PEM-fuel cell. This technology works well with short starting and stopping times as well as with modulated operation in the summer months. Both of these factors lead to considerably longer operation times over the year.

Ideas made in Germany

Only with secure planning can value be created

The technical facts speak for themselves. "So it is unacceptable that, on the home stretch, we should suddenly be running uphill and that the manufacturers themselves have to carry all the burden of setting up a market," explained Guido Gummert. "Already a broad range of workplaces, with the 'ideas made in Germany' quality seal, have developed in this country – and more will follow."

As he puts it, it won't be long before the Japanese heating equipment manufacturers fill the gap that exists in the market in Europe with their decades of know-how in fuel cell technology. The Japanese manufacturers have long recognised the value and sustainability of this market. And the funding of fuel cell technology in Japan, at levels significantly higher than in Germany – that also includes investment in manufacturing for the creation of jobs – is making a considerable contribution to a shift in competitive advantage towards Asia.

No-longer supported by the federal government and under scrutiny by the political parties, it is now up to innovative companies and their employees to bear the brunt of the consequences of this energy debate.

Instead, a market incentive programme to secure the future planning of this technology should be established after 1 January 2013 in the wake of a successful Callux project. Guido Gummert stressed that "only in this way can we ensure that manufacturing facilities are constructed here in Germany and that jobs are created here in Germany".

Picture caption: Guido Gummert, Managing Director of Baxi Innotech at the 2010 Hanover Trade Fair.

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