



Institut für
Markenentwicklung und
Kommunikationsberatung
GmbH

PRESS RELEASE

Power and heat in your own home.

The Homburg Municipal Works is backing fuel cells

Hamburg, Homburg, 6th September 2013 / The Homburg Municipal Works is today putting a Fuel Cell Combined Heat and Power unit (FC CHP) into operation in a single family home to create highly efficient energy provision on the spot. The decision to deploy this promising technology for local energy provision follows a practice-related endurance test stretching over several years with FC CHP units in full-load operation at the Homburg Municipal Works. The fuel cell micro CHP units installed by the Hamburg-based manufacturer, Baxi Innotech, is now in its final test phase and due to be launched on the market in 2015.

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Regional energy supply: as efficient as possible, and easing the burden at peak periods

The future of energy supply is local is a key statement in the light of the energy revolution. Along with the renewable energies and intelligent storage strategies, combined heat and power (CHP) – the simultaneous generation of heat and electricity – has great potential. What has up to now been generated for much larger demands by thermal power stations is now being provided by FC CHP units in single and two-family homes.

“Unlike a thermal power station which uses a motor to produce energy, the fuel cell works electrochemically. The advantage of this installation is that it can be adapted extremely precisely to a family’s needs,” is how Markus Müller, energy advisor at the Homburg Municipal Works, explains this technology. Intelligently linked and coupled, a large number of fuel cell CHP units within a region can ensure precisely timed energy distribution over a larger area – and even make a contribution towards easing the burden on the network at peak periods.

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FC CHP technology as a local means of supply: in the “ene.field” practice test throughout Europe

“There are many heating appliances in the cellars of Germany that are more than ten years old. Modern heating equipment can make an important contribution to protecting our environment by, for example, saving energy and reducing CO₂ emissions. Thermal power stations that simultaneously generate heat and energy are suitable for larger buildings constructed for several families or for commercial purposes. But for single-family homes they are often too big and consequently unviable. And this is where the FC micro CHP technology will be extremely useful in future. To drive forward its market introduction, we have decided to take part in the ‘ene.field’ European field test,” said Wolfgang Ast, Managing Director of the Homburg Municipal Works. In this project – promoted by the EU – around 1,000 appliances are to be tested in residential buildings in twelve EU member states. The unit in Homburg is one of the first two German appliances to be deployed as part of the European field test programme.

Highest efficiency compared with other technologies

The project partner for the Homburg Municipal Works is Baxi Innotech GmbH from Hamburg. The Managing Director of the company, Guido Gummert, travelled from Hamburg to Homburg to put the field test appliance into operation. “Energy has become a valuable resource. A fuel cell heating appliance ensures that it is managed as efficiently as possible. This needs-based type of on-the-spot heat and energy provision is considered highly efficient and has a total efficiency of 96 per cent. Compared with all other known heating technologies it performs significantly better,” is how this impassioned process engineer puts it. “We are now at the technical fine tuning of the components stage. The market launch will be in 2015.”

The Bossler family, in the Jägersburg district of Homburg, is now one of the pioneers in Germany: A fuel cell driven heating appliance is now standing in their cellar. “I immediately proposed to my family that we apply to take part in the test when I read about the Municipal Works’ invitation. I am promising myself lower heating costs and, by generating current at the same time, even further cost savings. Now I can’t wait to see the results,” said Friedrich Bossler, as he explained his commitment to the fuel cell as a Municipal Works customer.

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The Municipal Works have already successfully installed and tested fuel cells in their own technical facilities. "With this test in a single-family household we will gain valuable experience. We are considering offering the construction and operation of fuel cell heating units – in partnership with the installation trade – as a new service for our customers in the future," said Wolfgang Ast, underlining the Municipal Works' commitment.

Background: the fuel cell

In a fuel cell, hydrogen and oxygen are separated by a membrane and exchange electrons with each other through an electrical conductor. This electron flow makes the fuel cell into a source of current. In addition, any heat resulting from this process can be used for heating the building and for hot water. In the Homburg appliance, provided by Baxi Innotech, a reformer extracts the necessary hydrogen from natural gas which already contains four atoms of hydrogen. For this reason, the unit only needs to be connected to the existing gas supply provided by the Municipal Works. To cover the demand for heat at peak periods, an additional gas-powered calorific boiler is integrated in the unit.



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The Homburg Municipal Works

The Homburg Municipal Works supplies customers in the city of Homburg and the surrounding area with natural gas, electricity, district heating and drinking water. In 1897 the company was founded with the specific objective of attracting industry and commerce through the provision of its own energy supply. Today Homburg has 43,000 inhabitants and provides jobs for over 30,000 people, particularly through its industrial enterprises and its university hospital. With its expertise in supplying larger industrial customers, the company operates successfully in this market segment throughout Germany.

Since 2008, Homburg Municipal Works has been continuously building its own combined heat and power generation facilities, such as their district heating plants and, in the area of renewable energy, it has been building its own photovoltaic installations. Since the end of 2012, customers' photovoltaic installations and those of the Municipal Works have been generating a total output of 15 MW of electrical energy from the roofs of Homburg. Additionally the Municipal Works has set up micro combined heat and power (CHP) facilities. It has already successfully tested fuel cells in two natural gas stations.

In 1991 the Municipal Works took a share in the Homburg CHP power station as the majority shareholder. The generation of heat and current from coal was converted to natural gas there, the network was extended and new cooperation partners were found. The Municipal Works was able to gain experience in many projects throughout Germany for increasing energy efficiency: through its involvement in a North Sea wind farm, for example, and a solar farm in Baden Württemberg, as well as with Thüga Erneuerbare Energien GmbH und Co KG (Thüga Renewable Energies) in Hamburg. The Municipal Works was able to realise a major project in 2011 with the construction of a plant for the use of excess heat from tyre production on the premises of the Michelin Tyre plant in Homburg.

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BAXI INNOTECH GmbH

Baxi Innotech GmbH is a development company for fuel cell heating units. Founded in 1999, the company took up its position as a subsidiary of the Baxi Group in 2002. It then advanced to become the brain pool of the Group for innovative product developments based on combined heat and power technology. In close cooperation and partnership with international suppliers, energy supply companies and the specialist trade, Baxi Innotech has developed the fuel cell heating unit for single family homes. Since 2008, this Hamburg-based company has been participating in the Callux project, a practice test carried out by the German government and industry. Baxi Innotech has also been a partner in the EU-promoted ene.field project since 2012. Both projects follow the stated objective of preparing stationary fuel cell heating units for the market, particularly for single family homes. Since November 2009, the Baxi Group – along with Baxi Innotech – has been part of the BDR Thermea constellation. With its innovative and top quality products and services, this Group – formed out of a merger with the former DeDietrich Remeha – is active in even greater measure in traditional and international growth markets.

www.baxi-innotech.de

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ene.field

The ene.field project is the largest European demonstration of the latest smart energy solution for private homes, micro-CHP. It will see up to 1,000 households across Europe able to experience the benefits of this new energy solution. The five-year project uses modern fuel cell technology to produce heat and electricity in households and empowers them in their electricity and heat choices. Co-funded by the European Commission's Fuel Cells and Hydrogen Joint Undertaking (FCH-JU), ene.field brings together 26 partners, among whom are the 9 European manufactures which will make the products available across 12 EU Member States. At the moment Austria, Belgium, Denmark, France, Germany, Luxembourg, Ireland, Italy, the Netherlands, Slovenia, Spain and United Kingdom are targeted. Information on the progress of the project is available on www.enefield.eu.

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