Press Article

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Super Successful Heat Pumps

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Faced with declining sales of air conditioning and conventional heating products (boilers), the year 2008 was marked by an expected surge in sales of electric heat pumps for hydronic solutions (excluding air to air). A peak in the price of fossil fuels and a variety of financial incentives, coupled with friendly legislation to promote energy-efficient low carbon technologies have contributed in raising consumers' awareness to switch to alternatives, with heat pumps becoming second only to solar thermal.

The year 2008 was a turning point for the heating market in Western Europe. New changes in particular in German renewable laws and generous tax credits in France led to unprecedented sales in the latter market, wiping out previous sales records in France and Germany. While in the UK the acceptance of air source heat pumps under the micro-generation scheme has made the market attractive to several manufacturers keen to establish their presence in the market.

While sales of boilers plummeted across Europe with -12% in France, –2% UK and -8% in Italy with only Germany experiencing a positive growth of 16%, sales of heat pumps grew 103% in France, 44% in Germany and 101% in the UK. Elsewhere, the picture is no different as heat pumps are the products of choice for consumers in Sweden, Austria and Switzerland.

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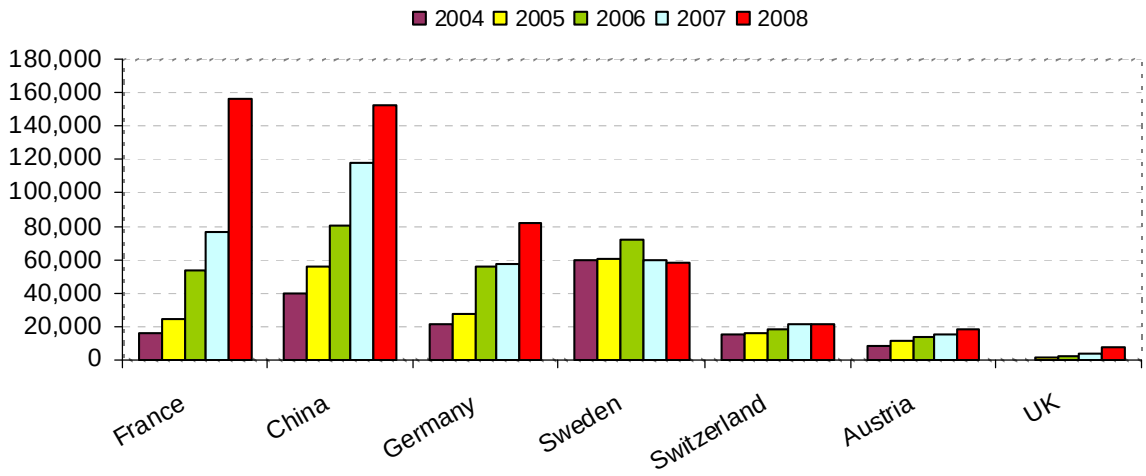
The acceptance of air to water and geothermal heat pumps as renewable systems by the European Union (EU) later on in 2008, has added momentum towards the adoption of this technology on a large scale, and negatively impact on sales of conventional heating appliances especially in the new build, while manufacturers have been leading the race to develop products suitable for the renovation market, with gradual focus on high temperature systems that are suitable for use with existing radiators.

High and often unpredictable fossil fuel prices and building regulation and energy efficiency legislation designed to reduce green house gases, will become the key drivers for growth for alternative heating technologies, such as solar thermal, heat pumps, heat recovery ventilation systems, as well as future gas-powered cogeneration system. The UK government adoption of Zero Carbon Homes (ZCH) in the UK from 2016 is likely to favour electrical heat pumps to become the leading technology, often with lower power between 4 to 8kW, in line with decreasing demand for space heating.

While financial incentives have proved the main driver for growth in France (Tax Credit decreasing to 40% in 2009) and Germany (BAFA MAP programme) among others, in the situation in the UK has been marred with limited subsidies that up 2008, were either oversubscribed or at times difficult to obtain. Under the Low Carbon Building Programme (LCBP) air source heat pumps benefit from a subsidy of GBP900 while ground source heat pumps can benefit from a grant of GBP 1,200.

Fig.1 The growth of air to water and geothermal heat pumps, selected countries, 2004-2008

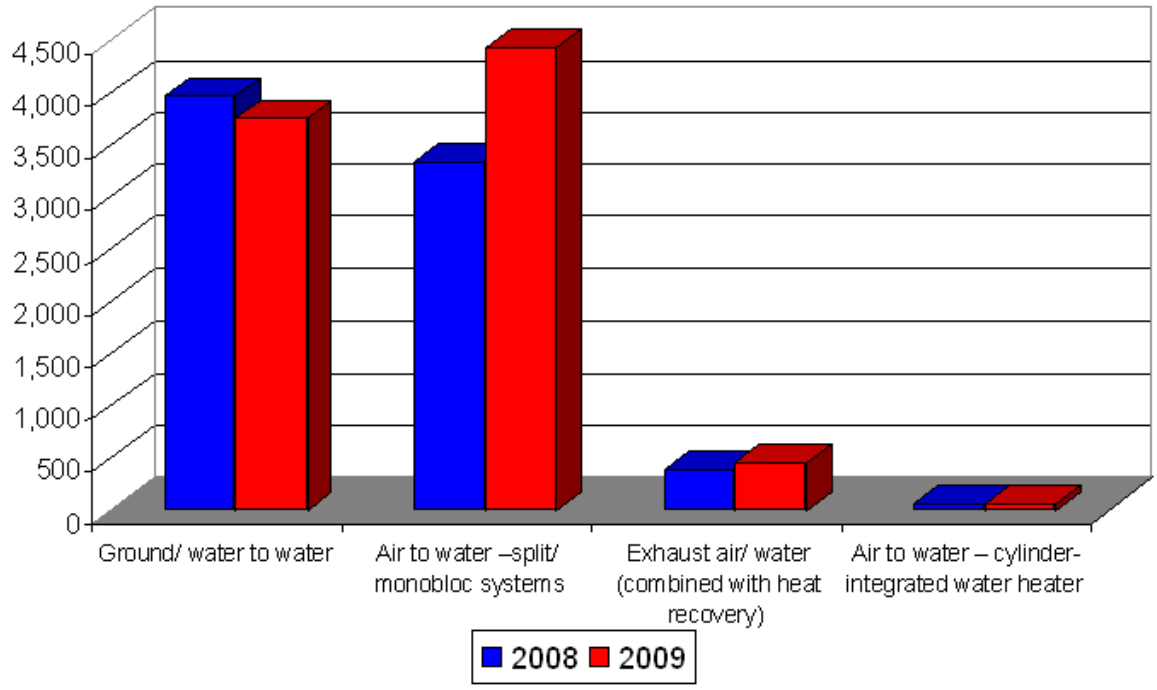


Source: BSRIA

However, due to the financial crisis sweeping world markets and the resulting sluggish construction sector in 2009, BSRIA expects the sales to be slow, particularly in France, while in Germany and the UK, sales are expected to remain fairly unaffected in the short term.

BSRIA forecasts the UK heat pump market will experience double-digit growth between 2009 and 2013 as the technology gains widespread popularity, thanks to an increasing stream of qualified installers and promotional activities by manufacturers and increasing interest by energy suppliers.

Fig.2 The UK Heat Pumps Market size, units, 2008 and 2009



Source: BSRIA

In the medium to long term fossil prices are expected to rise as the world leading economies return to growth, and industrial activity recovers, hence, EU markets are likely to see more investment in renewable technologies by residential and commercial end users, to comply with stricter EU directives. Besides, the Renewable Energy Directive or what is known as 2020, member countries are required to cut greenhouse gases by 20% and generate 20% of their energy needs from renewable sources.

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In the light of the above, HVAC products are improving all the time, air to water electric heat pumps in particular, are now competing and impacting on the growth of the boiler market, particularly in the build segment, and areas with limited gas mains infrastructure, or where electricity prices are competitive compared to gas and oil, mainly in Japan, France, Switzerland, and Scandinavian countries. While boilers can provide heating only, an increasing number of heat pumps suppliers are promoting systems where heat pumps provide space heating and sanitary hot water, or additional comfort cooling function. Integration of heating systems has become very important, as increasingly solar thermal collectors are combined with a heat pump as a way to minimise energy cost to consumers while promoting a complete renewable solution.

While geothermal heat pumps (both water and ground to water) have been the most established technology in Scandinavia, Austria and Germany, distinguished by their higher COP, the high costs of associated drilling boreholes and ground work required to lay collectors make these system mostly suitable for new buildings, or particularly in areas with where access to ground water is easier and planning permits are easier to get from the local or national environmental authorities.

Electric air to water heat pumps, both packaged (monobloc) or split systems, are suitable for both new and retrofit market, and can virtually be installed anywhere. For most systems, outdoor units can be placed in a small area of the house, or in some cases compact units suitable for installation in utility rooms or in the basement of a house and connected to ambient air via ducts. A race among manufacturers to develop highly efficient products to boost sales have led to innovative systems with higher COP and enhanced functionalities that can compete with boilers even when outdoor temperatures is below freezing.

Besides the above type, sanitary hot water-dedicated heat pumps –popular in China, are becoming widely available in Europe, Australia and the US. These units are of low output (below 3kW), and often integrated in the water cylinder, similar to an electric storage water heater.

BSRIA's study provides a powerful and unbiased assessment tool of the future potential for major renewable heating technologies in Europe, North America and the Asia Pacific region. The research is done presented individual country sections on all major markets, including product segmentation, an application, distribution, and analysis of market drivers and barriers in each country as well as forecasts with scenarios and forecast assumptions.

Note to editors:

BSRIA's world renewables study will be will be published in October 2009. They cover a total of 18 countries for electric **heat pumps** and 18 markets for **solar water** heating. Each report contains information on market size and segmentation, market trends, a strategic analysis, sales by application and distribution channel. Also, there is an overview report available which comes in an excel format which provides a useful tool to filter and sort data according to their needs and interests. A new study on **Commercial Heat Pumps** in 7 countries will be published in October 2009.

The reports are largely based on in-depth interviews with key manufacturers, distributors, utilities, and other influencers in the market.

The key research findings alongside several company presentations were presented to international audiences of manufacturers, utilities and governmental institutions in throughout 2006 and 2008.

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