Heat pumps
UK
World renewables 2010

A multi client study
By Johannes Fritsch
January 2011
Heat pumps
UK

A multi client study

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1 MARKET SIZE, STRUCTURE AND SEGMENTATION

1.1 MARKET VOLUME AND VALUE

The UK market for heat pumps keeps on growing in 2010. Figures from the first half of the year show an overall rise of the market in volume of 29%. The picture is, however, not the same across all heat pump types. Whereas ground and water source heat pumps are growing only slightly, the air to water heat pump market is the segment that increases fastest. This development is a continuation of the trend seen last year when air source heat pumps overtook sales of geothermal heat pumps. Within the air to water heat pump segment, monoblock units represent the majority of sales but split systems have been growing fastest in 2010, albeit from a small base. The market for exhaust air heat pumps, which has grown strongly in 2009, is looking somewhat weaker in 2010. Cylinder integrated water heat pumps are negligible in the UK.

On current trends, the overall market size could reach over 21,000 units in 2010, up from 16,455 units in 2009. Despite this growth, the heat pump market remains small compared to the huge boiler market in the UK with more than 1 million units sold every year.

This growth occurs against a poor macroeconomic background where the level of construction is still low compared to previous years and economic growth is subdued and seen as fragile.

Growth of the market is driven by various factors:

- Heat pumps are often installed in areas that are not connected to the gas network. These include parts of Scotland, Wales, East Anglia and the west country, but it can also include individual developments and parts of towns or cities.
- Growing consumer awareness. Debate about climate change and the need to use more energy-efficient products is making consumers more susceptible to technologies such as heat pumps.
- In commercial applications, designers specify heat pumps. Although heat pumps cost more than conventional boilers, in a new building the cost of a heating system is only a small part of the overall costs.
- Financial incentives do not play a decisive role. Grants were available under the Low Carbon Buildings Programme (LCBP) and some other schemes in the UK. The Low Carbon Buildings Programme expired in May 2010. A new scheme will be the RHI, the Renewable Heating Incentive, which comes into force in 2011. Some market players feel that the prospect of a future scheme encourages end users to opt for a heat pump.
- Manufacturers’ marketing: There is a wide range of manufacturers that offer heat pumps in the UK. Specialised heat pump manufacturers, traditional air conditioning manufacturers and heating (boiler) manufacturers. All these have stepped up their marketing efforts in order to promote heat pumps and increase their sales.

Table 1 Market volume and value (€m), 2009 and 2010(e)

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010(e)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Volume (units)</td>
<td>Value (€m at MSP)</td>
</tr>
<tr>
<td>Ground/ water to water</td>
<td>3,980</td>
<td>21.0</td>
</tr>
<tr>
<td>Air to water –split/ monobloc systems</td>
<td>8,325</td>
<td>17.9</td>
</tr>
<tr>
<td>Exhaust air/ water (combined with heat recovery)</td>
<td>4,150</td>
<td>11.4</td>
</tr>
<tr>
<td>Air to water –cylinder-integrated water heater</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>16,455</td>
<td>50.3</td>
</tr>
</tbody>
</table>

Source: BSRIA

Notes: MSP = manufacturer selling price including outdoor unit, where relevant/ storage tank and controls
Excluding drilling/ piping/ ground collectors*

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**1.2 PRODUCT SEGMENTATION**

**1.2.1 Heat pumps by output**

**Ground/ Water to water**

Sales of ground source heat pumps have not risen much in the last 1½ years. Geothermal heat pumps tend to be bigger than air to water heat pumps. Most ground source heat pumps are installed in residential applications but a growing number goes into the non-residential sector such as schools, libraries or office buildings.

**Air to water**

Air to water heat pumps are showing strong growth. They are almost exclusively used in residential applications. Their advantage is the fairly uncomplicated installation. This makes them better suited for the retrofit market than ground source heat pumps.

Most monoblock air-source heat pumps are installed outdoors. In terraced houses this is in the rear garden, in other buildings, the units are installed on the balcony.

Noise levels and space restrictions play a role. Manufacturers are supposed to discuss these issues with clients before installations are carried out.

**Splits - monoblocks**

Monoblocks dominate the market. In general, European manufacturers offer mainly monoblock systems, whereas split systems are offered by Asian manufacturers, mainly from Japan. Split systems are showing the fastest growth in 2010.

**1.3 POTENTIAL FOR MAINSTREAM UPTAKE**

The UK market for heat pumps keeps on growing strongly in 2010. Growth is driven by air to water heat pumps. This growth, however, still happens from a relatively small base. The UK heat pump market is still much smaller than the German or French market. The market is expected to grow at high (two-digit) rates in the future. Especially air to water heat pumps are expected to grow as these are smaller and cheaper units with lower installation costs that are also suited for the retrofit market.

For heat pumps to become mainstream it is important that heat pumps penetrate the retrofit or boiler replacement market. This is where most conventional boilers are sold. Compared to the huge boiler...
market in the UK with more than a million domestic boilers sold per year, there should be plenty of scope for heat pumps. So far, heat pumps have been mainly installed in new buildings whereas retrofits played a minor role. Air to water heat pumps have the biggest potential as they can best compete with conventional boilers. Air to water heat pumps are uncomplicated to install and do not require expensive drilling work as do ground source heat pumps.

Much will depend on how well heat pumps can replace boilers and if a heat pump realises the lower running costs that are one of the main reasons for installing them. Design, heating demand, insulation, heat emitters play an important role here. Manufacturers must communicate advantages of heat pumps clearly but also technical limitations and requirements for a successful operation that delivers the saving in running costs that consumers want.

1.4 MARKET CHALLENGES

Probably the biggest challenge is to make heat pumps better known among end-users and the general public. The UK heat pumps market is yet far from becoming mainstream. Most homeowners would not think of replacing a boiler with a heat pump in case of a replacement. The task of manufacturers and association is to make heat pumps better known as an alternative to conventional boilers. The boiler market clearly dwarfs the heat pump market. More work is needed by the industry in order to promote the technology. Manufacturers are already very active in training installers. This is certainly a right way to promote the technology.

The current legal framework promotes energy saving and technologies that contribute reducing emissions. UK legislation and energy policies certainly pose no obstacles for the growth of the heat pump market, on the other hand they do not promote the technology specifically either. A further tightening of building regulations, making the use of renewable energy (for example 20%) compulsory, could give the market a boost.

Grants are available for heat pumps, but their overall importance is deemed as not very important by manufacturers.

The wholesaler channel has not emerged in this market as most suppliers are happy to focus on installers or tender for projects directly by approaching building companies or local authorities.
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