



**International  
Market  
Strategy**



**International strategic market research and  
consultancy on building product and related markets**



July 2007

**PROPOSAL FOR A COMPLETED STUDY  
ON ECO-RELATED DEVELOPMENTS  
IN THE DOMESTIC HEATING MARKETS  
IN EUROPE AND THE USA  
2006-07**

**Special Research on  
Developments Relating to  
Energy and Emissions Savings**



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**SUMMARY: STUDY ON ECO-RELATED DEVELOPMENTS IN THE DOMESTIC HEATING MARKETS IN EUROPE AND THE USA**

	<p>The overall aim of the programme is to provide clients with a clear, up-to-date appreciation of eco-related developments in domestic (home) heating in Europe and the USA, based on:</p> <ul style="list-style-type: none"> <li>- factual (including quantified) data on specific trends and developments: <ul style="list-style-type: none"> <li>• per product/system</li> <li>• per country</li> </ul> </li> <li>- an international comparative overview and analysis: <ul style="list-style-type: none"> <li>• between European countries or groups of countries</li> <li>• between Europe and the USA.</li> </ul> </li> <li>- the development of a suitable reporting analytical framework for the ongoing monitoring of eco-related developments.</li> <li>- the presentation of possible future trends based on varying scenarios to 2010, 2015, and 2020.</li> </ul> <p>In particular, the study sets out to explore the interrelationships between the different products and systems (and their impact on conventional products and systems), and between developments in different countries or regions.</p>
<p><b>Geographical coverage</b></p>	<p>30 countries in Europe + USA. The study does not adopt a rigid database populating approach per product and country, but rather focuses on those countries with the most interesting developments for each product/technology, and then consider the prospects for, and constraints to, similar developments in the other countries (or in some cases groups of countries/regions). The groupings are as follows (but they are used with some flexibility):</p> <ul style="list-style-type: none"> <li>- Group 1: German speaking countries (Germany, Austria, Switzerland)</li> <li>- Group 2: the gasified North West (Netherlands, Belgium, Denmark)</li> <li>- Group 3: the sparsely gasified Nordics (Norway, Sweden, Finland)</li> <li>- Group 4: the open vented British Isles (UK, Ireland)</li> <li>- Group 5: the Mediterranean (France, Italy, Spain, Portugal, Greece, Slovenia, Croatia, Turkey)</li> <li>- Group 6: the district heating orientated central and eastern Europe (Poland, Czech Republic, Slovakia, Hungary, Estonia, Latvia, Lithuania, Bulgaria, Romania, Russia, Ukraine)</li> <li>- Group 7: USA.</li> </ul>
<p><b>Sector, topic, product and technology coverage</b></p>	<p>The study covers developments in domestic space and related water heating in the context of the current political targets for energy and CO<sub>2</sub> emission savings up to 2020. The coverage includes:</p> <ul style="list-style-type: none"> <li>- key country background data (population, households, macro-economic trends, energy infrastructure and policy, contractor/installer base)</li> <li>- overview of relevant legislation, regulations, incentives (current and proposed, including measures linked to the implementation of the EPBD - Energy Performance of Buildings Directive)</li> <li>- heating park and overall heating product sales ("status quo")</li> <li>- general overview of relevant environmental policy and attitudes, and of related developments in the domestic heating market</li> <li>- specific focus on: <ul style="list-style-type: none"> <li>• condensing and other modulating boiler</li> <li>• biomass boilers</li> <li>• solar thermal</li> <li>• TRV's</li> <li>• micro CHP</li> <li>• district heating</li> <li>• underfloor heating</li> <li>• weather controls</li> <li>• collective heating</li> <li>• specific issues relating to new housing construction</li> </ul> </li> </ul>
<p><b>Report format</b></p>	<p>Single 700 page report (in 2 volumes) + supporting 150 PowerPoint presentation (hard copy, CD-ROM/PDF, on-line access)</p>
<p><b>Timing</b></p>	<p>Report completed end June 2007, based on research and industry workshops conducted October 2006-May 2007</p>
<p><b>Price</b></p>	<p>£24,000 (excl. VAT).</p>

## INTRODUCTION

In June 2007 BRG CONSULT completed a major multi-client study entitled:

**Study on  
Eco-Related Developments in  
the Domestic Heating Markets in  
Europe and the USA 2006-07**

The study was launched in October 2006, field research was carried out until December 2006, and an Interim Report was published for advance subscribers in early February 2007. Over the following months the remaining sections were completed, and a series of feedback meetings with the industry was carried out in order to exchange views on the preliminary findings. A second round of fieldwork in 2007 enabled most of the study to be brought up to date to base year 2006. The final version was completed at the end of June 2007.

In this study BRG CONSULT has set out to fulfil two main objectives:

- produce a thorough analysis of recent trends resulting from the very topical issues related to climate change, energy efficiency and new heating technologies
- carry out a systematic comparative analysis of the characteristics of heating systems and practices across most of the countries covered by its regular market studies.

The latter is seen as a way of synthesising and bringing together in an accessible format information and analyses otherwise contained in several large country specific volumes, with which BRG CONSULT clients are familiar.

The analyses of recent trends and new technologies therefore have been put in the context of existing heating systems, and integrated by ad hoc analyses such as the international overview of supply, or the development of scenarios.

This is seen by BRG CONSULT as the first step in the direction of developing a framework for the ongoing monitoring of such trends in an integrated and interpretative way. We expect to keep updating and developing some of the analyses presented in this study, not necessarily in the same form, but along similar lines.

The focus of the present study is on domestic heating (i.e. heating in commercial and institutional buildings is not specifically considered).

The main 700 page report is structured as follows:

- **Executive Summary** – a review of the main contents of the study and its main conclusions
- **Section 1: Background** – outlines the essentials of the energy and climate change debate, offers an overview of the main legislative developments, and provides key background data on each country
- **Section 2: Country Profiles** – sets out the main findings of the study on a country-by-country basis
- **Section 3: Technology Profiles** – sets out the main findings internationally per technology
- **Section 4: Comparative Analysis and Future Scenarios** – brings together the findings of Sections 2 and 3 and presents our views on future developments of the heating product markets. This section also includes our conclusions.

For this study BRG CONSULT has (flexibly) adopted a number of country groupings in order to facilitate a comparative analysis:

- **Group 1:** German speaking countries (Germany, Austria, Switzerland)
- **Group 2:** the gasified North West (Netherlands, Belgium, Denmark)
- **Group 3:** the sparsely gasified Nordics (Norway, Sweden, Finland)
- **Group 4:** the open vented British Isles (UK, Ireland)
- **Group 5:** the Mediterranean (France, Italy, Spain, Portugal, Greece, Slovenia, Croatia, Turkey)
- **Group 6:** the district heating oriented central and eastern Europe (Poland, Czech Republic, Slovakia, Hungary, Estonia, Latvia, Lithuania, Bulgaria, Romania, Russia, Ukraine)
- **Group 7:** USA.

However even within each of these groupings there is considerable diversity.

Technologies and themes covered include:

- collective heating
- district heating and CHP
- condensing and other low/variable temperature boilers
- biomass boilers
- electric heat pumps (mainly for space/water heating)

- solar thermal
- underfloor heating
- micro CHP and other embryonic technologies (gas heat pumps, fuel cells)
- TRV's
- weather and other modulating and advanced controls

all within the context of the current heating stock and market. Indeed it is the comparative approach of the study, combined with its breadth of coverage, which makes it so valuable in the challenging situation facing the European heating products industry in 2007.

The main report is supported by a **150 page PowerPoint Presentation**, which attempts to outline the main themes of the study in a format that can be used for clients' internal presentations. The aim here has been to distil the huge study into a digestible format, while avoiding to over-simplify what is a highly complex subject.



## **BACKGROUND AND REPORT LAYOUT**

Since the study was launched in October 2006 the debate about climate change has intensified, with the publication of the European Commission's "Action Plan for Energy Efficiency", the Stern Report and the Energy White Paper in the UK, and the latest IPCC report. The message that is coming over increasingly strongly is that global warming is real and largely man-made, and that the time frame for reversing carbon emissions growth is contracting if reaching a "tipping point" is to be avoided (it is often mentioned that 13 years – i.e. by 2020 – is the period in which such a reversal needs to have been achieved). There seems to be little choice but to accept these messages as sound in the context of the present study.

Concerns about climate change, rising energy prices and security of energy supply have prompted a great increase in political interest for the all issues relating to energy, and an increase in activity by the European Commission since 2005:

- two Green Papers leading to a comprehensive Action Plan for Energy Efficiency
- several Directives, some of which relate directly to energy efficiency in heating (the Eco-Design Framework Directive, the Energy Performance of Buildings Directive, the Directive on Energy End-Use Efficiency and Energy Services, the Directive on Cogeneration).

Individual countries have also been active on the energy efficiency front in recent years, either through coercive legislation or through market based incentive schemes.

It is clear that that home heating will be a priority area in the efforts to improve energy efficiency in Europe, since it does seem to offer the potential for considerable energy savings without seriously affecting peoples' life styles. Quantitative estimates vary, but the Action Plan sees the potential for a reduction by 2020 of 27% in the energy usage in residential buildings, themselves accounting for 26% of total 2005 energy consumption in the EU.

The impact of such initiatives on the heating sector has already been very marked in recent years, with a growth in use of high efficiency heating appliances, notably condensing boilers and heat pumps, and a growth of technologies using renewable energy sources, notably solar thermal, biomass boilers and heat pumps.

The pace of change is only set to increase as minimum efficiency requirements become tighter, buildings become better insulated and the search for alternative technological solutions intensifies (in particular in the areas of cogeneration, at both macro and micro scale, and renewables).

These patterns of change come within a context of great diversity of heating practices across regions and countries in Europe, resulting from differences in:

- climate, culture, energy resources and wealth between the countries
- the stock of heating systems (district, collective, individual, room heating; gas oil or electric heating)

- past approach to efficiency and environment (practices, legislation, incentives/subsidies)
- routes to market involving manufacturers, a variety of distributors, installers, builders/specifiers, consumers, landlords, local authorities and social housing organisations, utilities, NGOs etc.; purchasing decisions involving consumers, installers, contractors, specifiers, etc.

The challenges posed by the sector's diversity are nowhere better illustrated than in the attempts of the EU Commission to formulate a coherent energy policy for the sector. Current initiatives seem to be pushing towards conformity and diversity at the same time:

- the ECO-Design/EN Standards route is based on products and the Single Market, and is not permitted to adopt different standards for different Member States or regions based on climate or any other considerations
- the Energy Performance of Buildings Directive (EPBD) is a holistic, and therefore in terms of heating a systems based approach that allows each Member State to implement its own solutions based on a common (if imprecisely defined) objective.

Since the EPBD is further advanced than the Eco-Design process, current drivers are pushing towards diversity rather than conformity (for instance, however well intentioned, is Part L in the UK really in the spirit, or letter, of the Single Market?). This implies that it is very difficult, and could be misleading, to generalise and simplify patterns of change, both existing and expected.

These legislative and regulatory aspects, along with the key national characteristics that influence heating patterns, are the subject of **Section 1** of the report,

The BRGC study goes on to analyse both countries and technologies with a "matrix" approach, i.e. looks at each country (Section 2) and describes each technology within it, and then looks at each technology and analyses the developments by country or region (Section 3). In both Sections, detailed factual matrices are interspersed with interpretive texts.

**Section 2** is devoted to the analysis of country specific heating structures and dynamics.

**Section 3** covers technological developments. Although the focus of the present study is on the more efficient technologies, they are analysed in the context of the established heating solutions.

**Section 4** brings together a synthetic comparative review of the main issues relating to the various technologies, leading into an exposition of possible future scenarios up to 2020. These themes are further elaborated in the **PowerPoint Presentation** which accompanies the report.

Set out below is the Table of Contents of the main report.

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