

ProHeatpump

Promotion of efficient heat pumps for heating

Duration: 12/2006 – 05/2009

Contract N°: EIE/06/072

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Summary

What we do

Overall project goal is promote energy efficient heat pumps for heating for the residential sector and SMEs. Promotion of heat pumps will be done in defined target areas by the means of improved and steady information on heat pumps of the target groups end users and installers as well as policy makers. Another important project topic is the investigation and evaluation of combinations of heat pumps and renewables.

Framework

Lead partner of the project is the swb Netze in Bremerhaven (Germany) which carries out the project in cooperation with rwe Energy (Germany), University of Edinburgh (UK), SP and the South East Sweden Energy Agency (Sweden), GRETh (France) and DLAEM (Bulgaria)

What we expect to achieve

- Increase the number of heat pump installations in selected target areas.
- Creation of suitable and practical information material for each target group (installers, end users and policy makers) on heating by the means of heat pumps.
- Development of improved marketing strategies to promote heat pumps countries with low market penetration but high potential for heat pumps.
- Presentation of favourable conditions for the combination of heat pumps and renewables

Background

About 40% of the energy consumption in Europe is used for buildings and the Lion's share of this energy is consumed for heating preponderating by the use of fossile fuels. Heat pumps produce an adequate and eco-friendly heat supply with 75% geothermal power or environmental heat and 25% electricity.

Key objective of the project is to show how to reduce the use of fossile fuels for heating by the use of efficient heat pumps. Thereby the availability of raw materials for energy production will be increased and the dependence on world energy markets as well as the production of CO2 decreased.

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Objectives and main steps

- To achieve a further reduction of the use of fossile fuels technological and economical aspects of heat pumps in relation with renewable energies are investigated.
- To promote innovative technologies with low market shares it is not sufficient to inform experts. It is necessary that policy makers produce a „positive climate“ for this technology. In a first step of the project available information are examined and communicated to the target groups (SME, enduser and installers). For this reason Political measures and its effects as well as marketing strategies for promoting heat pumps will be evaluated and recessed for different countries.
- Adequate, practical information materials are developped, the evaluated results are communicated to the target groups (enduser, SME, installer, policy etc.). The web serves as media, but mainly also direct communication with the target groups, workshops and conferences.

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Activities and Results

WP 2 Marketing Analyses of heat pumps

□ **What has been done ?**

- The consortium has agreed on specific target regions in Bulgaria, France, Germany and the UK for which regional market potential has been assessed and summarised.
- The market potential for heat pumps has been specifically analysed for buildings constructed from year 1980 on. Current heat supply for the determined buildings and sectors has been examined (number of heat pumps installed, types and sizes of heat pumps installed, average price for kWh heat (respectively cooling) generated by heat pumps as well as the market volume of the heating and cooling market relevant for small brine/water and air/water heat pumps).

□ **Which were the most important findings?**

- Heat pump use depends mostly from the gas grid penetration of the analyzed areas. Condense gas boilers are the most relevant competitors for heat pumps. Predestinated for heat pump sales are new residential buildings with state of the art insulation standard and low temperature (ground) heating.
- The retrofit sector seems to be a very sensible market since heat pump installation often is hampered by insufficient insulation and heat distribution

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Activities WP 3 Marketing of RES-Heat

□ **What has been done?**

- Former or existing marketing strategies for promotion of heat pumps in Bulgaria, France, Germany, Sweden and the UK have been analysed under the scope of . market incentives established by the public body and incentives established by private companies, e.g. energy utilities and heat pump manufacturers. The successfulness of marketing tools has been assessed via interviews with sales managers, energy agencies and energy consultants working in heat pumps field.

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- In Bulgaria and the UK market actors have

Activities & Results

WP 4

□ What has been done so far ?

- An analysis of relevant policy documents under the scope of policy measures targeted to increase the uptake of heat energy policy pumps in Sweden, Norway and UK, focusing on the role of heat pumps within broader energy policy
- An analysis of (national/regional/local) campaigns initiated by government and associated institutions in Europe to promote heat pumps
- Interviews with key actors in each country to assess their understanding of success of current policy initiatives, systemic barriers hindering a more proactive role of policy in promoting heat pumps and their suggestions to improve policy aid
- For Bulgaria and the UK suggestions on appropriate policy measures and market incentives have been developed and discussed with a interdisciplinary group of experts.

□ Which were the most important findings?

- Report analysing the policy context related to energy conservation, building and housing policy in Sweden, Norway and the UK.
- Short reports including specific proposals for appropriate policy interventions in countries with relatively low market penetration of heat pumps will be distributed to key actors.
- Specific proposals for appropriate policy interventions in countries with relatively low market penetration of heat pumps.
- Recommendations on policy recommendation for UK and Bulgaria

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Work Progress WP 5: Heat Pumps and Renewables

□ What has been done so far ?

- Information on heat and gas driven heat pumps have been collected, and the potential coupling with biogas or solar heat has been evaluated.
- Examples of heat pumps coupled to solar heat have been collected.
- A report on heat and gas driven heat pump has been issued.
- Fact sheets on heat pumps coupled with renewables will be issued
- Two technical-economic studies will be performed (Bulgaria and UK)

□ Which were the most important findings?

- Several examples of the coupling of heat pumps with renewable have been found, but for most of the case they are limited to demonstration operations.
- There are very limited commercially available systems.
- The main barrier to the widespreading of such technologies is the investment cost.

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Lessons Learned

- It can be stated that a developed gas grid seriously hampers the promotion of ground source heat pumps. The high cost of HP units and of drilling boreholes puts the price of a heat pump installation at between two or three times that of a state-of-the-art gas boiler. Owners of newly constructed houses are reluctant to take out additional loans to finance a more expensive heating system even if in the longer term it would be much more cost effective.
- Installing HPs in the renovation of old houses is problematic, as a serious energy audit often indicates that for a heat pump to be economic and effective, expensive additional measures like insulation of roof and wall cavities or a new heat distribution system would be required.
- The explosion in energy prices however seems to have a clear impact on the attractiveness of investment in heat pumps, and market growth is likely to be much faster with the new energy prices.
- The heat pump market comprises two distinct segments with quite different structures and distribution channels. One is the private residential market with largely standard industrially produced systems; the other is for public or business facilities which use bespoke systems designed and assembled by specialist companies. Enhancement of marketing strategies must consider this as a starting point.

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Partners & Contact

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