



Germany

Germany is represented by the **Fraunhofer Institute of Solar Energy systems (ISE)** of the Fraunhofer Gesellschaft and the German manufacturer of building technology **Viessmann Werke GmbH & Co. KG**

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German national project

The national project of Germany is dedicated to field monitoring of heat pumps for low energy houses.

A large field test of about 100 heat pumps is conducted in co-operation with 7 heat pump manufacturers and 2 utilities.

The heat pump types in field testing are outdoor-air and ground-coupled brine-to-water heat pumps. The first part of the field test has been started in 2006 and will continue until 2008. Some systems will continue to be measured until 2010.

Results shall serve

- to evaluate the actual seasonal performance of the latest generation of heat pump systems incl. the domestic hot water operation
- to derive technical expertise for the further development of heat pumps for well-insulated houses
- to investigate the impact of eventual refrigerant losses of heat pump on the seasonal performance

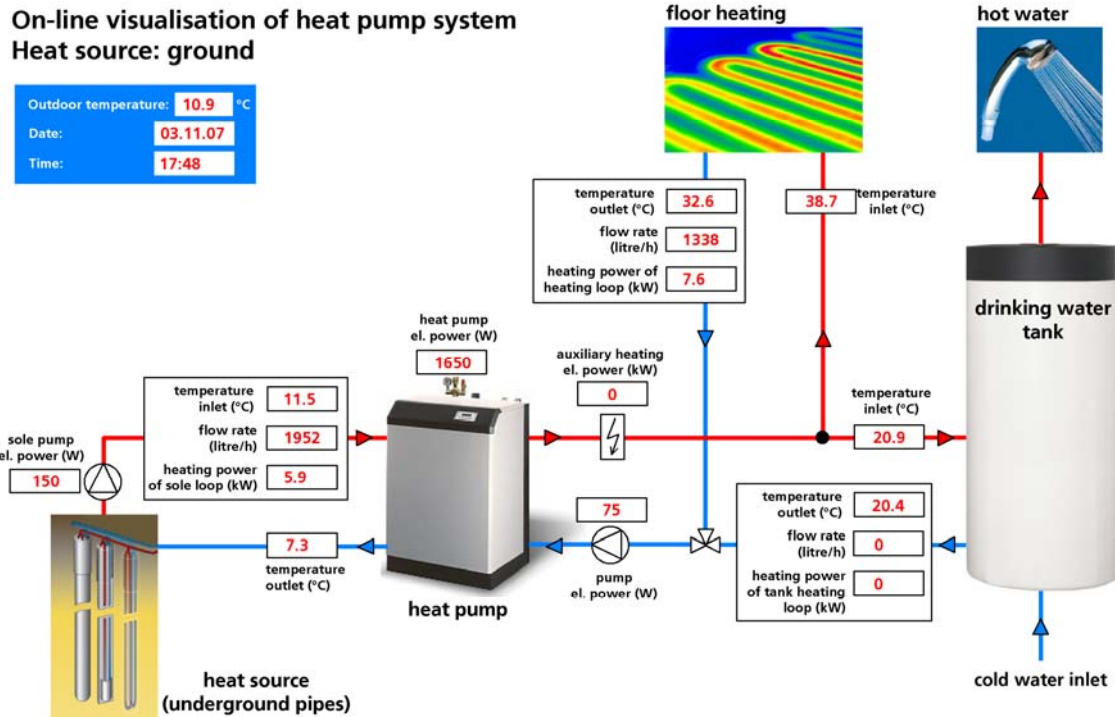


Fig. 1 Example of online visualisation with measurement points for heat flows, electricity inputs and temperatures

Moreover, another field test of heat pumps in the application of retrofitting of boilers will be accomplished in charge of the German utility E.ON in the years 2006-2009. Heat sources for the retrofit application are brine-to-water and air-to-water heat pumps. The selected houses comprise annual energy needs for space heating in the range of 150-250 kWh/m²/a and requirements for high supply temperatures. Results shall deliver the feasibility of this retrofit option in terms of energy savings, CO₂-emission reduction and the economy of the system.

German links



WP-Effizienz

Homepage of the German field test project called "HP-Efficiency". The project is the national German contribution to IEA HPP Annex 32.

The Website contains information on the project, links to the involved manufacturers a password protected members area, where field test results can be inspected online.

Website in German:

<http://wp-effizienz.ise.fraunhofer.de>



WP im Gebäudebestand

Homepage of the German field test project called "HP in the building stock", which investigates heat pumps as retrofit for boilers in existing buildings with high flow temperature requirements for the space heating emission system. The project is accomplished in co-operation with the German utility E.ON. Results will be reported to the IEA HPP Annex 32.

The Website contains information on the project, links to the involved branch companies of E.ON and the possibility to visualise measurement data of three systems online.

Website in German:


 <http://wp-im-gebaeudebestand.de>



Bundesverband WärmePumpe

The website has contact information to members, information about heat pumps.

Information in German at:

 <http://www.waermepumper.de/>



FIZ Karlsruhe

The FIZ provides information on heat pumping technology since over 20 years.

Presently the information transfer of the German energy market and European market players is in focus.

Topics of energy efficiency, renewable sources and reduction of CO₂ emissions with emphasis on heat pumps are main issues.

Information is given in German and English

 <http://www.fiz-karlsruhe.de>



Passive House Institute

The Passive House Institute (PHI) is an independent research institute under the auspices of Dr. Wolfgang Feist with an interdisciplinary team of presently 23 employees.

Main tasks are in research, development in the field on highly-efficient energy use in buildings.

The German Passive house standards and construction concepts for Passive Houses originate of the PHI.

The website gives information on the activities of the PHI and on German Passive houses at

 <http://www.passiv.de>



IG Passivhaus Deutschland

The IG Passivhaus Deutschland is an information network on passive houses in Germany.

Moreover, a data bank with information on realised passive house project in different countries is incorporated in the website.

Objectives are information dissemination, know-how exchange and networking as well as quality management.

Information in German at:

 <http://www.ig-passivhaus.de>