Positive impact on European heat pump sector

The multisectoral and multidisciplinary consortium includes relevant component manufacturers and high level research partners along with the European Heat Pump Association (EHPA). This composition ensures full impact at European level.

The **research institutes** will generate know-how in heat pump design and show how the advanced components developed in this project can be integrated into intelligent overall system solutions.

The **industrial partners** will translate the research results into advanced components and supply them to heat pump producers across Europe.

The **European Heat Pump Association** is responsible for disseminating the results. It acts as a neutral and independent interface between the consortium, heat pump manufacturers, end-users and policy-makers.

The key point is that research and component know-how generated in this project is not restricted to a single manufacturer but will be accessible to the entire European heat pump sector.

Heat pump producers throughout Europe are invited to pick up the novel technologies resulting from this project and implement them in their products to enhance their competitiveness in a promising market.

The Green Heat Pump consortium

Coordinator:
Austrian Institute of Technology (AIT)

Research partners:
Royal Institute of Technology, Sweden
Fraunhofer Institute for Solar Energy Systems, Germany
Austrian Institute of Technology

Industrial partners:
Emerson Climate Technologies GmbH, Germany/Belgium (compressor)
AKG Group, Germany (heat exchangers)
Ziehl-Abegg AG, Germany (fan and air duct)
HESCH Schröder GmbH, Germany (controls)
SAPA Heat Transfer AB, Sweden (aluminium components)

Dissemination partner:
European Heat Pump Association

For more information visit
www.greenhp.eu

green Heat Pump

Green Heat Pump: Developing the next generation of heat pumps

‘Green Heat Pump’ aims at developing and highlighting the potential of heat pumps for retrofitting buildings in urban areas. This is a promising market in view of the urgent necessity to cut greenhouse gas emissions caused by the building sector.

The project addresses key features of future heat pump technology. These include the use of low global warming potential (GWP) refrigerants, advanced component design for minimum environmental impact and intelligent system integration with a focus on smart power grids.

Project goal

The goal is to develop a 30 kW prototype of a next-generation air/water heat pump system designed for retrofitting buildings in future smart cities in moderate climates. The research results will also be applicable to larger scale systems with heating capacities of up to 100 kW and more for multi-family houses or office buildings. The result of the project will be an environmentally friendly, smart heat pump system for easy integration into existing buildings, which will play a key role in the infrastructure of tomorrow’s smart cities. Innovative approaches will be taken at component, unit and system level to achieve the following objectives:

- Efficiency increase – development of new components and an integrated system-oriented setup of the refrigerant circuit and controls.
- Alternative refrigerants – investigation of low global warming potential (GWP) refrigerants, including hydrocarbons and CO_2, as a basis for highly efficient heat pump and system design.
- Intelligent systems – development of interfaces to smart electric grids, other renewable energy systems and control of different system components.

Research approach