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caring for the environment

The GAHP technology, namely the absorption heat pump powered by natural gas and air-source renewable energy, represents the best option to improve building energy efficiency, report representatives of the HEAT4U European Project

The final results of one of the most important research projects funded by the European Union for the development of an energy-efficiency gas heating solution in existing residential buildings have been introduced today.
The research, which began in late 2011, confirms its strategic objectives, while GAHP technology receives the appreciation of Europe. Numbers speak for themselves.

Bergamo, 13th November 2014 – Innovation and technology. This is the two-pronged foundation of Heat4U, i.e. one of the most important international research projects in the area of climate change and energy efficiency, which began on 1st November 2011 and also falls under the 7th Framework Programme for Research and Technological Development (FP7) promoted by the European Community.
14 among the most important European organizations in the energy, industrial, and research fields are involved in such project, namely Robur – which is also the project coordinator, - Pininfarina, ENEA, Politecnico di Milano, D'Appolonia and CF Consulting from Italy; Bosch Thermotechnology, E.ON and the Fraunhofer Institute research centre from Germany; GDF Suez and GrDF from France. The consortium also includes UK-based British Gas, the Polish Flowair, and the Slovenian company ZAG.
The overall investment for such effort amounts to close to Euro 10 million for 36 months with the commitment of more than 800 people/month corresponding to 25 professionals working full-time for three years.

The challenge for this project is to implement the gas absorption heat pump GAHP technology -which is currently used for light-commercial and industrial buildings- also in the area of single-family detached residential homes.

The goals have been largely met and discussed today with appreciation of Dr. Paul Lemmens - European Commission DG Research & Innovation - and Prof. Samuel Furfari - Policy Coordinator of the European Commission DG Energy & Transport – who took part, along with all the partners of the Consortium, to the final meeting of the project at the Robur headquarters in Bergamo.

The final results of the project have confirmed that the absorption heat pump powered by natural gas GAHP is a high-value solution and already in line with the new and future standards for the rational use of energy and renewable energy sources, and fully compatible with the existing distribution networks. So through GAHP technology natural gas becomes the "key enabler of energy efficiency and renewable energy."

The Chairman of Robur Benito Guerra and Project Coordinator Luigi Tischer explained the steps and the main results of the work. "**The research has shown that the market share to which this technology is relevant is not a small segment. This solution dramatically improves the energy efficiency of most of the existing buildings in Europe**", Tischer reports.

After market studies have therefore identified and confirmed the GAHP heat pump features and its huge market potential, the prototypes have been built together with the control systems. They have been tested and validated at the two new centres of excellence -built under the project-: Relab at the Politecnico di Milano and the laboratory of the Fraunhofer Institute in Freibourg.

The technology was later also tested in a series of real installations in single-family residential buildings in Germany, United Kingdom, France, Italy and Poland. **The results speak for themselves: the heat pump GAHP can increase by over 35% the energy efficiency compared to the best condensing boilers thanks to the use of renewable energy, with the resulting cost savings and environmental benefits.**

Every gas absorption heat pump allows every year to save 1.20 TOE (Tons of Oil Equivalent) and to prevent the emission of over 3 Tons of CO_2, which equals the amount that is absorbed by 430 trees. By using this technology, each household might compensate for the CO_2 emissions produced by their car. **If the technology would replace 1% of gas boilers installed in European homes, in one month the cost saving could overcome the overall project investment.**

And the interest in the technology is growing across Europe. It's worth mentioning two examples: the International Energy Agency (IEA) has recently created a working group with international professionals dedicated the deployment of this potential solution. Moreover several European governments have acknowledged the benefits of the technology.

Benito Guerra at the very end of the meeting recalled that the first intuition behind this technology patent was derived from studies by Einstein in the years between 1927 and 1930. Robur was inspired in the research, development and production of this technology in the 90s and today the absorption heat pump GAHP powered by natural gas and renewable energy dedicated to light-commercial sector is already successfully installed in more than 10,000 units worldwide. Guerra has finally confirmed his belief "We can build together a story not only of business, but also of corporate and social responsibility. I am convinced that this project represents a crucial step for an extraordinary innovation in the residential sector. "

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