

Press release

The HAPPENING project to promote clean and efficient air-conditioning in European homes is launched

- The project proposes a highly versatile, scalable and replicable package of solutions to modernise heat and DHW production systems in buildings
- Four European countries are taking part in the project: Germany, Austria, Italy and Spain
- The Spanish pilot project will take place in Ispaster, Bizkaia

Azpeitia, 4 November 2020. Buildings are currently **responsible for 40% of energy demands and 36% of CO₂ emissions in Europe**. The decarbonisation of existing buildings plays a key role in achieving the European Union's climate protection targets for 2050. However, current energy renovation rates of existing buildings are just around 1%. To renovate and decarbonise buildings in use, local renewable energy has to replace the burning of fossil fuels.

Heat pumps are the perfect technology for using free energy from the ambient and incorporating renewable electricity into heat production in buildings in combination with photovoltaic panels. Despite the advantages, heat pump installations in collective residential buildings are still rare.

The HAPPENING project was created to promote the renewable energy share in residential buildings by means of replacing existing systems with heat pumps combined with the production of clean electricity. The project is funded by the European Union's Horizon 2020 programme for research and innovation (agreement no. 957007). The project will run for 42 months with a total budget of Euros 2.9 million. Twelve organisations from four European countries make up the consortium: [Tecnalia](#), [Giroetze](#), [Barrizar](#), [ANESE](#) and [Green Building Council España](#) (Spain); [EURAC](#), [Tecnozenith](#), [INNOVA](#) y [RINA-C](#) (Italy); [AEE INTEC](#) and [GWS](#) (Austria); and [Fraunhofer](#) (Germany).

Tecnalia leads the project and also coordinates the 3 demonstrators or pilots of the project, which intend to demonstrate, on the one hand, the technical feasibility of cascade heat pump systems leading to a meet high share of buildings' thermal needs by local and renewable energy under different conditions; and, on the other hand, the economic or market viability, by promoting new business and/or financing models. In particular, Tecnalia will coordinate, together with Barrizar, the demo in Ispaster (Bizkaia), ensuring coordination between the three demos and thus guaranteeing the effectiveness of the new and innovative HAPPENING solution in different environments and buildings.

Technology for the benefit of people

HAPPENING's technological proposal is based on decentralised heat pumps. They are simple to install, low intrusive and they can be easily adapted to a large number of different building situations. This leads to savings for individuals, improved indoor comfort and a significant reduction in the building's CO₂ emissions, thus helping to decarbonise and achieve EU's climate targets.

In addition to this, very simple planning, implementation and operation procedures are being developed to support the work carried out in the planning stage, to ensure high quality installations and efficient operation, reducing efforts and costs within the entire adaptation project.

The development of new financial and business models addresses the challenge of competitive pricing.

"It is expected that the versatility and adaptability of the innovative HAPPENING solution, based on robust technologies, such as heat pumps and photovoltaics, together with the incorporation of new players (such as financial experts) and financing models to the rehabilitation market, will bring the change of paradigm needed and boost investments in the sector of retrofitting of residential buildings to climate change. One of the key results of the project will be the dissemination of the HAPPENING system's measured performance and characteristics", explains Irantzu Urkola, member of the Energy and Environment department at Tecnalia and project coordinator.

Three replicable pilot projects

By using three sites that have very different climates and features (in Spain, Italy and Austria), the HAPPENING project will demonstrate **a package of highly versatile, scalable and replicable solutions** to modernise energy systems in buildings.

The Spanish pilot project will take place in Ispaster in the region of Bizkaia. The building consists of six dwellings of private ownership. The climate is typical of the Cantabrian coast, with mild winters and summers, and they currently have individual HVAC solutions. The other two pilot projects will take place in a block of ten homes in Verzuolo in Italy and a block of 19 homes in Graz, Austria.

It is estimated that the solutions package proposed by the HAPPENING project will allow shares of renewable energy over 70%, more than 30% savings in primary energy and greenhouse gases (GHG), 50% less planning time, 30% less installation time and a payback period for energy service companies (ESCOs) and investors of less than 8 years, in comparison with the best solution currently available.

About HAPPENING

HAPPENING *-HeAt PumPs in existing multi-family buildings for achieving union's ENergy and envlroNmental Goals-* has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 957119.

About TECNALIA RESEARCH & INNOVATION

TECNALIA is a leading Research and Technological Development Centre in Europe whose mission is to transform technology into GDP, helping companies to be more competitive and generate wealth and employment. Its key scopes of action are: Digital Transformation, Advanced Manufacturing, Energy Transition, Sustainable Mobility, Urban Ecosystem and Health.

TECNALIA currently has a team of over 1,400 experts (43% women – 57% men) from 30 different nationalities. Its activity consists of visualising, identifying and developing comprehensive technological solutions together with its clients. Among them, there are more than 7,000 companies with which it has worked since its origins in 2011, 75% of which are SMEs.

For more information:

Irantzu Urkola

Energy efficiency and planning, TECNALIA

Email: irantzu.urcola@tecnalia.com

T + 34 667 119 638

www.tecnalia.com