

LowUP project develops and demonstrates three energy-efficient solutions

The LowUP (LOW valued energy sources UPgrading for buildings and industry uses) project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement n°723930. During the project, the partners worked to develop and demonstrate three new efficient heating and cooling technologies that will significantly reduce both CO₂ emissions and primary energy consumption. All three systems (HEAT-LowUP, COOL-LowUP and HP-LowUP) combine innovative heat and cool recovery technologies fuelled by low-valued energy sources, also known as low grade. These include both renewable (solar energy, ambient air and water network) and wasted energy sources (sewage waters and excess heat rejected from industrial processes). After four years spent working towards more efficient and sustainable heating and cooling in Europe, the LowUP project has reached its end.

The objective of the project was to contribute to achieving Europe's greenhouse gas reduction targets and increase energy efficiency. The key outputs are:

- An integrated cooling system (17-19°C) based on ambient air and tap water using: wet cooling tower, water-to-water heat exchanger, storage system and chilled beams.
- An integrated solution that produces, stores and distributes low-temperature heat (30-35°C) using: PV module, waste-water heat recovery, multi-temperature storage system and radiant floor heating system.
- A solution capable to recover heat waste from an industrial process through innovative heat pumps and heat exchangers.

The project ended in October 2020 and a final conference held online to mark its end. Over 40 participants from across Europe attended to hear about the project outcomes and the current status of energy-efficient buildings in Europe.

Results generated by LowUP open new opportunities for the heating and cooling industry and could create new jobs and reduce Europe's dependency on imported energy. The final exploitation plan delves into the implementation of smart business models and how they can crucial be to dealing with the obstacles that can hinder the market uptake of NZEB (nearly zero-energy buildings) innovative solutions.

MORE INFORMATION

Contact: Rafael Socorro, LowUP coordinator
rafaelclaret.socorro.hernandez@acciona.com



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PARTNERS	
Name	Country
ACCIONA	Spain
CARTIF	Spain
ENDEF	Spain
EURECAT	Spain
FAFCO	Switzerland
GEA	Netherlands
HALTON	Finland
LGI	France
POZZI	Italy
RDZ	Italy
TECNALIA	Spain
WASENCO	Finland





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