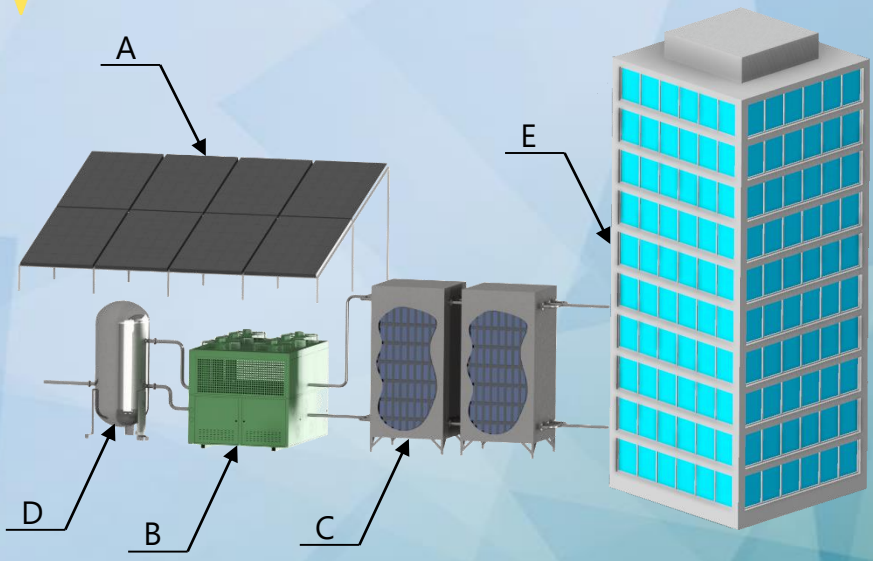
AN INNOVATIVE SOLAR-POWERED COOLING DEVICE, BASED ON CLIMATE-FRIENDLY REFRIGERANT AND THERMAL ENERGY STORAGE

LIFE20 CCM/PL/001607



General scheme of solar-powered (A), climate-friendly refrigerant based cooling device (B) working with phase-change materials based thermal energy storage (C) to supply domestic hot water (D) and building cooling (E).

PROJECT LEADER

Wrocław University of Science and Technology

PROJECT PARTNERS

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Hederahelix

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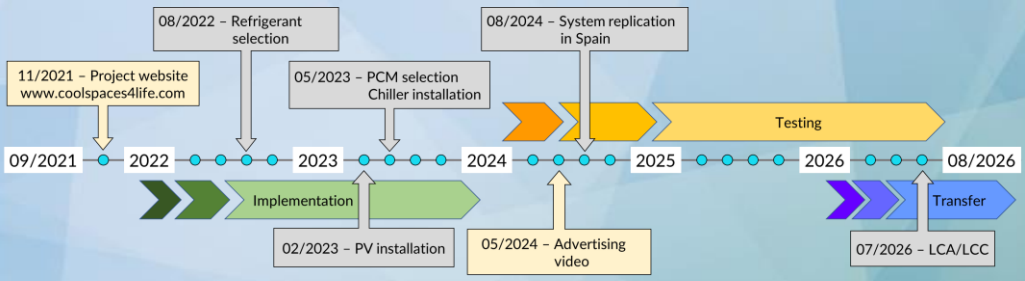
National Fund for Environmental Protection and Water Management

Objectives

- Reduction of greenhouse gases emission.
- The search for the most suitable heat storage material.
- The optimization, control and metering of the novel building cooling system.
- Demonstrating the potential of the system in Poland and Spain.
- Application of Life Cycle Assessment and Life Cycle Costing analysis.



Expected technical results

- Reduction of CO2 emissions.
- Reduction of primary energy consumption by at least 60%.
- Use of as an climate-friendly refrigerant rather than conventional refrigerants.
- Design, execution and testing of an innovative prototype.
- Geographical replication of the prototype in Spain.
- Development of a highly exploitable product applicable Europe wide.

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