PROJECT OBJECTIVES

Following challenges in thermal energy storage has been identified:

Affordability

combination of high performance and affordability

Efficient and high power energy discharge

no external drinking water storage needed, less complex system set-up

Long lifetime and maintenance free vacuum

vacuum for the large volume compact heat storage over its life time when using corrosive salt hydrates

Significant increase in compactness

development of rectangular or prismatic-shaped storage vessels

Safe and reliable operation

comprehensive risk assessment of TCM system

The CREATE technology is a compact thermal energy storage system for the buildings sector. It is the game changer in the transformation of our existing building stock towards near-zero energy buildings.

The project will release the full potential of renewable energy by enabling effective integration of heat storage into Europe's building stock.

www.createproject.eu

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Compact REtrofit Advanced Thermal Energy storage

The CREATE project aims to tackle the thermal energy storage challenge for the built environment by developing and demonstrating a heat battery, an dvanced thermal storage system based on Thermo-Chemical Materials, that enables economically affordable, compact and loss-free storage of heat in existing buildings.

An economically affordable, compact and loss-free heat battery for existing buildings.

The heat battery allows for better use of available renewables in two ways:

- Bridging the gap between supply and demand of renewable heat, by storing locally generated solar heat in summer for use in winter (heating, hot tap water).
- Increasing the flexibility of the energy grid, by converting electricity peaks in renewable electricity, e.g. wind energy, in stored heat for later use.

DEMONSTRATION

Implementation of the CREATE concept is foreseen in typical European dwellings. To demonstrate applicability of the thermochemical storage solution and its operation in real life conditions and to receive early user feedback, MOSTOSTAL will install a full scale solar TCS system delivered by the CREATE project. The system will be installed into a single family house in Warsaw, Poland, where a land climate delivers both cold winters and warm summers.

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