

# Carbon foam for thermal energy storage

carbon foam / material / storage / thermal energy / building



## CONTEXT

Most energy storage technologies use water, which exhibits a rather low energy density. Its usage is also not recommended for long time storage, as thermal losses become significant.

An alternative is to use phase changing materials, which allows storing and returning energy and have a higher energy density. However, these materials have a low thermal conductivity, which penalizes stocking/destocking times.

## DESCRIPTION

The innovation developed by the Jean Lamour Institute consists of a carbon foam that is light, inert, good heat conductor, inexpensive and allows to include phase changing materials.

It enables seasonal thermal energy storage tanks characterized by slow stocking/destocking typically from 1 to 14 weeks.



## COMPETITIVE ADVANTAGES

- Natural origin foam
- Lightweight, inert and good heat conductor
- Low cost (less than 5 €/kg)



### Markets & applications

Energy - building:

- ❖ seasonal energy storage tanks for the building sector



### Development stage

Synthesis process validated at laboratory scale



### Research team

Jean Lamour Institute  
University of Lorraine - CNRS



### Intellectual property

Patent registered on March 27, 2015



### Target partnership

Patent licensing

## CONTACT-US

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