Energy Storage Using Thermal Processes and Nanotubes

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1. Theme description

Since 1970, the science had tried to find a solution at the energy crisis, developing new method to use and storage renewable energy[^1].

The United States Department of Energy has expected that the world’s energy consumption will be increased by 20% and that overuse fossil fuels will have a hard impact on climate[^2].

The hardest current global challenge is to use the renewable energy rather than fossil fuels, improving the storage energy efficiency[^3].

One of the most interesting technologies in the energy storage and conversion is the nanostructured materials for their mechanical and electrical properties[^4].

Carbon nanotubes (CNTs) are a kind of nanostructured material with very good electrical and mechanical properties thanks to their dimension and surface properties. Carbon nanotubes were discovered in 1991 as a minor byproduct of fullerene synthesis[^5]. The research into CNTs has increased, reducing significantly the cost of this technology and improving the processability and scalability[^6]. Nanotubes discovered are of two types: single-wall and multiwall.
In the following, an overview the thermal processes to store energy, in particular the using of Carbon nanotubes in energy field (with a description of this technology and a presentation of the major results obtained by CNTs) are reported.

[1] https://www.history.com/topics/energy-crisis


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