

Phase change materials (PCMs) are currently an important class of modern materials used for storage of thermal energy coming from renewable energy sources such as solar energy or geothermal energy. PCMs are used in modern applications such as smart textiles, biomedical devices, and electronics and automotive industry.

Solar energy is a renewable energy source that can be utilized for different applications in today's world. The effective use of solar energy requires a storage medium that can facilitate the storage of excess energy, and then supply this stored energy when it is needed. An effective method of storing thermal energy from solar is through the use of phase change ...

Thermal energy storage technology is an effective method to improve the efficiency of energy utilization and alleviate the incoordination between energy supply and demand in time, space and intensity [5]. Thermal energy can be stored in the form of sensible heat storage [6], [7], latent heat storage [8] and chemical reaction storage [9], [10]. Phase change ...

@article{Cao2020PhaseCM, title={Phase change materials based on comb-like polynorbornenes and octadecylamine-functionalized graphene oxide nanosheets for thermal energy storage}, author={Yufeng Cao and Dongli Fan and Shaohui Lin and Luye Mu and Flora Tak Tak Ng and Qinmin Pan}, journal={Chemical Engineering Journal}, year={2020}, url={https ...

The thermal energy storage (TES) using phase change material (PCM) is one of the potential and economical method to improve the usage of renewable energy [[1], [2], [3]]. Besides, with the abilities of large latent heat and little temperature variation during phase change, the PCM has been applied in the thermal management system as well [[4 ...

The management of energy consumption in the building sector is of crucial concern for modern societies. Fossil fuels' reduced availability, along with the environmental implications they cause, emphasize the necessity for the development of new technologies using renewable energy resources. Taking into account the growing resource shortages, as well as ...

The distinctive thermal energy storage attributes inherent in phase change materials (PCMs) facilitate the reversible accumulation and discharge of significant thermal energy quantities during the isothermal phase transition, presenting a promising avenue for mitigating energy scarcity and its correlated environmental challenges [10].

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Web: <https://raioph.co.za/contact-us/>

Email: energystorage2000@gmail.com

WhatsApp: 8613816583346

