Special Issue

Phase Change Materials for Thermal Energy Storage: Advances and Applications

Message from the Guest Editors

The ever-increasing use of renewable energies in recent decades, carried out to reduce the consumption of fossil fuels and the carbon footprints of energy systems, has encouraged the study and development of thermal energy storage (TES) systems. TES systems improve the hourly availability of energy and resolve source intermittency, preserving energy that would otherwise go to waste as both sensible and latent heat. Among TES systems, those that use phase changing materials (PCM) are very scientifically and technologically relevant due to their advantages and potential. Due to their high latent heat, they allow considerable storage per unit of mass and, moreover, release them at a constant temperature. Such systems are, therefore, much more compact than those using sensible heat. This Special Issue will present and disseminate the most recent advances related to the use of PCM in TES technologies. Topics of interest for publication include, but are not limited to, the following:

- Advanced TES technologies;
- Advanced PCM;
- Optimized management of PCM-TES;
- Enhancement of PCM-TES by metal foams;
- Enhancement of PCM-TES by nanoparticles.

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Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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