Hemai energy phase change energy storage

Are phase change materials suitable for thermal energy storage?
Phase change materials (PCMs) having a large latent heat during solid-liquid phase transition are promisingfor thermal energy storage applications. However,the relatively low thermal conductivity of the majority of promising PCMs (<10 W/(m ? K)) limits the power density and overall storage efficiency.

How is a solid-solid phase change heat storage material prepared?
A solid-solid phase change heat storage material was also prepared via the condensation reactionof PEG 10000 with tetrafunctional pentaerythritol isocyanate by Li and Ding .

Do thermal storage materials have a trade-off between energy and power?
Researchers have developed figures of merit 12, 25, 26 to try to quantify the trade-off between the energy and power capabilities for thermal storage materials, and these figures of merit have been used to construct approximations of thermal Ragone plots 27.

Can phase change materials improve building energy performance?
Taking into account the growing resource shortages, as well as the ongoing deterioration of the environment, the building energy performance improvement using phase change materials (PCMs) is considered as a solution that could balance the energy supply together with the corresponding demand.

What types of organic phase change materials exhibit large latent heat and solid-liquid transitions?
Organic phase-change materials,such as low-cost paraffin waxes 8,fatty acids 9,10,polyethylene glycols 11,and sugar alcohols12,generally exhibit large latent heat and solid-liquid phase transitions,covering a wide range of melting and crystallization points 13.

Does a radial heat exchanger have a good phase change stability?
Sari and Kaygusuz studied the phase change stability of SA experimentally and found that its melting stability is better in the radial direction than in the axial direction. The authors established that the PCM was more effective with steady phase change characteristics when the heat exchanger tube was horizontal rather than vertical.