

Preface

Thermal energy storage (TES) is the storage of thermal energy for later reuse. Employing widely different technologies, it allows surplus thermal energy to be stored for hours, days, or months. Scale both of storage and use vary from small to large – from individual processes to district, town, or region. Usage examples are the balancing of energy demand between daytime and nighttime, storing summer heat for winter heating, or winter cold for summer cooling (Seasonal thermal energy storage). Storage media include water or ice-slush tanks, masses of native earth or bedrock accessed with heat exchangers by means of boreholes, deep aquifers contained between impermeable strata; shallow, lined pits filled with gravel and water and insulated at the top, as well as eutectic solutions and phase-change materials.¹

In the present book, eleven typical literatures about thermal energy storage published on international authoritative journals were selected to introduce the worldwide newest progress, which contains reviews or original researches on thermal energy storage. We hope this book can demonstrate advances in thermal energy storage as well as give references to the researchers, students and other related people.

The Editorial Board of Academic Archives
Scientific Research Publishing
August 29th,2025

¹ https://en.wikipedia.org/wiki/Thermal_energy_storage