

Recent Development of a Combined Compressed Air and Pumped Hydro Energy Storage System

Abstract: Compressed air energy storage systems have received wide attention for renewable energy integration in the last decade. In this presentation, a review of the current status of compressed air energy storage systems will be first presented and then a recent development of a new combined compressed air and pumped hydro energy storage system is introduced. The evaluation of the thermal characteristics of this new energy storage system will be reported. The effect of the key parameters on the system performance is also investigated for the system design and optimization. Finally, the economic potential and energy storage/conversion efficiency of this new system are compared with other energy storage systems.