## Materials for thermochemical energy storage: Experimental investigation of cycling stability

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Thermochemical energy storage (TCS) uses the reaction enthalpy of reversible chemical reactions. is storage technology contains a so far largely untouched potential: in comparison to sensible and latent thermal energy storage, TCS o ers potentially higher storage densities, the possibility of long-term storage as well as the option to upgrade the thermal energy is upgrade can be realised if the reaction system consists of a solid and a gaseous component. For these gas-solid reaction with the generic equation

the equilibrium temperature is dependent on the reaction gas partial pressure: the higher the partial pressure, the higher the reaction temperature. Consequently, the charging of the storage can take place at lower temperatures than the dischargin