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Sommario/riassunto	<p>The reversible elimination of hydrogen from metal hydrides serves as the basis for unique methods of energy transformation. This technology has found widespread practical utilization in applications such as hydrogen compressors, storage, and sensors, as well as batteries. Moreover, it is plausible that metal hydride technology could be utilized to provide practically viable solutions to the challenges of energy storage. For nearly two decades, an extensive, worldwide research effort has been devoted to complex metal hydrides possessing high volumetric and/or gravimetric hydrogen densities with the goal of their practical utilization as onboard hydrogen storage materials. Additionally, a significant and growing number of efforts have been devoted to developing metal hydrides as advanced sensors and ionic conductors, and for electrochemical and stationary energy storage.</p>