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Nota di contenuto	1. Recent trends in nanomaterials for sustainable energy -- 2. Recent In-situ/Operando Characterization of Lithium Sulfur Batteries -- 3. Recent Advances in Flexible Supercapacitors -- 4. Noble-Metal Free Nanoelectrocatalysts for Hydrogen Evolution Reaction -- 5. Energy saving synthesis of Mg2SiO4:RE3+ nanophosphors for solid-state lighting applications -- 6. Studies of multi-walled carbon nanotubes and their capabilities of hydrogen adsorption -- 7. Emerging Vertical Nanostructures for High-performance Supercapacitor Application -- 8. Hydrogen Production through Solar Driven Water Splitting: Cu(I) Oxide Based Semiconductor Nanoparticles as the Next Generation Photocatalysts -- 9. Application of nanoparticles in clean fuels -- 10. Biomass-derived nanomaterials -- 11. Recent Progress of Carbon Dioxide Conversion into Renewable Fuels and Chemicals using Nanomaterials.
Sommario/riassunto	This book describes the role and fundamental aspects of the diverse ranges of nanostructured materials for energy applications in a

comprehensive manner. Advanced nanomaterial is an important and interdisciplinary field which includes science and technology. This work thus gives the reader an in depth analysis focussed on particular nanomaterials and systems applicable for technologies such as clean fuel, hydrogen generation, absorption and storage, supercapacitors, battery applications and more. Furthermore, it not only aims to exploit certain nanomaterials for technology transfer, but also exploits a wide knowledge on avenues such as biomass-derived nanomaterials, carbon dioxide conversions into renewable fuel chemicals using nanomaterials. These are the areas with lacunae that demand more research and application.