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Nota di contenuto	Electrochemical Technologies for Energy Storage and Conversion; Contents to Volume 1; Contents to Volume 2; Preface; About the Editors; List of Contributors; 1 Electrochemical Technologies for Energy Storage and Conversion; 1.1 Introduction; 1.2 Global Energy Status: Demands, Challenges, and Future Perspectives; 1.3 Driving Forces behind Clean and Sustainable Energy Sources; 1.3.1 Local Governmental Policies as a Potential Thrust; 1.3.2 Greenhouse Gases Emission and the Associated Climate Changes; 1.3.3 Public Awareness about Environmental Protection Rose around the World 1.3.4 Population Growth and Industrialization1.3.5 Security and Safety Concerns Arising from Scarcity of Resources; 1.3.6 Platforms Advocating in Favor of Sustainable and Renewable Resources; 1.3.7 Economic Risk Generated from Price Pressure of Natural Resources; 1.3.8 Regulatory Risk from Governmental Action and Legislation; 1.3.9 Fear of Reputational Risk to Strengthen Corporate Social Responsibility; 1.3.10 Operational and Supply Chain Risks from Inefficiencies and Environmental Changes 1.4 Green and Sustainable Energy Sources and Their Conversion: Hydro,

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## Sommario/riassunto

In this handbook and ready reference, editors and authors from academia and industry share their in-depth knowledge of known and novel materials, devices and technologies with the reader. The result is a comprehensive overview of electrochemical energy and conversion methods, including batteries, fuel cells, supercapacitors, hydrogen generation and storage as well as solar energy conversion. Each chapter addresses electrochemical processes, materials, components, degradation mechanisms, device assembly and manufacturing, while also discussing the challenges and perspectives for each energy sto