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Nota di contenuto	Introduction to nanocarbon -- Synthesis and characterizations of nanocarbon -- Electrochemical properties of nanocarbon -- Tunability of electrochemical properties of nanocarbon for sustainable energy -- One-Dimensional Carbon for Electrocatalytic Activities -- Graphene as a (metal free) catalyst – case studies -- 3D Graphene: A Nanocarbon Innovation in Electrochemical Sensor Technology -- Nanocomposites of Carbon for Dye Sensitized Solar Cell Applications -- Nanocarbon for electrocatalysts -- Graphene-based electrocatalysts -- Electrocatalytic properties of fullerene based materials -- Nanocomposites of carbon for electrocatalysts -- Graphene-based fuel cells -- Nanocomposites of carbon for fuel cells -- Carbon Nanomaterials as one of the Options for Hydrogen Storage -- Nanocarbon as catalyst support for fuel hydrogen generation by hydrolysis of sodium borohydride -- Exploiting the Potential of Carbon Nanotubes and Nanofluids to Boost Efficiency in

Solar Applications -- Recent Advancements in Conducting Polymers for Biomedical Sensors.

Sommario/riassunto

This book is part of a 2 volume book series that provides current, state-of-the-art knowledge, fundamentals of electrochemistry, design strategies, and future challenges in carbon-based materials for electrochemical energy production and storage devices. The key goals for nanocarbons based electrochemical devices are to provide safe operation, sustainability, high energy and power density, long working life, and reduced cost. This book describes the fundamentals and working principles of nanocarbons for basic to advanced applications for energy storage devices such as photovoltaics, electrocatalyst, and fuel cells. The book is written by leading experts in these areas making this a suitable textbook for students and providing new directions to researchers and scientists working in science and technology areas.