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Nota di contenuto	Introduction to environmental and energy technologies -- Bio-based materials from biomass: A foundation for green innovation -- Nanotechnology in bio-based materials -- Environmental pollution control using micro and nano bio-based materials -- Applications of micro to nano bio-based materials in renewable energy systems -- Nanostructured bio-aerogels for energy conversion and storage applications. -Biodiesel production from waste frying oils: The role of nanomaterials, sustainable development goals linkage and economics perspective -- Enhancing energy efficiency in buildings using

nanomaterial-based insulation -- Bio-aerogels: Promising nanostructured materials for air filtration -- Challenges and prospective in bio-based nanotechnology for environmental and energy applications.

Sommario/riassunto

This book examines the coming together of environmental technologies and renewable energy systems with bio-based nanomaterials innovation. The book is a comprehensive guide for the development of energy-efficient systems and the exploration of advanced pollution control techniques, promoting a cleaner, greener future. It gathers expertise that will help tackle global environmental and energy issues by utilizing bio-based materials. The book features:

Comprehensive Content: the book demonstrates the integration of environmental technologies and renewable energy systems with advancements in bio-based nanomaterials. Topics include energy efficiency, air and water pollution control, renewable energy systems, and the role of bio-aerogels in filtration and storage applications.

Introduction to Environmental and Energy Technologies: examines environmental and energy issues and the contribution of advanced materials in developing sustainable solutions.

Fundamentals and Innovations in Bio-Based Materials: surveys the characteristics, composition, and uses of bio-based materials, spanning micro to nano scales, while exploring their capacity to substitute conventional synthetic materials.

Nanotechnology Applications in Energy and Environmental Sectors: explores the ways in which nanotechnology improves the performance of bio-based materials for use in renewable energy systems, biodiesel production, and air filtration.
