Sustainable Materials: Production Processes and Production Manufacturing Guide

sustainable manufacturing processes, and environmental as well as social assessments of apparel production. The book highlights the environmental and social impacts of apparel and its assessment. It explores the complexities involved in implementing sustainable measures in the massive supply chain of apparel production. The discussion then turns to sustainability and consumption behavior of the apparel industry and the assessment of sustainability aspects and parameters. The text details technologies that can pave the way to sustainability in production and closes with coverage of design aspects, particularly sustainable design into design and new approaches to fashion sustainability. A vast and complex topic, sustainability in apparel production has many faces and facets. With contributions from an international panel of experts, this book unites all the elements, including every minute detail, and supports them with detailed and interesting case studies. It gives you a framework for moving towards sustainability. Sustainable process engineering is a methodology to design new and redesign existing processes that follow the principles of green chemistry and green engineering, and ultimately contribute to sustainable development. The newest achievements of chemical engineering opened new opportunities to design more efficient, safe, compact and environmentally benign chemical processes. The book provides a guide to sustainable process design applicable in various industrial fields. Discuss the topic from a wide angle: chemistry, materials, processes, and equipment. Includes state-of-the-art research achievements that are yet to be industrially implemented. Transfers knowledge between chemists and chemical engineers. QR codes direct the reader to animations, short videos, magazines, and blogs on specific topics. Worked examples deepen the understanding of the sustainable assessment of chemical manufacturing processes. Sustainable Materials for Oil and Gas Applications, a new release in the Advanced Materials and Sensors for the Oil and Gas Industry series, comprises a list of processes across the upstream and downstream sectors of the industry and the latest research on advanced nanomaterials. Topics include enhanced oil recovery mechanisms of nanofluids, health and safety features related to nanoparticle handling, and advanced materials for produced water treatments. Supplied from contributing experts in both academic and corporate backgrounds, the reference contains developments, applications, advantages and challenges. Located in one convenient resource, the book addresses real solutions oil and gas companies try to lower emissions. As the oil and gas industry is shifting and implementing innovative ways to produce oil and gas in an environmentally friendly way, this resource is an ideal complement to their work. Covers developments, workflows and protocols in advanced materials for today’s oil and gas sectors. Helps readers gain insights from an experienced list of editors and contributors from both academic and corporate backgrounds. Address environmental challenges in oil and gas through technological solutions in nanotechnology.