1. Record Nr. UNINA9910707975803321

Autore	Kokaly Raymond F.
Titolo	Hyperspectral surveying for mineral resources in Alaska / / by Raymond F. Kokaly [and five others] ; prepared in collaboration with Alaska Department of Natural Resources Division of Geological and Geophysical Surveys, University of Alaska Fairbanks, and National Park Service
Pubbl/distr/stampa	[Reston, Virginia] : , : U.S. Department of the Interior, U.S. Geological Survey, , 2016
Descrizione fisica	1 online resource (2 unnumbered pages) : color illustrations
Collana	Fact sheet ; ; 2016-3029
Soggetti	Mine surveying - Alaska Mines and mineral resources - Alaska
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"July 2016."
Nota di bibliografia	Includes bibliographical references (page [2]).

2. Record Nr. UNINA9910253999203321

Autore	Chiang Pen-Chi
Titolo	Carbon Dioxide Mineralization and Utilization / / by Pen-Chi Chiang, Shu-Yuan Pan
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2017
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XVI, 452 p. 108 illus., 2 illus. in color.)
Disciplina	628
Soggetti	Environmental sciences Climatic changes Management Industrial management Waste management Building materials Energy consumption Environmental Science and Engineering Climate Change Innovation/Technology Management Waste Management/Waste Technology Building Materials Energy Efficiency
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Introductions -- Part I: Global Warming Issues: Challenges and Opportunities -- Carbon Cycle from Thermodynamic Point of View -- Carbon Capture and Storage (CCS) Technologies -- Strategic Environmental Assessment (SEA) -- CCS Guidance -- Part II: Types of Feedstock for CO2 Mineralization -- Natural Silicate Material -- Iron/Steelmaking Slag -- Air pollution control (APC) residue -- Other Alkaline Waste -- Part III: Integrated Wastes Treatment via Accelerated Carbonation -- Accelerated Carbonation Reaction -- Carbonation Mechanisms and Modeling -- Direct/Indirect Carbonation Processes --

Analytical Methods and Material Identification -- Part IV: Valorization of Carbonated Product for Construction Materials -- Product Utilization in Construction Engineering -- Supplementary Cementitious Materials in Cement and Concrete -- Aggregates -- Other Innovative Utilizations -- Part V: Integrated Land-use, Water and Energy Plans -- Methodologies and Tools -- Waste-to-Resource Supply Chain -- System Optimization.

Sommario/riassunto

This book focuses on an important technology for mineralizing and utilizing CO2 instead of releasing it into the atmosphere. CO2 mineralization and utilization demonstrated in the waste-to-resource supply chain can “reduce carbon dependency, promote resource and energy efficiency, and lessen environmental quality degradation,” thereby reducing environmental risks and increasing economic benefits towards Sustainable Development Goals (SDG). In this book, comprehensive information on CO2 mineralization and utilization via accelerated carbonation technology from theoretical and practical considerations was presented in 20 Chapters. It first introduces the concept of the carbon cycle from the thermodynamic point of view and then discusses principles and applications regarding environmental impact assessment of carbon capture, storage and utilization technologies. After that, it describes the theoretical and practical considerations for “Accelerated Carbonation (Mineralization)” including analytical methods, and systematically presents the carbonation mechanism and modeling (process chemistry, reaction kinetics and mass transfer) and system analysis (design and analysis of experiments, life cycle assessment and cost benefit analysis). It then provides physico-chemical properties of different types of feedstock for CO2 mineralization and then explores the valorization of carbonated products as green materials. Lastly, an integral approach for waste treatment and resource recovery is introduced, and the carbonation system is critically assessed and optimized based on engineering, environmental, and economic (3E) analysis. The book is a valuable resource for readers who take scientific and practical interests in the current and future Accelerated Carbonation Technology for CO2 Mineralization and Utilization.