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Titolo	Topical Themes in Energy and Resources : A Cross-Disciplinary Education and Training Program for Environmental Leaders / / edited by Yasumitsu Tanaka, Michael Norton, Yu-You Li
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Descrizione fisica	1 online resource (275 p.)
Disciplina	333.79 338926 363.728 553 621.042 628.4
Soggetti	Energy policy Refuse and refuse disposal Geology, Economic Energy Policy, Economics and Management Waste Management/Waste Technology Economic Geology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Nurturing Environmental Leaders among science and engineering researchers – Tohoku University approach -- Background on energy and resources strategy -- Limits to resources, economic growth and happiness -- Fuel Cells for Efficient Use of Energy -- Energy and Supercritical fluids -- Geothermal Energy -- Technology development towards localised small-scale electricity generation and its use in smart buildings -- Biomass energy using methane and hydrogen from waste materials -- Resource logistics analysis on phosphorus and its applications for Science, Technology and Innovation (STI) policy -- Waste Materials in Construction: Sludge and Recycling -- Recycling of waste plastics -- Recent resource and environmental issues in the Steel

	Industry -- Resource Recycling of Non-Ferrous Metals -- Strengthening scientists and engineers appreciation of the real world -- Environmental Leadership Training- effects on students' future environmental leadership.
Sommario/riassunto	Moving towards a more sustainable world requires a complete revolution in the way we manage energy and resources. However, from an academic perspective, this theme is so broad that most educators and researchers tend to focus on just one aspect, and maintaining the broad viewpoint which is necessary for making strategic judgments becomes difficult. Tohoku University addressed this challenge when developing a new education and training program for environmental leaders and brought together the extensive range of expertise available in specific fields into one special course which forms the basis of this book. Now in one volume, both students and educators can be brought up to date on a wide range of critical issues currently being addressed in the field of energy and resources. Issues covered include several critical ones in the energy field (low-energy technologies, renewable energies such as the hydrogen economy, and geothermal energy). Chapters on resources include availability (for instance, rare earth metals), extraction and recycling of metals and plastics, and technological solutions to specific waste-disposal problems. In addition, broader strategic issues such as limits to growth and the interaction between the economic system and environmental issues are addressed. Even though each chapter provides topical data and knowledge from disparate and specialized fields, the book is written at a level that is readily understandable by students from all scientific, engineering, and humanities fields.