Record Nr. UNINA9910788556403321 Autore Dusastre Vincent Titolo Materials for Sustainable Energy: a Collection of Peer-Reviewed Research and Review Articles from Nature Publishing Group Singapore:,: World Scientific Publishing Company,, 2010 Pubbl/distr/stampa 981-4464-33-3 **ISBN** 1-283-14490-5 9786613144904 981-4317-66-7 Descrizione fisica 1 online resource (300 pages) Disciplina 621.042 Soggetti Energy conservation - Equipment and supplies Sustainable engineering - Materials Mechanical Engineering Engineering & Applied Sciences Mechanical Engineering - General Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto PREFACE; RESEARCH INITIATIVES TOWARDS SUSTAINABLE HANDLING OF ENERGY: PHOTOVOLTAIC CELLS: THERMOELECTRIC CONVERTERS: BATTERIES AND SUPERCAPACITORS; FUEL CELLS; HYDROGEN GENERATION AND STORAGE; SUPERCONDUCTORS Sommario/riassunto The search for cleaner, cheaper, smaller and more efficient energy technologies has to a large extent been motivated by the development of new materials. The aim of this collection of articles is therefore to focus on what materials-based solutions can offer and show how the rationale design and improvement of their physical and chemical properties can lead to energy-production alternatives that have the potential to compete with existing technologies. In terms of alternative means to generate electricity that utilize renewable energy sources, the

most dramatic breakthroughs for both mobile (i.