Record Nr. UNINA9910779174903321 Carbon-neutral fuels and energy carriers / / edited by Nazim Z. **Titolo** Muradov, T. Nejat Veziroglu Pubbl/distr/stampa Boca Raton, Fla.:,: CRC Press,, 2012 **ISBN** 0-429-09601-1 1-4398-1858-4 Descrizione fisica 1 online resource (835 p.) Collana Green chemistry and chemical engineering Altri autori (Persone) MuradovNazim Z VezirogluT. Nejat Disciplina 621.042 Soggetti Chemical engineering Environmental engineering Fuel Renewable energy sources 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 and index. Nota di contenuto Front Cover; Contents; Preface; Green Chemistry and Chemical Engineering; Editors; Chapter Lead Contributors; Chapter 1 - Energy Options in a Carbon-Constrained World: An Advent of Carbon-Neutral Technologies; Chapter 3 - Nuclear Power for the Production of Carbon-Free Energy and Fuels; Chapter 4 - Solar Production of Fuels from Water and CO2; Chapter 5 - Efficient Utilization of Solar, Wind, and Geothermal Energy Sources through Exergy Analysis; Chapter 6 -Electrochemical Reduction of CO2 to Fuels Chapter 7 - Energy Storage and Other Ways of Handling Intermittent Energy Production from Renewable SourcesChapter 9 - Synthetic Hydrocarbon Fuels from Lignocellulosic Biomass; Chapter 10 -Fundamentals of Biohydrogen Production Processes; Chapter 11 -Photobiological and Photobiomimetic Production of Solar Fuels; Chapter 12 - Fermentative Biofuels: Prospects of Practical Application; Chapter 13 - Biofuels from Oily Biomass; Chapter 14 - Fossil Fuel Decarbonization: In the Quest for Clean and Lasting Fossil Energy:

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Concerns over an unstable energy supply and the adverse environmental impact of carbonaceous fuels have triggered considerable efforts worldwide to find carbon-free or low-carbon alternatives to conventional fossil fuels. Carbon-Neutral Fuels and Energy Carriers emphasizes the vital role of carbon-neutral energy sources, transportation fuels, and associated technologies for establishing a sustainable energy future. Each chapter draws on the insight of world-renowned experts in such diverse fields as photochemistry and electrochemistry, solar and nuclear energy, biofuels and