

1. Record Nr.	UNINA9910453403403321
Autore	Sørensen Bent <1941->
Titolo	Renewable energy conversion, transmission, and storage [[electronic resource] /] / Bent Sørensen
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Elsevier/Academic Press, c2007
ISBN	1-281-98215-6 9786611982157 0-08-055904-2
Descrizione fisica	1 online resource (339 p.)
Disciplina	621.042
Soggetti	Renewable energy sources Electronic books.
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 (p. 307-322) and index.
Nota di contenuto	Front Cover; Renewable Energy Conversion, Transmission and Storage; Copyright Page; Preface; Contents; Units and Conversion factors; Chapter 1. Introduction; Part I: General principles; Chapter 2. Basic principles of energy conversion; Chapter 3. Thermodynamic engine cycles; Part II: Heat energy conversion processes; Chapter 4. Direct thermoelectric conversion; Chapter 5. Engine conversion of solar energy; Chapter 6. Heat pumps; Chapter 7. Geothermal and ocean-thermal energy conversion; Part III: Mechanical energy conversion processes; Chapter 8. Basic description of flow-driven converters Chapter 9. Propeller-type convertersChapter 10. Cross-wind and other alternative converter concepts; Chapter 11. Hydro and tidal energy conversion; Chapter 12. Magneto hydrodynamic converters; Chapter 13. Wave energy converters; Part IV: Solar radiation conversion processes; Chapter 14. Photovoltaic conversion; Chapter 15. Photo-electrochemical conversion; Chapter 16. Solar thermal conversion; Chapter 17. Solar thermal electricity generators; Chapter 18. Solar cooling and other applications; Part V: Electrochemical energy conversion processes; Chapter 19. Fuel cells Chapter 20. Other electrochemical energy conversionPart VI: Bioenergy conversion processes; Chapter 21. Combustion; Chapter 22. Biological conversion into gaseous fuels; Chapter 23. Biological conversion into

liquid fuels; Chapter 24. Thermochemical conversion to gaseous and other fuels; Part VII: Energy Transmission; Chapter 25. Heat transmission; Chapter 26. Power transmission; Chapter 27. Fuel transmission; Part VIII: Heat storage; Chapter 28. Heat capacity storage; Chapter 29. Latent heat and chemical transformation storage; Part IX: High-quality energy storage
Chapter 30. Pumped hydro storage
Chapter 31. Flywheels; Chapter 32. Compressed gas storage; Chapter 33. Battery storage; Chapter 34. Other storage forms; Mini-projects and exercises; References; Index

Sommario/riassunto

Scientist and engineers working in the field renewable energy must overcome the challenges of conversion, transmission and storage before it can replace more traditional power sources such as oil and gas. In this book, Bent Sorenson provides strategies for the efficient conversion, transmission and storage of all forms of renewable energy. The book provides the reader with a complete background on how renewable energy is transformed into power and the best methods for transmitting and storing the energy produced. Specific to this book is a discussion of conversion processes and storage
