1. Record Nr. UNINA9910138861903321 Titolo Marine renewable energy handbook / / edited by Bernard Multon London:,:ISTE Pubbl/distr/stampa Hoboken, NJ:,: John Wiley & Sons,, 2012 **ISBN** 1-118-60318-4 1-118-60329-X 1-118-60326-5 1-299-18784-6 Descrizione fisica 1 online resource (665 p.) **ISTE** Collana 333.91/4 Disciplina Soggetti Ocean energy resources - France Renewable energy sources - France Lingua di pubblicazione Inglese Materiale a stampa **Formato** Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Cover; Marine Renewable Energy Handbook; Title Page; Copyright Page; Table of Contents; Foreword; Preface; Chapter 1. Marine Environment and Energy Resources; 1.1. Introduction; 1.2. Physical and potential resources; 1.2.1. Definitions and orders of magnitude on the subject of marine energy; 1.2.2. Energetic potential and conversion; 1.2.3. Wind energy; 1.2.4. Tidal energy; 1.2.5. Tidal stream energy; 1.2.6. Swell energy; 1.2.7. Ocean thermal energy conversion; 1.3. Physical aspects of the marine environment; 1.3.1. Water depth; 1.3.2. Nature of sea beds: 1.3.3. Meteo-oceanic conditions 1.3.4. Distance from the coast1.4. Environmental data; 1.4.1. Environmental factors to take into account; 1.4.2. Special areas; 1.5. Bibliography: Chapter 2. Constraints of the Marine Environment; 2.1. Extreme conditions at sea: 2.1.1. Some notes about uncertainties: 2.1.2. From response extremes to their generating conditions; 2.1.3. From commonplace conditions to exceptional events; 2.1.4. Some characteristics of maritime meteorological extremes; 2.2. Materials in the marine environment; 2.2.1. Choice of materials; 2.2.2. Durability; 2.2.3. Anti-fouling protection; 2.3. Bibliography

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## Sommario/riassunto

Marine renewable energy is a significant resource for generating electricity, and if some conversion technologies have already reached a certain level of maturity, others are emerging. The originality of this multidisciplinary book is to offer a broad spectrum of knowledge from academic and industry experts of various origins. It deals with general aspects such as the specificities and constraints of the marine environment, the concepts of hydrodynamics and ocean engineering, as well as the industrial and economic sides necessary for the assembly of projects. It also discusses conversion