1. Record Nr. UNINA9910830287903321 Autore Raj Pethuru **Titolo** The Power of Artificial Intelligence for the Next-Generation Oil and Gas Industry: Envisaging Al-Inspired Intelligent Energy Systems and Environments / / Pethuru Raj Chelliah [and four others] Hoboken, New Jersey:,: John Wiley & Sons, Inc.,, [2024] Pubbl/distr/stampa ©2024 **ISBN** 1-119-98559-5 1-119-98561-7 Edizione [First edition.] Descrizione fisica 1 online resource (513 pages) IEEE Press Series on Power and Energy Systems Series Collana Disciplina 060 Artificial intelligence - Industrial applications Soggetti Oil fields - Data processing Petroleum engineering - Data processing Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Cover -- Title Page -- Copyright Page -- Contents -- About the Authors -- Foreword -- Preface -- Chapter 1 A Perspective of the Oil and Gas Industry -- 1.1 Exploration and Production -- 1.1.1 Onshore -- 1.1.2 Offshore -- 1.1.3 Hydraulic Fracturing -- 1.2 Midstream Transportation -- 1.3 Downstream - Refining and Marketing -- 1.3.1 Hydrotreating -- 1.4 Meaning of Different Terms of Products Produced by the Oil and Gas Industry -- 1.4.1 Natural Gas -- 1.4.2 Extraction -- 1.4.3 Advantages and Disadvantages -- 1.4.4 Types --1.4.5 Types of Natural Gas Deposits -- 1.4.6 Conventional Natural Gas Deposits -- 1.4.7 Coal Bed Methane -- 1.4.8 Shale Gas -- 1.4.9 Tight Gas -- 1.4.10 Environmental Impacts of Natural Gas -- 1.4.11 The Future of Natural Gas -- 1.4.12 CNG vs. Liquid Fuels -- 1.4.13 Unconventional Oil and Gas -- 1.5 Oil and Gas Pricing -- 1.6 A Note on Renewable Energy Sources -- 1.6.1 Biomass -- 1.6.2 Hydropower -- 1.6.3 Geothermal -- 1.6.4 Wind -- 1.6.5 A Note About Hydrogen --1.6.6 How is Hydrogen Produced -- 1.6.7 Production of Hydrogen --

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Sommario/riassunto

"This book describes the proven and promising digital technologies and tools available to empower the oil and gas industry to be future-ready. How the widely reported limitations of the oil and gas industry are getting nullified through the apt and adroit application of breakthrough digital technologies is explained in this book. The book also describes how the above-mentioned convergence of digital technologies helps to envision newer possibilities and opportunities to take this industry to its next level. This book on AI-inspired oil and gas industry differentiates and delivers sophisticated use cases for the various stakeholders. The book provides easy-to-understand and use information in accurately utilizing the proven technologies towards achieving the real and sustainable industry transformation."--