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| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | Front Cover; Advanced Natural Gas Engineering; Copyright Page; Table of Contents; Preface; Reviews; List of Figures; List of Tables; List of Examples; CHAPTER 1. Natural Gas Basics; 1.1 Introduction; 1.2 Geological Settings; 1.3 Natural Gas Origins and Accumulations; 1.4 Natural Gas Resources; 1.5 Natural Gas Composition and Phase Behavior; 1.6 Natural Gas Properties; 1.7 Units and Conversions; 1.8 References; CHAPTER 2. Unique Issues in Natural Gas Exploration, Drilling, and Well Completion; 2.1 Introduction; 2.2 Exploration; 2.3 Drilling; 2.4 Well Completions; 2.5 References CHAPTER 3. Natural Gas Production3.1 Introduction; 3.2 Darcy and non-Darcy Flow in Porous Media; 3.3 Gas Well Inflow under Darcy Flow; 3.4 Gas Well Inflow under non-Darcy Flow; 3.5 Horizontal Gas Well Inflow; 3.6 Hydraulic Fracturing; 3.7 Well Deliverability; 3.8 Forecast of Well Performance and Material Balance; 3.9 References; CHAPTER 4. Natural Gas Processing; 4.1 Introduction; 4.2 Natural Gas and Liquid Separation; 4.3 Natural Gas Dehydration-Water Removal; 4.4 Natural Gas Sweetening-Acid Gases Removal; 4.5 References |

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| | CHAPTER 5. Natural Gas Transportation-Pipelines and Compressed Natural Gas5.1 Introduction; 5.2 Pipelines; 5.3 Marine CNG Transportation; 5.4 References; CHAPTER 6. Liquefied Natural Gas (LNG); 6.1 Introduction; 6.2 The LNG Process; 6.3 LNG Liquefaction; 6.4 LNG Carriers; 6.5 References; CHAPTER 7. Gas-To-Liquids (GTL); 7.1 Introduction; 7.2 Why GTL?; 7.3 GTL Processes; 7.4 GTL Based on Direct Conversion of Natural Gas; 7.5 GTL Based on Indirect Conversion of Natural Gas; 7.6 GTL economics and outlook; 7.7 References; 7.8 Appendix-Catalysis (Bartholomew and Farrauto, 2005) CHAPTER 8. Underground Natural Gas Storage Measures; 8.4 Discussion; 8.5 References; CHAPTER 9. Natural Gas Supply, Alternative Energy Sources, and the Environment; 9.1 Introduction; 9.2 The Great Energy Dilemma; 9.3 Advantages of Fossil Fuels; 9.4 Energy Interchangeability versus Inflexibility; 9.5 Regional Gas Supply Potential; 9.6 Alternatives to Natural Gas Fired Electricity; 9.7 Fundamentals of Electricity Generation from Alternative Energy Sources; 9.8 Economics of Electricity Generation from Different Energy Sources 9.9 Environmental Impact of Fossil Fuels and Renewable Energy |
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| | Sources9.10 References; Nomenclature; Index |
| Sommario/riassunto | Natural gas is playing an increasing role in meeting world energy demands because of its abundance, versatility, and its clean burning nature. As a result, lots of new gas exploration, field development andproduction activities are under way, especially in places where natural gas until recently was labeled as "stranded?. Because a significant portion of natural gas reserves worldwide are located across bodies of water, gas transportation in the form of LNG or CNG becomes an issue as well. Finally natural gas is viewed in comparison to the recently touted alternatives. Therefor |