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Nota di contenuto	Green Petroleum: How Oil and Gas Can Be Environmentally Sustainable; Contents; Preface; 1 Introduction; 1.1 'Greening': What does it Entail?; 1.2 The Science of Change: How will our Epoch be Remembered?; 1.3 Are Natural Resources Finite and Human Needs Infinite?; 1.4 The Standard of Sustainable Engineering; 1.5 Can Nature be Treated as if it were Static?; 1.6 Can Human Intervention Affect Long-Term Sustainability of Nature?; 1.7 Can an Energy Source be Isolated from Matter?; 1.8 Is it Possible that Air, Water, and Earth became our Enemies?; 1.9 Can we Compare Diamonds with Enriched Uranium?

1.10 Is Zero-Waste an Absurd Concept? 1.11 How can we Determine Whether Natural Energy Sources Last Forever?; 1.12 Can Doing Good be Bad Business?; 1.13 Greening of Petroleum Operations: A Fiction?; 2 From the Pharaonic Age to the Information Age: Have we Progressed in Technology Development Skills?; 2.1 Introduction; 2.2 Fundamental Misconceptions of the Modern Age; 2.2.1 Chemicals are Chemicals and Energy is Energy; 2.2.2 If you Cannot See, it Does not Exist; 2.2.3 Simulation Equals Emulation; 2.2.4 Whatever Works is True 3 How Long Has This 'Technological Disaster' Been in the Making? Delinearized History of Civilization and Technology Development 3.1 Introduction; 3.2 Delinearized History of Time, Science, and Truth; 3.2.1 Role of First Premise; 3.3 Other Considerations in Mathematics and Science; 3.3.1 Numbers in the Qur'an; 3.4 Modeling Natural Phenomena in Multiple Dimensions; 3.4.1 Transition from Mathematics of Tangibles to Mathematics of Intangibles; 3.5 Conclusions; 4 Is Modern Science Capable of Discerning Between True and False?; 4.1 Introduction 4.2 Why Focus on Tangibles Makes it Impossible for us to Act on Conscience That is Needed to Increase our Knowledge of Truth 4.3 New Science vs. Science of Intangibles; 4.4 The Criterion of Truth and Falsehood; 4.5 Effect of the Science of Tangibles; 4.6 The Science of Matter and Energy; 4.6.1 The European Knowledge Trail in Mass and Energy; 4.6.2 Delinearized History of Mass and Energy Management in the Middle East; 4.7 Paradigm Shift in Scientific and Engineering Calculations; 4.8 Summary and Conclusions; 5 Fundamentals of Mass and Energy Balance; 5.1 Introduction 5.2 The Difference Between a Natural Process and an Engineered Process 5.3 The Measurement Conundrum of the Phenomenon and its Observer; 5.3.1 Background; 5.3.2 Galileo's Experimental Program: An Early Example of the Nature-Science Approach; 5.4 Implications of Einstein's Theory of Relativity on Newtonian Mechanics; 5.5 Newton's First Assumption; 5.6 First Level of Rectification of Newton's First Assumption; 5.7 Second Level of Rectification of Newton's First Assumption; 5.8 Fundamental Assumptions of Electromagnetic Theory; 5.9 Aims of Modeling Natural Phenomena 5.10 Challenges of Modeling Sustainable Petroleum Operations

Sommario/riassunto

Can ""green petroleum"" reverse global warming and bring down high gasoline prices? Written in non-technical language for the layperson, this book investigates and details how the oil and gas industry can ""go green"" with new processes and technologies, thus bringing the world's most important industry closer to environmental and economic sustainability.