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Nota di contenuto	Introduction -- Basic Thermodynamic Analyses of Hierarchical Systems -- Thermodynamic and Economic analysis of a Gas Turbine Set Coupled With a Turboexpander in a Hierarchical Gas-Gas System -- Thermodynamic and Economic Analysis of Trigeneration System with a Hierarchical Gas-Gas Engine for Production of Electricity, Heat and Cold -- Economic Analysis of Hydrogen Production in the Process of Water Electrolysis in a Gas-Gas Engine System -- Thermodynamic and Economic Analysis of a Hierarchical Gas-Gas Engine Integrated with a Compressed Air Storage -- Replacing Natural Gas in a Gas-Gas Engine with Nuclear Fuel.
Sommario/riassunto	This book presents a thermodynamic and economic analysis of gas-gas systems in power plants, including combined heat and power systems, combined cooling, heat and power systems, hydrogen production facilities and compressed energy storage system. A configuration for high-temperature gas-cooled nuclear reactor is also used as a heat source for the cycle. The book compares different technologies, such as gas-steam and gas-gas systems, using optimized cases. It presents mathematical models that return optimal thermodynamic parameters of the cycles, and applies a novel continuous-time model in order to perform an economic analysis as well. This book utilizes numerous illustrations and worked examples to thoroughly explain the technologies discussed, making it relevant for researchers, market

analysts, decision makers, power engineers and students alike. .