1. Record Nr. UNINA9910337587403321

Autore	Hnydiuk-Stefan Anna
Titolo	Dual-Fuel Gas-Steam Power Block Analysis : Methodology and Continuous-Time Mathematical Models / / by Anna Hnydiuk-Stefan
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
ISBN	3-030-03050-4
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (138 pages)
Collana	Power Systems, , 1612-1287
Disciplina	621.3121 621.312132
Soggetti	Energy systems Fossil fuels Energy policy Renewable energy resources Energy Systems Fossil Fuels (incl. Carbon Capture) Energy Policy, Economics and Management Renewable and Green Energy
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Methodology with continuous time analysis of the technical and economic viability of dual-fuel gas and steam systems -- Mathematical models for time continuous analysis of technical and economic effectiveness of newly built dual fuel gas-steam turbines -- Mathematical models with the continuous time for selection of the optimum power of a gas turbine set for newly built dual-fuel gas-fired combined heat and power plants in parallel systems -- Methodology and mathematical models with continuous time for technical and economic analysis of effectiveness modernization of existing coal blocks for dual-fuel gas-steam systems -- Impact of the derogation mechanism in EU ETS on the economic viability of modernization of existing coal blocks for dual-fuel gas-steam systems.
Sommario/riassunto	This book presents the methodology and mathematical models for dual-fuel coal-gas power plants in two basic configurations: systems

coupled in parallel and in series. Dual-fuel gas and steam systems, especially parallel systems, have great potential for modernizing existing combined heat and power (CHP) plants. This book presents calculations using a novel methodology applied to systems in continuous time and analyzes the impact of the investment profitability of the EU ETS (European Union Emissions Trading Scheme) derogation mechanism, which encourages enterprises to modernize existing generation units. It also includes a detailed case study of a coal power plant modernized by repowering with a gas turbine. The book is intended for researchers, market analysts, decision makers, power engineers and students.