

Distributed multi-generation systems: energy models and analyses

Original

Distributed multi-generation systems: energy models and analyses / Mancarella, Pierluigi; Chicco, Gianfranco. - STAMPA. - (2009), pp. 1-264.

Availability:

This version is available at: 11583/2371557 since:

Publisher:

Nova Science Publishers

Published

DOI:

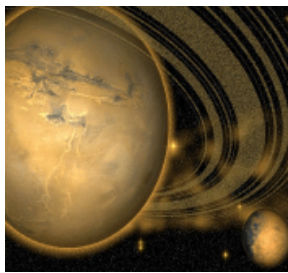
Terms of use:

openAccess

This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

Publisher copyright

(Article begins on next page)


[My Account](#)
[View Cart](#)

[Top](#) » [Catalog](#) » [Books](#) » [Energy](#) » [Electrical Power](#) »

[My Account](#) | [Cart Contents](#) | [Checkout](#)

Quick Find

Use keywords to find the product you are looking for.
[Advanced Search](#)

What's New?

Manufacturing Technology Research. Volume 1
 \$175.50

Shopping Cart

0 items

Information

[Shipping & Returns](#)
[Privacy Notice](#)
[Conditions of Use](#)
[Contact Us](#)

Bestsellers

01. Optimization Advances in Electric Power Systems
02. Leading-Edge Electric Power Research
03. Progress in Fuel Cell Research
04. Distributed Multi-Generation Systems: Energy Models and Analyses
05. Electric Power Research Trends
06. Fuel Cell Research Trends
07. Wind Energy in Electricity Markets with High Wind Penetration
08. Electricity Restructuring: Issues and Policy Questions
09. Fuel Cell Energy Source for Electric Vehicle Applications
10. Perfluorinated Polymer Electrolyte Membranes for Fuel Cells

Notifications



Notify me of updates to **Distributed Multi-Generation Systems: Energy Models and Analyses**

Tell A Friend

Tell someone you know about this product.

Distributed Multi-Generation Systems: Energy Models and Analyses

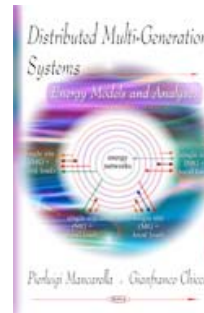
Authors: Pierluigi Mancarella and Gianfranco Chicco (Politecnico di Torino, Torino, Italy)

Book Description:

The recent development of distributed generation technologies is changing the focus of the production of electricity from large centralized power plants to local energy systems scattered over the territory. Under the distributed generation paradigm, the present research scenario emphasises more and more the role of solutions aimed at improving the energy generation efficiency and thus the sustainability of the overall energy sector. In particular, coupling local cogeneration systems to various typologies of chillers and heat pumps allows setting up distributed multi-generation systems for combined production of different energy vectors such as electricity, heat (at different enthalpy levels), cooling power, and so forth. The generation of the final demand energy outputs close to the users enables reducing the losses occurring in the energy chain conversion and distribution, as well as enhancing the overall generation efficiency.

This book presents a comprehensive introduction to energy planning and performance assessment of energy systems within the so-called Distributed Multi-Generation (DMG) framework. Typical plant schemes and components are illustrated and modelled, with special focus on applications for trigeneration of electricity, heat and cooling power. A general approach to characterization and planning of multi-generation systems is formulated in terms of the so-called lambda analysis, which extends the classical models related to the heat-to-power cogeneration ratio analysis in cogeneration plants. A unified theoretical framework leading to synthesize different performance assessment techniques is described in details. In particular, different indicators are presented for evaluating the potential energy benefits of distributed multi-generation systems with respect to classical case of separate production and centralized energy systems. Several case study applications are illustrated to exemplify the models presented and to point out some numerical aspects relevant to equipment available on the market. In particular, schemes with different cogeneration prime mover typologies, as well as electric, absorption and engine-driven chillers and heat pumps, are discussed and evaluated. A number of openings towards modelling and evaluation of environmental and economic issues are also provided. The aspects

Retail Price: ~~\$79.00~~
 10% Online Discount
 You Pay: **\$71.10**



[Click to enlarge](#)

Special Focus Titles

01. Dictionary of Word Meanings
02. Suicidal Behavior in Alcohol and Drug Abuse and Dependence
03. Terroristica: Flags and Emblems of Armed Non-Governmental Organizations
04. Effects, Diagnosis and Management of Extra-Esophageal Reflux
05. Venomous Snakes - Envenoming, Therapy
06. Fundamentals and Engineering of Severe Plastic Deformation
07. Understanding the Process of Economic Change in Turkey: An Institutional Approach
08. Eco-City and Green Community: The Evolution of Planning Theory and Practice
09. Issues in Economic Thought
10. The Presidency of Grover Cleveland
11. Natural Resources in Ghana: Management, Policy and Economics
12. Biodegradation of Cellulose Fibers
13. Urban Land Markets, Housing Development and Spatial Planning in Sub-Saharan Africa: A Case of Uganda
14. Evolutionary Genetics of Plant-Microbe Symbioses
15. Psychoanalytic Psychotherapy: A Modern Kleinian Approach

analysed highlight the prominent role of DMG systems towards the development of more sustainable energy scenarios.

Keywords: black-box model, cogeneration, combined cooling heat and power, cooling generation equipment, CO2 emission reduction, distributed generation, energy chain, energy efficiency, energy networks, energy planning, energy-related markets, energy saving, environmental impact assessment, lambda analysis, multi-generation, performance indicators, poly-generation, power systems, small-scale applications, sustainable energy, trigeneration.

Table of Contents:

Preface
 Contents
 Notation
 List of Figures
 List of Tables
 Introduction
 Chapter 1. The Distributed Multi-Generation Framework
 Chapter 2. Distributed Multi-Generation Systems: Structures and Schemes
 Chapter 3. Multi-Generation Components: Characteristics and Models
 Chapter 4. Distributed Multi-Generation Planning
 Chapter 5. Energy Performance Assessment: Rationales and Indicators
 Chapter 6. Cogeneration Energy Performance Assessment Applications
 Chapter 7. Energy Performance Assessment of Trigeneration Alternatives
 Chapter 8. Extended Distributed Multi-Generation Applications
 References
 About the Authors
 Index

Binding: Hardcover
Pub. Date: 2009, 3rd Quarter
Pages: 264 pp.
ISBN: 978-1-60456-688-8
Status: AV

Status Code	Description
AN	Announcing
FM	Formatting
PP	Page Proofs
FP	Final Production
EP	Editorial Production
PR	At Prepress
AP	At Press
AV	Available

 Add to Cart

Thursday 05 August, 2010

Nova Science Publishers
 © Copyright 2004 - 2010

