
Description: This comprehensive handbook has become recognized as the definitive stand-alone energy manager’s desk reference, used by thousands of professionals throughout the industry. Newly revised and edited, this eighth edition includes significant updates to energy management controls systems, commissioning, measurement and verification, and high performance green buildings.

Also updated are chapters on motors and drives, HVAC systems, lighting, alternative energy systems, building envelope, performance contracting and natural gas purchasing.

You’ll find coverage of every component of effective energy management, including energy auditing, economic analysis, boilers and steam systems, heat recovery, cogeneration, insulation, thermal storage, indoor air quality, utility rates, energy systems maintenance, and more. Detailed illustrations, charts and other helpful working aids are provided throughout.

Contents:
1 – Introduction
   Background
   - The Value of Energy Management
   - The Energy Management Profession
   - Some Suggested Principles of Energy Management

2 – Effective Energy Management
   Energy Management Program
   - Organizational Structure
   - Energy Policy
   - Planning
   - Audit Planning
   - Educational Planning
   - Strategic Planning
   - Reporting
   - Ownership

3 – Energy Auditing
   Energy Auditing Services
   - Basic Components of an Energy Audit
   - Specialized Audit Tools
   - Industrial Audits
   - Commercial Audits
   - Residential Audits
   - Indoor Air Quality

4 – Economic Analysis
   Objective
   - General Characteristics of Capital Investments
   - Sources of Funds
   - Tax Considerations
   - Time Value of Money Concepts
   - Project Measures of Worth
   - Special Topics
   - Summary & Additional Example Applications

5 – Boilers and Fired Systems
   Analysis of Boilers & Fired Systems
   - Key Elements for Maximum Efficiency
   - Condensing Boilers
   - Fuel Considerations
6 – Steam and Condensate Systems
Thermal Properties of Steam
- Estimating Steam Usage & Its Value
- Steam Traps & Their Application
- Condensate Recovery

7 – Cogeneration
Cogeneration System Design & Analysis
- Computer Programs
- U.S. Cogeneration Legislation: PURPA
- Evaluating Cogeneration Opportunities: Case Examples

8 – Waste-Heat Recovery
Waste-Heat Survey
- Classifying Waste-Heat Quality
- Storage of Waste Heat
- Quantifying Waste Heat
- Matching Waste Heat Source & Sink
- Waste-Heat Exchangers
- Commercial Options in Waste-Heat-Recovery Equipment
- Emerging Technologies for Waste Heat Recovery

9 – Building Envelope
Principles of Envelope Analysis
- Metal Elements in Envelope Components
- Roofs
- Floors
- Fenestration
- Infiltration
- Summarizing Envelope Performance with the Building Load Coefficient
- Thermal “Weight”
- Envelope Analysis for Existing Buildings
- Envelope Analysis for New Buildings
- Envelope Standards for New & Existing Construction

10 – HVAC Systems
Surveying Existing Conditions
- Human Thermal Comfort
- Interactions with HVAC ECO Projects
- HVAC System Types
- Central Cooling Equipment, Heat Rejection Equipment & Distribution
- Impact of Part-Load Operation & Occupancy
- HVAC System Electrical Distribution Energy
- Humidification Systems
- Example HVAC Energy Conservation Opportunities
- Reducing System Loads
- Estimating HVAC Energy Consumption

11 – Motors, Drives & Electric Energy Management
Power Supply
- Effects of Unbalanced Voltages on Performance of Motors
- Effect of Performance-General
- Motors
- Glossary of Frequently Occurring Motor Terms
- Power Factor
- Special High Efficiency Motor Designs
- Electrical Motor Performance at Part Load
- Determining Electric Motor Operating Loads
- Power Meter
- Approximate Motor Load from Slip Measurement
- Approximate Motor Load from Amperage Readings
- Electric Motor Efficiency
Storage Systems
- Storage Mediums
- System Capacity
- Economic Summary

20 – Codes, Standards and Legislation
- The American Recovery & Reinvestment Act of 2009
- The Energy Policy Act of 2005
- ISO 50001 Energy Management Standard
- Codes & Standards
- Measurement & Verification

21 – Natural Gas Purchasing
- Preface - Natural Gas as a Fuel
- Buying Natural Gas
- New Frontiers for the Gas Industry

22 – Control Systems
- Why Automate Control?
- Why Optimization?
- Technology Classifications
- Control Modes
- Input/Output Devices
- Valves & Dampers
- Instrument Accuracy, Repeatability & Drift
- Basic Control Block Diagrams
- Key Fundamentals of Successfully Applied Automatic Controls
- Expected Life of Control Equipment
- Control Applications for Saving Energy
- Basic Energy-Saving Control Applications
- Advanced Energy-Saving Control Applications
- Facilities Operations Control Applications
- Control System Application Pitfalls to Avoid
- Costs & Benefits of Automatic Control
- Estimating Savings from Applied Automatic Control

23 – Sustainability & High Performance Green Buildings
- Sustainability Concepts
- Historican Review
- LEED™
- Energy Star® Portfolio Manager
- ASHRAE Green Guide
- ASHRAE Advanced Energy Design Guides / AEDG
- The Green Building Initiative & Green Globes
- Greenhouse Gases (GHG)

24 – Electric Deregulation
- An Historical Perspective of the Electric Power Industry
- The Transmission System & FERC’s Role in Promoting Competition in Wholesale Power
- Stranded Costs
- Status of State Electric Industry Restructuring Activity
- Trading Energy: Marketers & Brokers
- The Impact of Retail Wheeling
- The Ten-Step Program to Successful Utility Deregulation
- Pricing Options for Electric Supply
- Aggregation
- In-House vs. Outsourcing Energy Services

25 – Financing and Performance Contracting
Financial Arrangements: A Simple Example
- Financial Arrangements: Details & Terminology
- Applying Financial Arrangements: A Case Study
- "Pros" & "Cons" of Each Financial Arrangement
- Other Considerations for Performance Contracting
- Host & ESCO Strategies: Both Sides of the Story

26 – Commissioning
Commissioning for Energy Management
- Commissioning Definitions
- Commissioning Measures
- Commissioning New Buildings for Energy Management
- Commissioning Process in Existing Buildings
- Ensuring Optimum Building Performance

27 – Measurement & Verification of Energy Savings
History of M&V
- Performance Contracts
- Overview of Measurement & Verification Methods
- M&V Methods: Existing Buildings
- Cost/Benefit of M&V
- System Considerations in Applying M&V

Appendices, Index

Order by Fax - using the form below
Order by Post - print the order form below and send to

Research and Markets,
Guinness Centre,
Taylors Lane,
Dublin 8,
Ireland.
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit http://www.researchandmarkets.com/contact/

Order Information
Please verify that the product information is correct.

Web Address: http://www.researchandmarkets.com/reports/2328880/
Office Code: SCAY8FJZ

Product Format
Please select the product format and quantity you require:

<table>
<thead>
<tr>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard Copy (Hard Back):</td>
</tr>
</tbody>
</table>

* Shipping/Handling is only charged once per order.

Contact Information
Please enter all the information below in BLOCK CAPITALS

Title:  Mr  □  Mrs  □  Dr  □  Miss  □  Ms  □  Prof  □
First Name: ____________________________  Last Name: ____________________________
Email Address: * ____________________________
Job Title: __________________________________
Organisation: ________________________________
Address: ________________________________
City: __________________________________
Postal / Zip Code: ____________________________
Country: __________________________________
Phone Number: ____________________________
Fax Number: ____________________________

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information

Please indicate the payment method you would like to use by selecting the appropriate box.

☐ Pay by credit card: You will receive an email with a link to a secure webpage to enter your credit card details.

☐ Pay by check: Please post the check, accompanied by this form, to:
Research and Markets,
Guinness Center,
Taylors Lane,
Dublin 8,
Ireland.

☐ Pay by wire transfer: Please transfer funds to:

<table>
<thead>
<tr>
<th>Account number</th>
<th>833 130 83</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sort code</td>
<td>98-53-30</td>
</tr>
<tr>
<td>Swift code</td>
<td>ULSBIE2D</td>
</tr>
<tr>
<td>IBAN number</td>
<td>IE78ULSB98533083313083</td>
</tr>
<tr>
<td>Bank Address</td>
<td>Ulster Bank, 27-35 Main Street, Blackrock, Co. Dublin, Ireland</td>
</tr>
</tbody>
</table>

If you have a Marketing Code please enter it below:

Marketing Code: ________________________

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp