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| Autore | Murray Barrie |
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| Nota di contenuto | Power Markets and Economics: Energy Costs, Trading, Emissions; Contents; Foreword; Preface; One Industry Infrastructure; 1 Approach to Restructuring; 1.1 INTRODUCTION; 1.2 INDUSTRY PHYSICAL STRUCTURE; 1.3 INTRODUCTION OF COMPETITION; 1.4 RESTRUCTURING OPTIONS; 1.5 COMPARISON OF STRUCTURES; 1.6 SUMMARY; 2 Market Mechanisms; 2.1 INTRODUCTION; 2.2 MARKET PARTICIPANTS; 2.3 MARKET MECHANISMS; 2.4 MARKET IMPLEMENTATION; 2.5 PRICE ANALYSIS; 2.6 SUMMARY; Two The Cost Chain; 3 Basic Generation Energy Costs; 3.1 INTRODUCTION; 3.2 COST COMPONENTS; 3.3 PRACTICAL OPERATING EFFICIENCIES 3.4 IMPACT OF UTILISATION ON COSTS 3.5 COMPARISON OF GENERATION COSTS; 3.6 INTERNATIONAL COMPARISONS; 3.7 SUMMARY; 4 Alternative Energy Sources; 4.1 INTRODUCTION; 4.2 COMPETING SOURCES; 4.3 CURRENT PRODUCTION EUROPE; 4.4 INCENTIVE SCHEMES; 4.5 MARKET PRICING; 4.6 THE ECONOMICS OF ALTERNATIVE SOURCES; 4.7 COMPARISONS; 4.8 SUMMARY; 5 Emissions; 5.1 INTRODUCTION; 5.2 EMISSION TRADING SCHEMES (ETS); |

5.3 LARGE COMBUSTION PLANT DIRECTIVE (LCPD); 5.4 GENERATION CO₂ EMISSIONS; 5.5 PRODUCTION COSTS; 5.6 NATIONAL ALLOCATION PLANS; 5.7 MARKET OPERATION; 5.8 IMPACT OF CAPACITY MIX 5.9 INTERNATIONAL APPROACH 5.10 SUMMARY; 6 Transmission; 6.1 INTRODUCTION; 6.2 IMPACT OF TRANSMISSION CONSTRAINTS IN MARKETS; 6.3 TRANSMISSION CHARGING; 6.4 DERIVATION OF USE OF SYSTEM CHARGES; 6.5 INTERNATIONAL TARIFF COMPARISONS; 6.6 TRANSMISSION INVESTMENT; 6.7 INTERCONNECTION INVESTMENT APPRAISAL; 6.8 INTERNATIONAL PRACTICE; 6.9 SUMMARY; 7 Distribution; 7.1 INTRODUCTION; 7.2 MARKET STATUS; 7.3 COMMERCIAL ARRANGEMENTS; 7.4 METERING AND BALANCING; 7.5 COST OF DISTRIBUTION; 7.6 DISTRIBUTION TARIFFS; 7.7 OPEX REGULATION; 7.8 CAPEX REGULATION; 7.9 BUSINESS RISK; 7.10 DISTRIBUTED GENERATION 7.11 SUMMARY 8 End User Charges and Prices; 8.1 INTRODUCTION; 8.2 PRICE COMPARISONS; 8.3 END USER ENERGY PRICES; 8.4 TOTAL END USER PRICES; 8.5 TARIFF DEVELOPMENT; 8.6 CUSTOMER SWITCHING; 8.7 SUMMARY; 9 Market Operation; 9 Market Trading; 9.1 INTRODUCTION; 9.2 EUROPEAN MARKETS; 9.3 DEVELOPING MARKETS - CHINA; 9.4 MARKET POWER; 9.5 TRADING ARRANGEMENTS; 9.6 BILATERAL TRADING; 9.7 BALANCING MARKET; 9.8 EXCHANGE TRADING; 9.9 SUPPLIER RISK; 9.10 GENERATION RISK; 9.11 MARKET INTERACTION; 9.12 ARBITRAGE SPARK SPREAD; 9.13 SUMMARY; 10 Market Analysis; 10.1 INTRODUCTION; 10.2 MODELLING OVERVIEW 10.3 DISPATCH MARKET SIMULATION 10.4 LOAD DURATION MODEL; 10.5 HYDRO GENERATION; 10.6 INTERCONNECTION MODELLING; 10.7 PREDICTING DEMAND DATA; 10.8 GENERATION DATA; 10.9 CALCULATIONS; 10.10 PRICE DURATION CURVE; 10.11 STATISTICAL FORECASTING; 10.12 PREDICTING NEW ENTRY; 10.13 SUMMARY; 11 Ancillary Service Markets; 11.1 INTRODUCTION; 11.2 ANCILLARY SERVICE REQUIREMENTS; 11.3 MARKET VOLUME; 11.4 PROCUREMENT PROCESS; 11.5 COST OF PROVIDING SERVICES; 11.6 PREDICTING REVENUES; 11.7 SUMMARY; 12 Cross-border Trading; 12.1 INTRODUCTION; 12.2 GOVERNANCE; 12.3 CROSS-BORDER CAPACITY; 12.4 NEW INVESTMENT 12.5 MANAGING OPERATION

Sommario/riassunto

It is now almost twenty years since liberalisation and the introduction of competition was proposed for electricity utilities. Some form of restructuring has been widely adopted around the world to suit local objectives. The industry now faces new challenges associated with global warming, rising prices and escalating energy demand from developing countries like China and India. The industry will have to cope with; managing emissions; managing variable energy sources like wind, developing clean coal technology; accommodating distributed generation and new nuclear stations and managing the imp

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| Nota di contenuto | CAEVs and systems integration for smart cities -- Connected and autonomous electric vehicle charging infrastructure integration to microgrids in future smart cities / by M. Sadeghi, M. Erol-Kantarci and H.T. Mouftah -- A hierarchical management framework for autonomous electric mobility-on-demand services / by N.Yamin, S. Belakaria, S. Sorour and M. Hefeida -- Multifaceted synthesis of autonomous vehicles emerging landscape / by H. Abdelgawad and K. Othman. |
| Sommario/riassunto | "This book presents a comprehensive coverage of the five fundamental yet intertwined pillars paving the road towards the future of connected autonomous electric vehicles and smart cities. The connectivity pillar covers all the latest advancements and various technologies on vehicle-to-everything (V2X) communications/networking and vehicular cloud computing, with special emphasis on their role towards vehicle autonomy and smart cities applications"-- |