

2025 21st International Conference on the European Energy Market (EEM 2025)

**Lisbon, Portugal
27-29 May 2025**

Pages 1-605



IEEE Catalog Number: CFP2552D-POD
ISBN: 979-8-3315-1279-8

**Copyright © 2025 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP2552D-POD
ISBN (Print-On-Demand):	979-8-3315-1279-8
ISBN (Online):	979-8-3315-1278-1
ISSN:	2165-4077

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

Review of Market Power Detection in Distribution Networks: Case Study on Local Flexibility Markets.....	1
<i>Haoyang Zhang, Sen Zhan, Koen Kok, Nikolaos G. Paterakis</i>	
Residential Demand Response Enrollment Scenarios: A Geospatial Case Study of Finland	7
<i>Araavind Sridhar, Samuli Honkapuro, Fredy Ruiz, Jan Stoklasa, Salla Annala, Annika Wolff</i>	
The European Union's Carbon Border Adjustment Mechanism: Protection Or Contradiction of Human Rights as a European Value?	14
<i>Aline Michelle Alves Fulgencio</i>	
Modeling Thermal Energy Storage — The Effect of Self-Discharge Rates on Dispatch	31
<i>Alexander Burkhardt, Miriam Frömel, Gerda Deac, Anna Billerbeck</i>	
Resiliency-Aware Planning of Active Distribution Grids Using Multi-Parametric Programming	37
<i>Stavros Karagiannopoulos, Stefanos Delikaraoglou, Gabriela Hug, Audun Botterud</i>	
The Impact of Evolving Energy Prices in Smart Charging: An Empirical Study with Data from Norway	45
<i>Fabian Brockmann, Mario Guajardo</i>	
Retrofit at Scale: Labour Intensive Approach and Capital Intensive Approaches for Housing Retrofit in the UK.....	51
<i>Chamara Panakaduwa, Paul Coates, Mustapha Munir</i>	
Batteries Ageing Impact on Economic Medium-Term Dispatch Models of Electricity Generation.....	57
<i>Teresa Domínguez Larre, Luis Alberto Herrero Rozas, Fco. Alberto Campos</i>	
Assesing the Role of Fuel Cell Vehicles in the Iberia Energy Transition	62
<i>Javier Mahou, Rosendo Castañón, Fco. Alberto Campos, André Oliveira, José Villar</i>	
Electricity Pricing Considering Long-Term Capital Costs of Renewable Energy Generations.....	67
<i>Yanning Zhang, Xingrong Chen</i>	
P2X and Hydrogen Valleys Enhancing Wind Power Profitability.....	74
<i>Robert Weiss, Jussi Ikäheimo, Kirsikka Kiviranta, Tiia Kanto</i>	
Optimal Bidding Strategies for Electricity Generation Assets in the Day-Ahead, Intraday, and Balancing Markets.....	82
<i>Miguel Ferreira, Jorge Sousa, João Lagarto</i>	
Optimisation of Electrolyser Operation: Integrating External Heat	92
<i>Matthias Derez, Alexander Hoogsteyn, Erik Delarue</i>	
Flexible Bidding in Local Energy Markets: Simulation-Based Insights into the FAPO Bidding Strategy.....	100
<i>Ioanna Kalospyrou, Timothy Hutty, Robert Milton, Solomon Brown</i>	
Analysis of the French System Imbalance Paving the Way for a Novel Operating Reserve Sizing Approach	106
<i>Jonathan Dumas, Sébastien Finet, Nathalie Grisey, Ibtissam Hamdane, Paul Plessiez</i>	

Community Energy in Residential Sector: Exploring Housing Company Residents' Awareness and Motivations.....	116
<i>Sanna Tuomela, Shah Rukh Shakeel, Hassan Yousaf, Sanna Tuomela, Jani Lukkarinen, Enni Ruokamo, Tommi Tikkanen</i>	
Profit-Oriented Criterion of Electricity Price Forecast Considering Charging Duration of Demand-Side Responses	123
<i>Sinan Cai, Masahiro Mae, Ryuji Matsushashi, Tatsuya Masuda, Naoto Ishibashi, Shogo Ikekawa</i>	
Business Model Approaches Based on Suitable Pricing for EV Charging Infrastructure Providers in the Context of Energy Communities	129
<i>Bernadette Fina, Matthias Prandistetter, Lisa Prodingner, Andreas Klappacher</i>	
The Birth of Hungarian Energy Citizenship - a Systematic Review Based on the PRISMA Method and a Hungarian Case Study	135
<i>Tekla Szép</i>	
A Conceptual Approach for Causal-Driven Demand Response Optimization in Electric Mobility	140
<i>Carlos A. M. Silva, Chad Watson, Ricardo J. Bessa</i>	
Probabilistic Estimation of the Quality-Of-Service Indexes in Distribution Networks.....	147
<i>José Pedro T. S. Branco, Pedro Macedo, J. Nuno Fidalgo</i>	
Analysis and Optimization of Battery Energy Storage Systems in Energy Markets	152
<i>Gonçalo Baptista, J. Nuno Fidalgo</i>	
Procurement of Frequency Stabilization in Decarbonized Power Systems	157
<i>Hendrik Kramer, Fabian Faesser-Stock, Felix Meurer, Christoph Weber</i>	
Exploratory Analysis of Direct Load Control Policies for Heat Pumps in the Future Swiss Electricity System.....	163
<i>Adrien Mellot, Jan Linder, Jared Garrison, Christian Winzer, Giovanni Sansavini, Curtis Meister, Philipp Schuetz, Christian Moretti</i>	
Trust and Transparency in Electricity Distribution – the Role of Social Responsibility Disclosures in Natural Monopoly Market.....	174
<i>Knud Sinding, Yingkui Yang</i>	
Analysis of the Operating Characteristics of Nuclear Power Plants in Europe	181
<i>Izabella Faifer</i>	
Water-Conscious and CO ₂ -Negative Hydrogen Production in the European Union	187
<i>Henrik Wenzel, Freia Harzendorf, Thomas Schöb, Jann M. Weinand, Detlef Stolten</i>	
Securing EU Clean Technology Supply Chains: Learning Rates in Material Recycling and Strategic Stockpiling	194
<i>Sebastian Zwickl-Bernhard, Maximilian Oitzinger</i>	
Assessing the Impact of Net-Load Forecast Quality Improvement on Balancing Mechanism	199
<i>Arman Akgönül, Jonathan Dumas, Jean Thorey</i>	
Feature Selection for Electricity Market Data Through Feature Extraction	205
<i>Domenic Eric Planert, Tom Bender, Florian Rippstein, Stefan Klaiber</i>	

When Markets Merge: Evidence from Ireland's Integration with the European Wholesale Electricity Market	214
<i>Ciarán Mac Domhnaill, Lisa Ryan, Ewa Lazarczyk</i>	
Investigation of Endogenous Renewables and Demand Resolutions for Energy Market Simulations.....	220
<i>Florian Maurer, Jonathan Sejdija, Volker Sander</i>	
An Offshore Hybrid Interconnector in the Coupled Dayahead Market of Europe-A Case Study for the Baltic Sea.....	226
<i>Felix Jakob Fliegner, Helge Esch, Thure Traber, Marius Schrade</i>	
Artificial Intelligence for Harnessing Hybrid Renewable Energy Systems for Efficient Electric Vehicle Charging Infrastructure in India	232
<i>Siddharth Joshi, Ameer Daiya, Aditya Naik</i>	
Effect of the GHG Quota for the Electromobility Market Ramp-Up in Northern Germany	238
<i>Jonas Bannert, Marit Mohr, Henry Riedl, Jens-Eric Von Düsterlho</i>	
Exploring the Impact of Weather Variability on Bioenergy and Variable Renewable Energy	248
<i>Sandra Gutjahr, Danial Esmaeili Aliabadi, Daniela Thrän</i>	
Steady-State Operation of Islanded Distribution Network with PV and Wind Generation	254
<i>Gioacchino Tricarico, Francesca Marasciuolo, Giuseppe Forte, Maria Dicorato, Francisco Gonzalez-Longatt</i>	
The Residential Perception of Real-Time Electricity Tariffs.....	260
<i>Laura Andolfi, Lorenzo Matthias Burcheri, Hanna Marxen</i>	
Causal Impact of Wind Energy on the UK Day-Ahead Market	266
<i>Davide Cacciarelli, Pierre Pinson, Filip Panagiotopoulos, David Dixon, Lizzie Blaxland</i>	
Structural Program of Electricity Demand Response in Brazil: Bidding Strategy and Market Equilibria.....	272
<i>Gabriel Longhi, Bruno Fanzeres</i>	
Iceland at a Crossroads: Designing the Energy Transition Market.....	280
<i>Randall Morgan Greene, Ewa Lazarczyk Carlson</i>	
Evaluating Allocation Methods for Collective Self-Consumption in Nordic Multi-Dwelling Buildings	289
<i>Juho Ylipaino, Aki Kortetmäki, Kari Kallioharju, Juha Koskela, Pertti Järventausta</i>	
Ensuring Compliance in the Installation of Residential Photovoltaic Systems: A Study of Standards and Practices in Finland.....	295
<i>Juho Ylipaino, Kari Kallioharju, Aki Kortetmäki, Marko Ylinen, Juha Koskela</i>	
A Review of Positive Energy Districts' Goals and Services: Insights for Business Model Design	300
<i>Ville Sihvonen, Salla Annala, Ossi Koljonen</i>	
The Analysis of the Novel Renewable Energy Sources Support Schemes - Case of Slovenia.....	308
<i>Jernej Jozic, Jernej Zupancic, Matej Pecjak, Edin Lakic</i>	
A Hierarchical Optimization Framework for Peer-To-Peer Energy Trading in Medium- and Low-Voltage Distribution Networks	315
<i>Fernando García-Muñoz, Andres Felipe Cortes-Borray, Martín Venegas</i>	

Towards Probabilistic Forecasting of Renewable Energy Sources Using a Hierarchical Framework.....	321
<i>Michael Vitali, Georgios Mitrentsis, Lena Peter</i>	
Pv and Ev Capabilities for Improving Technical Conditions in Active Distribution Network	327
<i>Marina Dubravac, Danijel Topic, Krešimir Fekete, Edin Lakic</i>	
Sensor Fault Impact on Federated Learning for Electricity Demand Forecasting.....	333
<i>Jaewon Jeoung, Eunseong Song, Juwon Hong, Jongbaek An, Hyuna Kang, Taehoon Hong</i>	
Impacts of Wind Power Forecast Error in the Finnish Electricity Market in 2030.....	339
<i>Simeon Seppälä, Sanna Syri</i>	
The Cost and Geographic Impact of Inflexibility Facing Time-Based Tariff	345
<i>Claire-Marie Bergaentzle, Julian Marius Mittag</i>	
Evaluating the Skill of Seasonal Wind Energy Forecasts in Germany	350
<i>Abhinav Tyagi, Lukas Pauscher, Alina Happ, Muhammad Arsalan, Axel Braun, Martin Braun, Malte Siefert, Jan Wandel, Andreas Paxian</i>	
Lessons Learnt from Two Crisis Situations on the Finnish Electricity Market	357
<i>Ilona Malmipuro, Sanna Syri, Tero Koivunen</i>	
Analysis of the New Portuguese and Spanish Necps Using Cevesa Market Model.....	363
<i>André Rodrigues De Oliveira, Salvador Doménech Martínez, José Villar Collado, Tiago Filipe Bessa, João Tomé Saraiva, Fco. Alberto Campos, Rodrigo Gonçalves De Moraes, Beatriz Dávila-Isidoro</i>	
Mitigating Supplier Pricing Power in Local Thermal-Electric Energy Markets with Welfare-Driven Storage.....	368
<i>Benjamin Seeger, Julia Barbosa, Florian Steinke</i>	
Techno-Economic System and Component Analysis for Hybrid Power Plants.....	374
<i>Judith Kapeller, Klara Maggauer, Andreas Patha, Petra Reisz, Yannick Wimmer, Johannes Kathan</i>	
Innovative Methodology and Decision Support Tool for Thermal Energy Storage Material Selection	381
<i>Miguel Castro Oliveira, Sofia Bezerra, Bruno Pereira, João Laranjeira, Ana I. Marques, Ricardo Barbosa, Szabolcs G. Varga, João Soares, David Filipe, Filipa Oliveira, Luís Vaz, José Oliveira, José Bastos</i>	
Capacity Expansion and Unit Commitment with Reserve Requirements: A Comparative Analysis for an Italian Off-Grid Island.....	388
<i>Enrico Giglio, Edoardo Pasta, Davide Poli, Giuliana Mattiazzo, Davide Fioriti</i>	
AI-Driven Flexibility Market Platform for Dynamic Demand Regulation in Eco-Industrial Cluster	395
<i>Sreelatha Aihloor Subramnyam, Deevyansh Khadria, Amjad Anvari-Moghaddam</i>	
Energy and Climate Plans in Energy System Modelling Scenarios	401
<i>Siri Mathisen, Konstantin Löffler, Mostafa Barani, Michael M. Belsnes</i>	
Pyseus: Modelling the Mechanisms of the EU ETS in the Decarbonisation of the European Electricity Market.....	407
<i>Alexander Plarre, Viktor Slednev, Wolf Fichtner</i>	
Power Purchase Agreements and Corporate Energy Goals: A Performance Assessment.....	414
<i>Francisco Simões, Carla Henriques, Nuno Carvalho Figueiredo, Patrícia Pereira Da Silva</i>	

Improving Long-Term Electricity Price Predictions: A Comparison of Pure GPR and Hybrid LP-GPR Models	421
<i>Giulia Taromboli, Guillaume Koechlin, Filippo Bovera, Piercesare Secchi</i>	
Impact of Dynamic Imbalance Pricing on Electricity Market Operators in Italy	427
<i>Andrea Scrocca, Diego Andreotti, Matteo Spiller, Giuliano Rancilio, Filippo Bovera, Maurizio Delfanti</i>	
Office Heating Modeling Using an HVAC Power Step Response Experiment	435
<i>Mikko Nykyri, Saku Levikari, Mohammad Seyfi, Samuli Honkapuro</i>	
The Impact of Meteorological Data Quality on Accurate Forecast of Solar Power Plant Production	440
<i>Ana Stojkic, Donata Boric, Leila Luttenberger Maric, Vladimir Špišić</i>	
Business Models for Energy Community with Vulnerable Consumers	446
<i>Teresa Santos, Ricardo Silva, João Mello, José Villar</i>	
Data-Driven Load Profile Forecasting for EV Charging Stations Leveraging Spatial Dependency Modeling	452
<i>Babak Ravanbach, Hrushikesh Mantri, Chaimaa Essayeh, Samuel Matias</i>	
Spot Market Electricity Price Forecast Via the Combination of Transformer and Ornstein-Uhlenbeck Process	457
<i>Zhouhe Zhang, Haochen Hua, Xingying Chen, Jia Shao, Jin Zheng, Bo Wang, Lei Gan, Kun Yu</i>	
Flow-Based Market Coupling and Renewable Energy Integration in Nordic	463
<i>Polina Malinina, Nils-Henrik Mørch Von Der Fehr</i>	
Privacy-Preserving Flexibility Provisioning with an Optimization Approach for Enhanced TSO-DSO Interaction in Modern Power Systems	469
<i>Burak Dindar, Daniel Müller, Manuela McCulloch, Hüseyin K. Çakmak, Veit Hagenmeyer, Dietmar Graeber</i>	
The Effects of Renewable Energy Integration on Price Volatility in Electricity Markets: the Dampening Potential of Storage Technologies	475
<i>Tomás Reilly-Rockett, Jorge Cano-Martínez, Arturo Vivancos-Grau, Alfredo Quijano-López, Vicente Fuster-Roig</i>	
Sizing of Battery Storage Systems to Mimic the Operation of Res-Based VPPs in Electricity Markets	480
<i>Hadi Nemati, Pedro Sánchez-Martín, Lukas Sigrist, Luis Rouco, Álvaro Ortega</i>	
Joint TSO-DSO Flexibility Market for Congestion Management	486
<i>Suvi Peltoketo, Jukka Rinta-Luoma, Jussi Matilainen, Pirjo Heine, Dan Telén</i>	
A Bidding Algorithm for the Joint Participation of Distributed Energy Resources in Day-Ahead Energy and Mfrr Markets	495
<i>Nerea Ruiz-Caramés, Joseba Jimeno-Huarte, David González-Sánchez, Carlos Madina-Doñabeitia, Iñigo Muñoz-Mateos</i>	
Exploring the Impact of Interannual Dynamics on Long-Duration Energy Storage in Energy System Models	501
<i>Daniel Hawkins, Machteld Van Den Broek, Kenneth Bruninx</i>	
Investigating the Value of End-Users Controllability on Improving Network Operational Regimes	507
<i>Lovro Lukac, Tomi Medved, Tomislav Antic, Tomislav Capuder</i>	

Analysis of Electricity Market Models for Future Power Systems	513
<i>Jana Einsiedler; Greta Von Hindte, Valerio Mori, Albert Moser</i>	
Benchmarking Pre-Trained Time Series Models for Electricity Price Forecasting	522
<i>Timothée Hornek, Amir Sartipi, Igor Tchappi, Gilbert Fridgen</i>	
Bridging Research and Policy in the Context of National and European Targets: Decarbonization of the Italian Energy System.....	529
<i>Caterina Carà, Enrico Giglio, Paolo Marocco, Mauro Bonfanti, Giuliana Mattiazzo</i>	
A Hybrid Robust-Stochastic Operation Model for BESS in the Day-Ahead and Automatic Frequency Restoration Markets.....	540
<i>Matteo Spiller, Andrea Scrocca, Diego Andreotti, Giuliano Rancilio, Filippo Bovera, Marco Merlo</i>	
Evaluating the Impact of the District Heating Resolution on Renewable Heat Production in Germany: A Sensitivity Analysis	546
<i>Miriam Frömel, Alexander Burkhardt, Christiane Bernath, Gerda Deac, Anna Billerbeck</i>	
Local Flexibility Markets in Europe: A Review of Flexibility Products, Services, and Potential Improvements.....	552
<i>Joseba Jimeno, Carlos Madina, Elvira Fernandez, Itxaso Aranzabal, Inés Gomez-Arriola, Ibon Vicente-Figueirido</i>	
Short-Term Forecasting of Carbon Emissions from Electricity Generation: the Italian Case	558
<i>Pierdomenico Dutillo, Francesco Lisi</i>	
Optimizing Battery Dispatch Under Consideration of Technical Constraints	563
<i>Vitus Wolf Kiefer, Emil Kraft, Julius Beranek, Tim Signer</i>	
Model Predictive Control for Imbalance Compensation of Solar Power Generation in Local Area Energy Management System	570
<i>Masahiro Mae, Ryuji Matsuhashi, Kazutaka Nakamura, Hirotada Bessho</i>	
Evaluating the Economic Impact of Local Power Purchase Agreements on Industrial Energy Costs: A Case Study of German Industries	576
<i>Jonathan Sejdija, Florian Maurer, Ralf Schemm, Sebastian Dickler, Isabel Kuperjans</i>	
Load Mismatch Reduction by Energy Storage Devices as a Demand Response Program	582
<i>Carlos F. S. Faria, Mohammad S. Javadi, Gerardo J. Osório, João P. S. Catalão</i>	
Integrating Multi-Energy Microgrid Systems to Mitigate Energy Poverty in Remote Areas	588
<i>Horcel M. K. Menga, Gerardo J. Osório, João P. S. Catalão</i>	
Permanent Magnets in Offshore Wind: State of the Art, Future Trends and Risk	594
<i>Amir R. Nejad, Mihaela Ibrion</i>	
Comparing Optimal Operation Policies: Underground Hydrogen Storage Vs. Conventional Storage Across Multiple Demand Scenarios	600
<i>Lena Torlutter, Sebastian Zwickl-Bernhard, Hans Auer</i>	
Solar for Tenants: Exploring Collective Self-Consumption in Multi-Family Housing	606
<i>Christina Speck, Nikolas Kiefer, Leo Semmelmann, Christof Weinhardt</i>	
Changes in Volatility Spillover Effects in Electricity Markets When Adding Interconnectors: Evidence from Denmark.....	617
<i>Bjarne Sæther, Anne Neumann</i>	

Evaluation of the Influence of the Regionalization of Flexible Consumers on Bidding Zone Configurations	622
<i>Lukas Hein, Tim Jonas Witt, Albert Moser</i>	
System-Aware Reinforcement Learning for Optimized Implicit Imbalance Participation in Belgium	628
<i>Fabio Pavirani, Seyed Soroush Karimi Madahi, Bert Claessens, Chris Develder</i>	
Rare Earth Elements: Trade-Off for Environment, Energy Security and Policies	635
<i>Mihaela Ibrion, Amir R. Nejad</i>	
Techno-Economic Impacts of Shipping Liquid Hydrogen, Ammonia Or Methanol on Exporting Nations: the Case of Morocco	642
<i>Eddy Jalbout, Hazem Abdel-Khalek</i>	
EU's Hydrogen Infrastructure Planning: Addressing the Impact of Demand Uncertainty	651
<i>Maximilian Bernecker, Lucien Genge</i>	
Risk-Sensitive Reinforcement Learning-Based Strategies for Dutch Implicit Balancing	658
<i>Seyed Soroush Karimi Madahi, Fabio Pavirani, Bert Claessens, Chris Develder</i>	
Energy Flexibility in Buildings: Future Scenarios Across Diverse Climate Zones in Europe.....	664
<i>Laura Campagna, Victor Andreu Banuls Ramirez, Pedro Crespo Del Granado</i>	
Unveiling Market Manipulation in Eu Energy Markets - Insights from Acer Enforcement Cases	671
<i>Edin Lakic, Jan Jeriha, Tomi Medved, Dušan Vucic, Danijel Topic, Goran Knežević</i>	
Electric Vehicle as a Mobile Energy Storage: Market Analysis and Grid Integration Challenges	677
<i>Mahdi Firouzi Nezambadi, Vahid Vahidinasab, Zohreh Zakeri, Jamshid Aghaei</i>	
Solar Power as an Optimal Portfolio	684
<i>David Kraljic, Jernej Katanec, Matej Logar, Blaz Sobocan, Miha Troha</i>	
Role of Electric Train Transportation in the Management of Reactive Power in Electricity Networks	689
<i>Roope Suortti, Anssi Saari, Jouni Haapaniemi, Jukka Lassila</i>	
Priority Index to Distribute Power More Fairly During Energy Crises Program	695
<i>Gabriel V. S. Thé, A. Selim Türkoglu, Sérgio F. Santos, Ozan Erdiñç, João P. S. Catalão</i>	
A Comparison of Alternative Algorithms for Resolving Stochastic Expansion Planning Problems with Endogenous Adequacy Targets.....	702
<i>Marilena Zampara, Alexandros Visas, Daniel Ávila, Leonidas Kliafas, Anthony Papavasiliou</i>	
Balancing Hydrogen Delivery in National Energy Systems: Impact of the Temporal Flexibility of Hydrogen Delivery on Export Prices.....	709
<i>Hazem Abdel-Khalek, Eddy Jalbout, Caspar Schauß, Benjamin Pfluger</i>	
Cost Estimation for Green Hydrogen Production and Distribution.....	715
<i>Evangelos Chatzistlyianos, Georgios Psarros, Periklis Chinaris, Stavros Papathanassiou</i>	
Determining Planning Reserve Margin Levels Through Probabilistic Reliability Assessment.....	721
<i>Evangelos Chatzistlyianos, Pantelis Dratsas, Georgios Psarros, Stavros Papathanassiou</i>	
Evaluating and Processing the Data from a Charge Point Management System for the Development of Standard Profiles of Different Charge Point Operator Types	727
<i>Hannes Neue, Merlin Engel, Hojat Zarif, Hans Schäfers</i>	

Open-Source Assessment of Peak Shaving Through Battery and Solar Power — a Data-Driven Approach	733
<i>Christoph Komanns, Florian Maurer, Jonathan Sejdija, Christian Jungbluth</i>	
Flow-Based Market Coupling: Insights from Current Market Data and Theoretical Benchmarking	739
<i>Dimitrios Glynos, Dominik Möst, Andreas Büttner</i>	
Online Interval Forecast Based Operating Reserve Quantification Considering Net-Load Uncertainties	745
<i>Shivani Garg, Arun Kumar Nayak, Rohit Bhakar, Harpal Tiwari</i>	
Intelligent Bidding Strategies in Local Energy Markets Using the Advantage Actor-Critic Algorithm	751
<i>Sania Khaskheli, Amjad Anvari-Moghaddam</i>	
The Effect of Multi-Market Participation on Day-Ahead Trading of an Electricity Producer	757
<i>Helmi Hankimaa, Fabricio Oliveira, Bruno Fanzeres</i>	
Integrating Urban Digital Twins and Agent-Based Models for Strategic Grid Expansion in Evolving Urban Energy Networks	765
<i>Daniel Horst, Helen Ganal, David Geiger, Philipp Härtel, Jan Dobschinski</i>	
The Impact of District Heat Electrification on Electricity Market Scarcity Situations in Finland	771
<i>Tero Koivunen, Sanna Syri, Ilro Mikola</i>	
Seasonal Grid Reconfiguration for Optimal DSO Operations in High Solar PV Scenarios	776
<i>Francisco Riesenberger, Mário Couto, Mohammad S. Javadi, Sérgio F. Santos, João P. S. Catalão</i>	
Modelling Sector-Coupled Local Renewable Energy Supply for Mixed Industrial Parks	782
<i>Malte Höppner, Matthias Reckzügel, Nils Karschuck, Tim Wawer</i>	
Global Perspectives on Tso-Dso Coordination Models for Distributed Energy Resources Market Integration	789
<i>Mário Couto, Mohammad S. Javadi, Gerardo J. Osório, João P. S. Catalão</i>	
Gas Grid Phase-Out Impacts on Building Stock Development: Incorporating Behavioural Aspects.....	794
<i>Helen Ganal, Martin Braun, Philipp Härtel</i>	
Alleviating Avalanche Effects in Low-Voltage Grids: An Analysis of Novel Grid Charge Options for Residential Customers	801
<i>Oliver Resch, Bianca Illing, Leo Semmelmann, Christof Weinhardt</i>	
A Coalition Framework for Increasing Market Participation of Electrolysers and Renewable Energy Sources	811
<i>Antony Dominic, Thorsten Zenner, Martin Winter, Gernot Schullerus</i>	
The Flexibility of Electrical Loads in the EU-27 Residential Building Stock.....	817
<i>Mascherbauer Philipp, Kranzl Lukas, Hasengst Florian</i>	
EaSimpower – A Novel Web-Based Tool for Teaching the Interplay Between Technologies and Markets in Future Electricity Systems.....	823
<i>Yannik Pflugfelder, Hendrik Kramer, Cornelia Klüter, Julian Radek, Christopher Jahns, Christoph Weber</i>	
Impact of Market Design on Battery Trading Strategies: A UK Case Study	829
<i>Joel Hübscher, Thomas Hübner, Gabriela Hug, Quentin Lété, Michael Koller</i>	

Economic Assessment of Self-Consumption Rate in the Context of Energy Communities: A Latvian Case Study.....	835
<i>Lubov Petrichenko, Roberts Lazdins, Anna Mutule, Jana Teremranova</i>	
Strategic Energy Procurement for EV Fleets: A Comparative Study	840
<i>Rodolfo Damásio De Castro, Jónatas Augusto Manzolli, João Pedro Trovão, Carlos Henggeler Antunes, Nuno Carvalho Figueiredo, Patrícia Pereira Da Silva</i>	
Price Formation in a Sector-Coupled Climate-Neutral Energy System.....	846
<i>Julian Geis, Tom Brown, Philipp Härtel</i>	
Integrating Cross-Sector Flexible Assets in Flexibility Bidding Curves for Energy Communities.....	855
<i>Luís Rodrigues, João Mello, Ricardo Silva, Sérgio Faria, Fábio Cruz, José Paulos, Tiago Soares, José Villar</i>	
Exploring the Outcomes of Low-Carbon Hydrogen Regulation in the EU	861
<i>Clémence Lévêque, Aurélien Ailleret, Manuel Villavicencio, Johannes Trüby</i>	
A Novel Agent-Based Simulation Model for Analyzing Electricity Market Dynamics	868
<i>Saltuk Bugra Selçuklu, Erdemhan Özdin, Erhan Mugaloglu, Celal Öztürk, Ömer Polat, Edanur Kiliç, Seda Nur Bozkurt, Sibel Arslan, Hazar Keskin</i>	
Economic Viability of Green Hydrogen Production in European Energy Systems.....	873
<i>Nadine Weber, Fabian Radner, Franz Winkler, Alexander Trattner</i>	
Robust Investment Strategies for the Norwegian Power System in the Energy Transition?	879
<i>Linn Emelie Schäffer, Stefan Jaehnert, Miguel Chang, Pernille Seljom</i>	
Application of Hierarchical Tso-Dso Coordination in European Pilot Projects	885
<i>Zejun Ruan, Dimitris I. Chatzigiannis, Anthony Papavasiliou</i>	
Renewable Integration in Fossil-Fuel-Powered Microgrids Under Market Power Conditions	892
<i>Jakob Svolba, Sebastian Zwickl-Bernhard, Majd Olleik, Elsa Bou Gebrael</i>	
Minimum Viable Architecture for European Electricity Retail Market.....	897
<i>Jaakko Hirvensalo, Samuli Honkapuro, Salla Annala</i>	
Pypsa-De: Open-Source German Energy System Model Reveals Savings from Integrated Planning	905
<i>Michael Lindner, Julian Geis, Toni Seibold, Tom Brown</i>	
Modeling the Impact of Mid-Term Storage on Electricity Markets: Insights from Carnot Battery Integration	911
<i>Jonathan Stelzer, Armin Ardone, Wolf Fichtner</i>	
Provision of the Energy Community Flexibility Services While Ensuring Optimal Social Welfare.....	917
<i>Sanja Kelemen, Nemanja Mišljenovic, Goran Kneževic, Tomi Medved</i>	
Day-Ahead Optimization of a Green Hydrogen Hub Using Synthetic Hydrogen Demand Data	923
<i>Pedro Felix, Filipe Tadeu Oliveira, Filipe Joel Soares</i>	
The Role of Demand and Vres Flexibility in Carbon-Neutral Power Systems: Insights from Portugal and Spain in Prospective 2050 Scenarios.....	929
<i>Hugo Algarvio, António Couto, Fernando Lopes, Ana Estanqueiro, Ricardo Faia, Gabriel Santos, Rui Carvalho, Pedro Faria, Zita Vale</i>	

Analysis of Near-Zero Prices in the Iberian Electricity Market and Their Impact on the Profitability of Renewable Photovoltaic Plants	935
<i>Jesús Eduardo Ramírez Mendoza, Iraide López Ropero, Itxaso Aranzabal Santamaria, Amaia González-Garrido</i>	
Opportunities of European Hydrogen Supply Potentials for Germany's Hydrogen Market.....	942
<i>Drin Marmullaku, Theresa Klütz, Jochen Linßen, Detlef Stolten</i>	
Where Do Germany's Electricity Imports Come From?.....	947
<i>Mirko Schäfer, Tiernan Buckley, Anke Weidlich, Frank Boerman</i>	
Optimized Electricity Bidding Under Price Uncertainty	952
<i>Iiro Harjunkoski</i>	
Impact of Wind Energy on the Portuguese Labor Market	957
<i>Kouassi Isaac Hayaka, Mara Madaleno, Margarita Robaina</i>	
Reinforcement Learning-Based Charging Control in Households Under Real-Time Pricing	963
<i>Reda El Makroum, Sebastian Zwickl-Bernhard, Lukas Kranzl, Hans Auer</i>	
Pumped Hydro Storage Balancing in Decarbonization Scenarios, and Impacts of Renewable Generation Variability.....	969
<i>Petry Kristine Nøttum Haaland, Erik Seeger Bjørnerem, Magnus Korpås, Ole-Morten Midtgård</i>	
Optimal Bidding of Wind Farms in Electricity Markets Considering the Influence of System Deviation	977
<i>Lázaro Endemaño Ventura, Javier Serrano González, Jesús Manuel Riquelme Santos, Juan Manuel Roldán Fernández</i>	
Analysis of the Potential for Participation of Hybrid Renewable Plants with Storage in Capacity Markets.....	984
<i>Javier Serrano González, Jesús Manuel Riquelme Santos, Juan Manuel Roldán Fernández, Jorge Cormane</i>	
Optimal Bidding by Aggregator of Energy Community in the DSO Flexibility Market.....	990
<i>Mahtab Kaffash, Fairouz Zobiri, Ajay Kumar Sampathirao, Vladimir Vrabel, Benjamin Krikler</i>	
Integration of Energy Communities Via Multi-Level Dynamic Markets	996
<i>Younes Zahraoui, Sebastien Gros, Jayaprakash Rajasekharan, Irina Oleinikova</i>	
The Impact of Consumption Based Billing on Residential Heating Behaviors: A Pilot Study of German Households	1003
<i>Laura Selgrad, Leo Semmelmann, Christof Weinhardt</i>	
Tariff Design and Pricing in Energy Communities.....	1010
<i>Maria Victoria Gasca, Remy Rigo-Mariani, Vincent Debusschere, Yousra Sidqi</i>	
A Comparative Analysis of the Market Bidding Decisions of Operational Pv Plants During Near-Zero Prices in the Spanish Electricity Markets.....	1015
<i>Ibon Vicente-Figueirido, Amaia González-Garrido, Joseba Jimeno, Carlos Madina, Inés Gómez-Arriola, Ander Zubiria</i>	
Incentives in Electricity Network Regulation to Enable the Clean Energy Transition	1021
<i>Osmo Siirto, Teemu Nurmi</i>	

Impact of Greenhouse Gas Quota Trading of the Electrified Fleet in Germany on the Company's Greenhouse Gas Balance	1027
<i>Jonas Bannert, Marit Mohr, Henry Riedl, Jens-Eric Von Düsterlho</i>	
Process Model for Aggregation of Decentralized Flexibility Pools in Germany Considering Technical and Market Restrictions	1042
<i>Tom Rouven Stange, Isa Ryspaeva, Melih Kurt, Peter Müller</i>	
Degradation Conscious Dynamic Ems for a Hybrid Energy Storage System Deployed in a Cloud-Edge Based Platform	1048
<i>Markel Azkue, Josu Olmos, Ane Feijoo-Arostegui, Eneko Vaquero, Ander Lojo, Andoni Saez-De-Ibarra</i>	
Where Do Local Markets Fit in the Current European Electricity Market Structures?	1054
<i>Sergio Potenciano Menci, Laura Andolfi, Rawan Akkouch</i>	
Harnessing Automl for Electricity Price Forecasting in Germany: A Comparative Analysis of Models	1062
<i>Demetrios N. Papadopoulos, Ramiz Qussous, Anke Weidlich</i>	
Optimization of Prosumers Engagement in Virtual Power Plants for Day-Ahead Markets	1068
<i>Ricardo Faia, Pedro Faria, Zita Vale, João Alves, Vitor Lopes, Pedro Salomé</i>	
Exploring Market Designs for Enhanced Flexibility Procurement with Deep Reinforcement Learning	1074
<i>Viktor Zobernig, Sarah Fanta, Stefan Strömer, Regina Hemm, Jochen Stiasny, Jochen L. Cremer, Laurens J. De Vries</i>	
CARAVELS: A Case Study Using Peer-To-Peer Transaction, Voluntary Demand Response, and Energy Storage Optimization	1082
<i>Rafael Silva, Rita Costa, Luis Gomes, Zita Vale</i>	
Assessing the Impact of Grid Constraints on Aggregated Flexibility for Energy Market Participation.....	1088
<i>Kamalanathan Ganesan, Raquel Segurado Silva, Gonçalo Glória, Aleksandr Egorov, Nuno Souza E Silva, Sonam Parashar, Nuno Pinho Da Silva</i>	
Agent-Based Modelling of Investment Decisions in the Electricity Sector	1094
<i>Leonard Willeke, Johannes Kochems, Kristina Nienhaus</i>	
Enhancing a Decentralised Economic Viability Assessment Approach: Incorporating Balancing Reserve, Heat Generation, and Capacity Mechanisms	1101
<i>Markus Von Heel, Alexander Honsel, Albert Moser</i>	
Mitigating Negative Electricity Prices - Batteries Or Flexibility in Wind and Solar?	1107
<i>Silvian M. Radke, Felix Müsgens</i>	
Evaluating Contracts for Difference as Private Hedging Instruments: A Sensitivity Analysis for Medium-Term Price Protection	1113
<i>Fernando Lezama, Ricardo Faia, Zita Vale, Silke Johanndeiter</i>	
Flexible Behind-The-Meter Battery Storage Model for Enhanced Mid-To Long-Term Load Forecasting	1119
<i>Simon Schramm, András Kádár, Alexander Haas</i>	

Social Acceptance of Renewable Energy Communities: A Quantitative Study on Motivations, Barriers, and Drivers Among Prosumers	1127
<i>Ewa Neska, Anna Kowalska-Pyzalska, Maksymilian Bielecki</i>	
Tri-Level Calculation Model to Analyze Day-Ahead Electricity Market Clearing Prices in Finland	1130
<i>Juha Koskela, Kimmo Lummi, Antti Rautiainen, Pertti Järventausta</i>	
Forecasting Electricity Spot Market Merit-Order Curves with Functional Time Series Modeling	1136
<i>Guillaume Koechlin, Filippo Bovera, Piercesare Secchi</i>	
From Day-Ahead to a 6-Hour Period-Ahead Market Adapted to the Stochastic Behaviour of Variable Energy Renewable Sources	1145
<i>António Couto, Hugo Algarvio, Fernando Lopes, Ana Estanqueiro, Gabriel Santos, Fernando Lezama, Ricardo Faia, Rui Carvalho, Zita Vale, Isabel Preto</i>	
Regional Assessment of Climate Change Impacts on Austria's Energy System.....	1151
<i>Demet Suna, Lukas Liebmann, Peter Widhalm, Gustav Resch, Philipp Maier, Herbert Formayer</i>	
Flexibility Provision of an Industrial Behind-The-Meter Energy Storage System Installation Through an Edge-Cloud Based Energy Management System.....	1156
<i>Ane Feijoo-Arostegui, Haizea Gaztañaga, Lander Ochoa, Urtzi Iparragirre, Adrián Orive, Ander Goikoetxea</i>	
Quantifying Renewable Capacity Expansion Limitations in Energy System Modelling and Their Impact on Future Hydrogen Production	1163
<i>Oliver Linsel, Philipp Herpich, Konstantin Löffler, Valentin Bertsch</i>	
Comprehensive Governance Models for Energy Data Spaces: A Path to Secure and Interoperable Data Sharing in Europe	1171
<i>Aleksandr Egorov, Kamalanathan Ganesan, Gonçalo Glória, Raquel Segurado Silva, Nuno Souza E Silva, Uršula Krisper</i>	
Framework to Estimate the Charging Flexibility of EV Fleets.....	1177
<i>Gonçalo Glória, Aleksandr Egorov, Ricardo Pastor, Ângelo Casaleiro, Linru Jiang</i>	
Quis Custodiet Ipsos Custodes: Bringing More Transparency to the ENTSO-E TP Data and Forecasts on Transmission System Operations.....	1183
<i>Maria Margarida Mascarenhas, Hussain Kazmi</i>	
Electricity Consumption in Portuguese Households: Unveiling Key Determinants Through Surveys and Smart Metering Data.....	1189
<i>Evandro Ferreira, Pedro Palma, João Pedro Gouveia</i>	
Forecasting Electricity Prices with Decision-Focused Learning for Storage Optimization	1194
<i>Ruben Smets, Erik Delarue, Jean-François Toubreau, Mihaly Dolanyi, Kenneth Bruninx</i>	
Application of Time Series Clustering for Improving Forecasts in Energy Markets.....	1201
<i>Ines Araujo, Rita Teixeira, John Peñaloza Morán, Tiago Pinto, Jose Baptista</i>	
P2P Markets to Support Trading in Smart Grids with Electric Vehicles	1206
<i>Diogo Antunes, Tiago Soares, Hugo Morais</i>	
Optimizing Heat Pump Systems Under Dynamic Electricity Pricing: Sizing Tool and Market Mechanism Analysis.....	1212
<i>Felix Doucet, Nicholas Tedjosantoso, Felix Scholl, Martin Grasenack, Hans Schäfers</i>	

Role of Flexible Contract Design in Unlocking Power-To-X Projects.....	1218
<i>Jimmy Brossier, Lesia Mitridati, Anubhav Ratha, Tue Vissing Jensen</i>	
Sizing Distributed Energy Resources for Energy Communities.....	1227
<i>John Peñaloza Morán, A. Sérgio Faria, Tiago Soares, José Villar, Tiago Pinto, Giulia Ester Petruzzi, Filippo Bovera, Leonardo H. Macedo</i>	
Demand Response Aggregator Participation Strategies in the French Electric Day-Ahead Market	1233
<i>Ibon Vicente-Figueirido, Joseba Jimeno</i>	
The Energy Efficiency Dilemma: CO ₂ Mitigation and the Economy-Wide Rebound Effect in European Nations	1239
<i>Zeeshan Arshad, Margarita Robaina, Muhammad Noman Shafique</i>	
Business Model for Energy Community Developers and Assets Investors.....	1245
<i>Flavio De Sousa, Susana Bayo-Besteiro, Salvador Doménech, Ricardo Silva, José Villar</i>	
Assessing the Impact of Pit Thermal Energy Storage on Flexibility in Sector-Coupled Energy Systems.....	1251
<i>Caspar Schauf, Amos Schledorn, Tom Kähler, Tom Brown</i>	
Evaluating the Emissions Reduction Potential of Solar PV in the Finnish Energy Systems	1259
<i>Aki Kortetmäki, Juho Ylipaino, Kari Kallioharju, Juha Koskela, Pertti Järventausta</i>	
Impact of 15-Minutes Measurement Interval in Smart Metering on Peak Power Estimation and Network Capacity Planning.....	1266
<i>Aki Kortetmäki, Kari Kallioharju, Juho Ylipaino, Juha Koskela, Kimmo Lummi, Pertti Järventausta</i>	
A Custom Automated Bidding Solution for Short-Term Operation in Mibel Market	1272
<i>João Palma, Jorge Leite, Susana Teixeira</i>	
Pricing Strategies for Local Transactions in Renewable Energy Communities Business Models.....	1277
<i>João Sousa, Alexandre Lucas, José Villar</i>	
Influence of Renewable Energy Ratios and Electrolyzer Capacity Factor on Green Hydrogen Profitability.....	1284
<i>Damir Jakus, Joško Novakovic, Josip Vasilj, Frano Barbir</i>	
Diversifying EU's Solar PV Module Supply Chain: Multi-Objective Modeling of Economic and Geopolitical Dynamics	1291
<i>Helen Anais Fischer, Sebastian Zwickl-Bernhard, Hans Auer</i>	
Navigating Profitability Challenges in the UK Energy Sector: Evidence from Industry SMEs.....	1298
<i>Nishan Mallikaratchi</i>	
Leveraging the Belief Desire Intention Framework for Modeling the Behavior of Stakeholders in Energy Markets	1304
<i>Aliene Van Der Veen, Wester Coenraads, Pieter Verstraten</i>	
Economic and Environmental Optimization of EV Fleets Charging Under MIBEL Day-Ahead Spot Prices	1309
<i>M. F. Almeida, F. J. Soares, F. T. Oliveira</i>	
Value-Stacking Battery Services Considering Frequency Markets and Grid-Based Voltage Support.....	1314
<i>Sigurd Sandvoll Vassmyr, Sigve Næss Walnum, Kasper Emil Thorvaldsen, Jonatan Ralf Axel Klemets</i>	

Navigating Change: the Impact of Experiences and Preferences on the Heating Sector Transition.....	1321
<i>Barbara Breitschopf, Anna Billerbeck</i>	
Solar Infeed During Low Demand Hours - a Problem?	1331
<i>Felix Müsgens, Silvan M. Radke, Felix Panitz</i>	
Strategies for Fair Distribution of Collective Benefits in Renewable Energy Communities.....	1337
<i>Laura Cavalcante, Alexandre Lucas, José Villar, Salvador Doménech Martínez</i>	
Multi-Day Day-Ahead Price Scenario Generation Using Conditioned Multivariate Elliptical Copulas.....	1343
<i>Rick Verhage, Gijs Verhoeven, Bart Van Der Holst, Koen Kok</i>	
Assessing Potential Distortions Under Production-Based CfDs on the German Electricity Market.....	1349
<i>Michael Stecher, Anna Billerbeck, Alexander Burkhardt</i>	
Analyzing Potential Scarcity Events in a Wind Power-Based Electricity System - Case Finland.....	1356
<i>Jasmin Salmi, Markus Salmelin, Samuli Honkapuro</i>	
Congestion Management in the Day-Ahead Timeframe: Lessons from the Netherlands.....	1363
<i>Timon Dubbeling, Simon H. Tindemans</i>	
A New Approach for Selecting Representative Patterns for Investment Planning in Local Energy Communities	1369
<i>Apolline Panier, Bashir Bakhshideh Zad, Zacharie De Grève</i>	
Benefits of Dynamic Electricity Tariffs for Industrial Companies in Germany	1374
<i>Julius Beranek, Patrick Jochem, Armin Ardone, Wolf Fichtner, Tim Geisert</i>	
A Comparative Study of Coordination Schemes Between Local and Wholesale Electricity Markets	1379
<i>Gianluca Sabbatini, Maria Teresa Vespucci, Francesco Gulotta</i>	
Wind and Solar Power Generation Perceptions: Towards a Sustainable Energy System in Portugal's Centro Region.....	1385
<i>Fátima Lima, Edimar Ramalho, Tiago Miguel, Mara Madaleno, Marta Ferreira Dias, Mónica Meireles, Margarita Robaina</i>	
Integration of Solar PV and Battery Energy Storage Systems Towards a Sustainable Street Lighting	1394
<i>Miguel Lima, Sérgio Perinhas, Jorge Sousa, Carla Viveiros, Filipe Barata</i>	
Challenges and Opportunities in the Integration of Wind Turbines in Urban Areas: A Technical and Economic Analysis	1400
<i>Ruan Moreira, Jorge Sousa, Cristina Camus</i>	
Integration of Block, Linked and Loop Bids in a Market Coupling Algorithm.....	1406
<i>Tim Signer, Jonathan Mack, Max Kleinebrahm, Viktor Slednev, Thorsten Weiskopf, Wolf Fichtner</i>	
Demand Side Management in Large-Scale Buildings with Intraday Impact.....	1413
<i>Ahmet Köse, Ivan Sukhanov, Aleksei Tepljakov, Isa Hatipoglu, Eduard Petlenkov</i>	
Enhancing Energy System Modeling with Global Weather Forecast Integration: A German Case Study with European Outlook	1419
<i>Tim Fürmann, Mirko Schäfer, Ramiz Qussous, Anke Weidlich</i>	
Multi-Energy Systems and Flexibility Markets: Benefits and Boundaries.....	1428
<i>Edoardo Corsetti, Alberto Vannoni</i>	

Post-Fossil Fuel Energy Security: Integrating Critical Materials into Europe's Single Energy Market	1434
<i>Michael Carnegie Labelle, Steffen Bettin</i>	
Charging Infrastructure Power Requirements for Flexibility Usage	1440
<i>Simon Decher, Martin Grasenack, Nicholas Tedjosantoso, Hans Schäfers</i>	
Is Portfolio Bidding Profitable?: the Case for Hybrid Photovoltaic-Battery Power Plants	1446
<i>Alexandra Sheppard, Gro Klæboe, Magnus Moe Nygård</i>	
ERIKSSON: A Global Market Model for Green Hydrogen and Its Derivatives with Strategic Behavior and Detailed Supply	1452
<i>Michael Moritz, David Wohlleben, Maximilian Walde</i>	
Integrating Household Flexibility into Local Electricity Markets: A Market-Based Approach for Grid Stability and Demand Optimization	1467
<i>N/A</i>	
Optimizing Local Flexibility Market Tenders: A Probabilistic Approach to Spatial and Temporal Aggregation for Efficient Grid Management.....	1473
<i>Alberto Vannoni, Davide Falabretti, Edoardo Daccò, Riccardo Lazzari, Carmine Rodio, Gaetano Iannarelli</i>	
Closing the Loop: Integrating Material Needs of Energy Technologies into Energy System Models.....	1478
<i>Célia Burghardt, Mirko Schäfer, Anke Weidlich</i>	
Market-Based Flexibility in Renewables: Empirical Insights from the Dutch Day-Ahead Power Market	1491
<i>Emre Ates, Anton Tjink, Longjian Piao</i>	
Planning Energy Communities with Flexibility Provision and Energy and Cross-Sector Flexible Assets	1497
<i>Luís Rodrigues, Ricardo Silva, Pedro Macedo, Sérgio Faria, Fábio Cruz, José Paulos, João Mello, Tiago Soares, José Villar</i>	
A Dutch Market Design on Congestion Management: the Role of (Fully) Independent Aggregators	1503
<i>George Trienekens, Rick Scharrenberg, Longjian Piao</i>	
Model-Based Approach to Assess the Future Economic Viability of Power Plants Through Expected Producer Revenues and Costs.....	1508
<i>Stefano Parisse, Pietro Capurso, Luca Marchisio, Marco Pancrazi, Fabio Genoese</i>	
Towards Time Series Aggregation with Exact Error Quantification for Optimization of Energy Systems.....	1514
<i>Beltrán Castro Gómez, Yannick Werner, Sonja Wogrin</i>	
Unveiling the Association Between Health, Poor Housing, and Energy Affordability	1523
<i>Fátima Lima, Vitor Leal, Paula Ferreira</i>	
Optimisation of Multi-Energy Systems and Power-To-X Technologies: A Hydrogen-Based Industrial Case Study.....	1530
<i>Mikel Fernández-Allende, Amaia González-Garrido, Esther Torres-Iglesias</i>	
A Demand-Responsive Multi-Energy System Framework Integrating Flexible Pricing for Improved Urban Energy Management.....	1536
<i>Kasra Saberi Beglar, Ramin Nourollahi, Mohammad Mansouri</i>	

Spatio-Temporal Projection of Electricity Demand for Previously Un-Electrified Populations	1542
<i>Mai Elsayed, Antti Pinomaa, Samuli Honkapuro</i>	
Blockchain and Virtual Power Plants for Decentralized Energy Empowerment.....	1548
<i>Paulo Castelh�o, S�rgio F. Santos, Mohammad S. Javadi, Jo�o P. S. Catal�o</i>	
Delving into the Black Box: Stochastic Ex-Post Multi-Criteria Evaluation of Net-Zero Scenarios with an Application to Switzerland	1554
<i>Christoph Funke, Martin Densing, Romain Sacchi, Evangelos Panos, Giovanni Sansavini, Russell McKenna</i>	
One Price Fits it All? Implications of a Fixed Price Scheme on Ev Charging in Norway	1560
<i>Fabian Brockmann, Mario Guajardo</i>	
The Role of Flexibility Markets in Maintenance Scheduling of MV Networks.....	1566
<i>Bruna Tavares, Filipe Soares, Jorge Pereira, Clara Gouveia</i>	
Seasonality Impact in Green Hydrogen Imports to Europe	1572
<i>Joshua Fragoso Garcia, Lucien Genge, Ammar Maghnam</i>	
Improving Balancing Activation Through Continuous-Time Optimization and Increased Market Time-Resolution	1579
<i>Vegard Viken Kallset, Hossein Farahmand</i>	
The Inscribed Boxes Approach to Reserve Deliverability in Balancing Capacity Markets: Base Results	1585
<i>Mehdi Madani, Anthony Papavasiliou, Zejun Ruan</i>	
Energy Data Governance Fragmentation in Europe: Challenges, Models, and Pathways to Integration	1591
<i>Shievam Kashyap, Wieland Schwinger, Stefan Gr�nberger, Christoph Schaffer, Georg Hartner</i>	
Evolution of the Electricity Bill Structure in Italy and the Role of Contracts for Difference.....	1597
<i>Riccardo Mario, Gaetano Formato, Ennio Luciano, Francesca Raffo, Fabio Genoese, Luca Marchisio</i>	
Energy Management System for Inter-Connected Self-Sufficient Microgrids with Blockchain- Based Peer-to-Peer Energy Market.....	1603
<i>Iurii Demidov, Antti Pinomaa, Samuli Honkapuro, Marko Nieminen</i>	
Correlation Analysis of GHG Emissions in the German Electricity Mix and Exchange Electricity Prices Using a Sigmoid Function	1609
<i>Carsten Sch�tte, Sebastian Timmerberg</i>	
Modeling Methanol Production from Concentrated Solar Thermal Power Using a Monolithic Redox-Reactor: European Production Versus Import.....	1618
<i>Jonas Martin, Matthias Loevenich, Enric Prats-Salvado, Nathalie Monnerie</i>	
Energy Transition and Financial Distress: Assessing Bankruptcy Risks in Fossil Fuel Companies.....	1634
<i>Edimar Ramalho, Mara Madaleno, Jorge Mota, Margarita Robaina</i>	
Impact from Different Reserve Allocation Strategies in Hydropower Systems	1639
<i>Valger�ur J�nsd�ttir, Lennart S�der, Lars Nordstr�m</i>	
A GIS-Based Investment Model for Regional H ₂ Generation Potential Assessment with an Exemplary Application.....	1645
<i>Cornelia Kl�ter, Dennis Schneider, Christoph Weber</i>	

Price-Spread Characteristics in the Nordic Electricity Market.....	1651
<i>Yousef Adeli Sadabad, Mohammad Reza Hesamzadeh, György Dán</i>	
Study on the Impact of Electric Vehicles' Charging in the National Load Profile: An Analysis on Portuguese Power System	1657
<i>Ricardo Pastor, Ângelo Casaleiro, Gonçalo Glória, Aleksandr Egorov, Linru Jiang</i>	
Cross-Border Information in Electricity Price Forecasting: Benefits of a Panel Data Approach	1663
<i>Tobias Schnabel</i>	
Effect of Wind Turbine Selection in Newly Built Wind Farms in Decentralized Electricity Markets.....	1668
<i>Markus Salmelin, Araavind Sridhar, Hannu Karjunen, Samuli Honkapuro, Jukka Lassila</i>	
Advanced Quantitative Assessment Methodology for Power Purchase Agreements Contracts	1677
<i>Giulio Emanuele Casa, Valentin Ilea, Riccardo Nebuloni, Salvatore Alessandro Casa</i>	
Expert-Driven Assessment of Sustainability for Electricity Market Changes	1683
<i>Rebeca Ramirez Acosta, Florian Maurer, Chathura Wanigasekara, Sebastian Lehnhoff, Jorge Marx Gómez</i>	
Real-Time Bidding in a Walrasian Local Energy Market.....	1688
<i>João Mello, José Villar, João Tomé Saraiva</i>	
Combining Learning-Based Cop Proxies and Formal Optimization for Residential Heat Pump System Operation	1694
<i>Pedro Girón, Juan Rodriguez Santiago, Philipp Härtel, Jan Dobschinski</i>	
Multi-Period Hierarchical Optimization for Der Dispatch in Tso-Dso Coordinated Networks.....	1700
<i>Martín Lucas Venegas, Fernando García-Muñoz</i>	
Energy Behaviour of Selected Agri-Food Business and Potential Savings from Collective Self-Consumption	1706
<i>Fábio Cruz, A. Sérgio Faria, Isabelle Andrade, João Mello, Bernardo Ribeiro, André Garcia, Jose Villar</i>	
Open Data Analysis on Electricity Network Constraints for E-Mobility Development.....	1712
<i>Tuomo Mutru, Otto Räisänen, Ville Tikka, Samuli Honkapuro</i>	
Local Flexibility Markets for Energy Communities: Flexibility Modelling and Pricing Approaches.....	1719
<i>João Carlos Agrela, Tiago Soares, José Villar, Igor Rezende</i>	
Monte Carlo Simulation of Electric Vehicle Charging Schemes for an EV Aggregator Offering Ancillary Services Under Grid Limitations	1726
<i>Dita Anggraini, Mikael Amelin, Lennart Söder</i>	
Risk-Aware Electricity Procurement for Flexible Cement Plants: A Utility-Theoretic Approach in Multi-Electricity Markets	1733
<i>Manish Khanra, Nick Harder, Florian Maurer</i>	
A Multistage Stochastic Optimization Framework for Long-Term District Heating Capacity Expansion	1739
<i>Ali Kök, Jonathan Hachez, Lukas Kranzl</i>	
Proposal on Hydrogen-Integrated Power and Heat Systems of Households Achieving Resilience	1747
<i>Masashi Matsubara, Masahiro Mae, Ryuji Matsuhashi</i>	

Do Fossil Fuel Subsidies Delay the Low-Carbon Transition? Evidence from the OECD.....	1751
<i>Sevil Acar, Patricia Fortes</i>	
Multi-Objective Transmission Expansion Planning for Flexible Grid Infrastructure Toward a Low-Carbon Energy Era.....	1756
<i>Luiz Eduardo De Oliveira, Phillipe Vilaca Gomes, Joao Tome Saraiva</i>	
A Cooperative Business Model for Self-Sustainable Energy Communities Based on an Autonomous Negotiation Protocol.....	1762
<i>Andrej Bregar</i>	
Energy Storage for Renewable Energy.....	1768
<i>Wladyslaw Mielczarski, Michal Wierzbowski</i>	
Economic Analysis of Decarbonization in the Fuerteventura-Lanzarote System.....	1773
<i>Juan Manuel Roldan Fernandez, Javier Serrano Gonzalez, Olivia Mariela Domínguez Monge, Manuel Burgos Payan</i>	
Addressing Dunkelflaute Events in Energy Systems with High Renewable Shares	1778
<i>Regis Delubac, Mohammad Esmaeili, Damian Flynn</i>	
Game-Theoretic Insights into the Day-Ahead Iberian Electricity Market.....	1783
<i>Juan Manuel Roldan Fernandez, Javier Serrano Gonzalez, Paula Paramo Balsa, Manuel Burgos Payan, Hugo Fiestas Chévez</i>	
The Impact of Esg Factors on Financial Performance in the European Energy Sector	1788
<i>Mónica Meireles, Lorena Falcão, Margarita Robaina, Mara Madaleno</i>	
A Multi-Year Planning Model for Low-Carbon Transitions of Offshore Oil and Gas Platforms	1793
<i>Jiangyi Huang, Alena Lohrmann, Anna Peacock, Fabian Heymann, Til Kristian Vrana, Juha Kiviluoma, Russell McKenna</i>	
Particle Swarm Optimization-Based Algorithm for Optimal Reactive Power Dispatch	1802
<i>R. Menezes, P. M. Fonte, Rui Pestana</i>	
Analysing Strategic Behaviour in European Energy and Redispatch Markets with High Wind Energy Penetration	1808
<i>Luciano Pozzi, Dimitrios Papadaskalopoulos, Goran Strbac</i>	
Peer-To-Peer Energy Markets: A Simplified Approach for Renewable Communities Inspired by Uniform Price Auction	1815
<i>Rita Costa, Luis Gomes, Pedro Faria, Zita Vale</i>	

Author Index