

**MAXIMIZING THE RENEWABLE ENERGY HOSTING  
CAPACITY OF DISTRIBUTION NETWORKS, acronym MAREHC**

**Articole științifice publicate în reviste Science Citation Index Expanded,  
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1. Mousa H.H.H., Mahmoud K., LEHTONEN M., ***TOWARD STANDARDIZED RECOMMENDATIONS FOR CURRENT UNBALANCE LIMITS IN DER-RICH UNBALANCED POWER SYSTEMS: A COMPREHENSIVE REVIEW***, International Journal of Electrical Power and Energy Systems, Online ISSN: 1879-3517/Linking ISSN: 0142-0615, Volume 177, April 2026, 111833, [h <https://doi.org/10.1016/j.ijepes.2026.111833>](https://doi.org/10.1016/j.ijepes.2026.111833), Q1.
2. Mousa H.H.H., LEHTONEN M., Mahmoud K., ***MULTISTAGE COORDINATED PLANNING APPROACH FOR RES-RICH MICROGRIDS INCORPORATING FLEXIBLE POWER BALANCING UNIT, V2G SCHEDULING, AND HYDROGEN STORAGE SYSTEMS***, Applied Energy, Print ISSN: 0306-2619, Online ISSN: 1872-9118, Volume 410, February 2026, 127500, <https://doi.org/10.1016/j.apenergy.2026.127500>, Q1.
3. Mousa H.H.H., LEHTONEN M., Mahmoud K., ***MULTI-TIMESCALE COORDINATED PLANNING OF BESS, SEASONAL HYDROGEN STORAGE, AND DYNAMIC DR FOR UNBALANCED RES-RICH MICROGRIDS***, Energy Conversion and Management, ISSN: 0196-8904, 341, Volume 346, December 2025, 120510, <https://doi.org/10.1016/j.enconman.2025.120510>, Q1.
4. OSMAN Mohammed Gmal, LAZAROIU G., ***HARNESSING SOLAR ENERGY FOR SUSTAINABLE DEVELOPMENT IN RURAL COMMUNITIES***, Agriculture, ISSN: 2077-0472, 2025, 15, 19, <https://doi.org/10.3390/agriculture15192021>, Q1.
5. Jokinen I., LEHTONEN M., Hirvonen J., Jokisalo J., Kponen R., ***DECARBONIZING A NATIONAL ENERGY SYSTEM THROUGH ELECTRIFICATION BY SECTOR COUPLING POWER, DISTRICT HEAT, TRANSPORT AND BUILDINGS***, Applied Energy, ISSN: 0306-2619, 401, 126686, September 2025, <https://doi.org/10.1016/j.apenergy.2025.126686>, Q1.
6. Tofighi-Milani M., Fattaheian-Dehkordi S., LEHTONEN M., ***FREQUENCY RESERVE SERVICE FROM HEAT PUMPS AND ELECTROLYZERS IN POWER SYSTEMS: A SEALED-BID AUCTION MECHANISM***, IEEE Transactions on Smart Grid, ISSN: 1949-3053, eISSN: 1949-3061, September 2025, <https://doi.org/10.1109/TSG.2025.3611876>, Q1.
7. BAYRAK G., BAŞARAN K., LAZAROIU A. C. (2025), ***INTEGRATING HYDROGEN-POWERED FUEL CELL ELECTRIC BUSES INTO GRID-FORMING MICROGRIDS: A SOLUTION FOR EMERGENCY ENERGY NEEDS***, Renewable Energy, ISSN: 0960-1481, Volume 250, September 2025, 123363, <https://doi.org/10.1016/j.renene.2025.123363>, Q1.
8. HAZMOUNE M., DEBBACHE M., OSMAN M.G., ANOUR B., PANAIT C., LAISSAOUI M., LAZAROIU G., ***MODELING AND EFFICIENCY ANALYSIS OF AN IMMERSED HEAT EXCHANGER FOR SOLAR-POWERED INDUSTRIAL HEAT PROCESSES: A CASE STUDY***

- ON WOOL WASHING**, Technologies, ISSN: 2227-7080, Volume 13, nr.7, 03, July 2025, <https://doi.org/10.3390/technologies13070308>, Q1.
9. Fatima S, Bashir AA, Jokinem I, LEHTONEN M., Pourakbari-Kasmaei M, **SYNCHRONIZING FLEXIBLE LOADS WITH WIND ENERGY VIA STACKELBERG GAME FOR RENEWABLE INTEGRATION AND ECONOMIC EFFICIENCY**, Applied Energy, ISSN: 0306-2619, July 2025, 397: 126398, <https://doi.org/10.1016/j.apenergy.2025.126398>, Q1.
  10. Mousa H.H.H., Mahmoud K., LEHTONEN M., **COORDINATED ENERGY MANAGEMENT FOR EH WITH RESPONSIVE DEMANDS CONSIDERING HYDROGEN STORAGE AND PEV PREHEATING IN COLD CLIMATES**, Energy Conversion and Management, ISSN: 0196-8904, 341, June 2025, 120046, <https://doi.org/10.1016/j.enconman.2025.120046>, Q1.
  11. MORADI E., ELSISI M., MAHMOUD K., LEHTONEN M., DARWISH M. M., (2025), **ROBUST DEEP NEURAL NETWORK-BASED INTERNET OF THINGS FOR POWER TRANSFORMER FAULT DIAGNOSIS UNDER IMBALANCED DATA AND UNCERTAINTIES**, International Journal of Electrical Power & Energy Systems, ISSN: 1879-3517, 168, 110731, <https://doi.org/10.1016/j.ijepes.2025.110731>, Q1.
  12. LAZAROIU G., MIHAESCU L., STOICA D., NASTASA F-C., **THE TRANSITION TO AN ECO-FRIENDLY CITY AS A FIRST STEP TOWARD CLIMATE NEUTRALITY WITH GREEN HYDROGEN**, Technologies, ISSN: 2227-7080, Volume 13, nr.3, 03, 2025, <https://doi.org/10.3390/technologies13030095>, Q1.
  13. LAZAROIU A. C., ROSCIA MC., LAZAROIU G.C., SIANO P., **REVIEW OF ENERGY COMMUNITIES: DEFINITIONS, REGULATIONS, TOPOLOGIES, AND TECHNOLOGIES**, Smart Cities, ISSN: 2624-6511, Volume 8, nr.1, 01, 2025, <https://doi.org/10.3390/smartcities8010008>, Q1.
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