

Editorial Board

JOURNAL OF SUSTAINABLE ENERGY

EDITOR IN CHIEF

Gabriel BENDEA

University of Oradea, Department of Energy Engineering, gbendea@uoradea.ro

EDITORS

Cornel ANTAL
University of Oradea
cantal@uoradea.ro

Gabriel BENDEA
University of Oradea
gbendea@uoradea.ro

Roberto CIPOLLONE
University of L'Aquila
roberto.cipollone1@tin.it

Mircea EREMIA
Politehnica University of Bucharest
eremia1@yahoo.com

Cristina HORA
University of Oradea
chora@uoradea.ro

Mihai JADANEANT
Politehnica University of Timisoara
mihai.jadaneant@upt.ro

Stefan KILYENI
Politehnica University of Timisoara
stefan.kilyeni@et.upt.ro

Ion MIRCEA
University of Craiova
imircea@elth.ucv.ro

Florin MUNTEANU
"Gheorghe Asachi" Technical University of Iasi
fmunt@tuiasi.ro

Florin POPENTIU
University of Oradea
popentiu@imm.dtu.dk

Victorita RADULESCU
Politehnica University of Bucharest
vrادل7@yahoo.com

Marcel ROSCA
University of Oradea
mrosca@uoradea.ro

Doru VATAU
Politehnica University of Timisoara
doru.vatau@upt.ro

Constantin BARBULESCU
Politehnica University of Timisoara
constantin.barbulescu@upt.ro

Gianfranco CHICCO
Politecnico de Torino, Italia
gianfranco.chicco@polito.it

Simona DZIȚAC
University of Oradea,
simona.dzitac@gmail.com

Fiodor ERCHAN
State Agricultural University, Moldova
terhan@mail.ru

Mihai GAVRILAS
"Gheorghe Asachi" Technical University of Iasi
mgavril@tuiasi.ro

Marcel ISTRATE
"Gheorghe Asachi" Technical University of Iasi
mistrate@tuiasi.ro

Ferenc KALMÁR
University of Debrecen
fkalmar@mfk.unideb.hu

Paul Mihai MIRCEA
University of Craiova
mmircea@elth.ucv.ro

Călin MUNTEANU
Technical University of Cluj-Napoca
Calin.Munteanu@ethm.utcluj.ro

Valentin NAVRAPESCU
Politehnica University of Bucharest
valentin.navrapescu@upb.ro

Laurentiu POPPER
Perfect Service SA
director@perfect-service.ro

David RIVKIN
Ohalo College, Katzrin Israel
david.rivkin@SustainableMethods.org

Calin SECUI
University of Oradea
csecui@uoradea.ro

EXECUTIVE STAFF

Executive Editors

Vasile MOLDOVAN
University of Oradea
moldovan@uoradea.ro

Daniel ALBUȚ-DANA
University of Oradea
dalbut@uoradea.ro

Șerban BUNDA
University of Oradea
sbunda@uoradea.ro

PUBLISHER & EDITORIAL OFFICE

University of Oradea Editing House,
Str. Universitatii Nr. 1, Oradea, jud. Bihor, România, Zip code: 410087, Tel.: 00-40-259-408171, Fax: 00-40-259-408404
ISSN: 2067-5534 (print version)

The Journal of Sustainable Energy (JSE) had its first appearance under this name in 2010. The history of JSE is the following: is formed in 2010 by transforming of 1993-2009 Analele Universitatii din Oradea. Fascicula de Energetica, 1224-1261. Which superseded in part (1991-1992): Analele Universitatii din Oradea. Fascicula Electrotehnica si Energetica (1221-1311); Which superseded in part (1976-1990): Lucrari Stiintifice - Institutul de Invatamant Superior Oradea. Seria A, Stiinte Tehnice, Matematica, Fizica, Chimie, Geografie (0254-8593); Both of which superseded in part (1969-1970): Lucrari Stiintifice - Institutul Pedagogic Oradea. Seria A (1220-2916); Which superseded in part (1967-1968): Lucrari Stiintifice - Institutul Pedagogic Oradea (1220-2266).

The Journal of Sustainable Energy (JSE) publishes original contributions in the field of the following topics:

- System reliability and power service quality
- Generation of electric power
- Energy policy and economics (financial and customer markets, regulatory and financial issues)
- Energy development (solar power, renewable energy, waste-to-energy systems)
- Energy systems operation
- Energy efficiency, reducing consumption for conservation of energy
- Energy sustainability as related to energy and power production, distribution and usage
- Energy infrastructure issues (power plant safety, security of infrastructure network)
- Waste management and environmental issues
- Buildings and transportations energetic
- Urban community energy
- Management and engineering economics in energy

The articles quality increases with every issue. Apart from its improved technical contents, a special care is given to its structure. The guidelines for preparing and submitting an article were modified and developed in order to meet high quality standards requirements. With every passing issue the peer-review process was developed too, being now a double-blinded [peer-review process](#).

Authors who wish to submit a manuscript to the Journal of Sustainable Energy (JSE) are kindly asked to send their manuscripts as DOC and PDF format to jseoradea@yahoo.com, according to the formatting instructions. Once the manuscript is submitted, the authors will shortly receive a feedback regarding the status of their submission. As the review process is completed, the author will be informed about the reviewers' comments and the changes the paper should suffer in order to satisfy the journal quality requirements.

Journal of Sustainable Energy JSE is covered/indexed/abstracted in:

- [DOAJ - Directory of Open Access Journals](#)
- [EBSCO Publishing - EBSCOhost Online Research Databases](#)
- [Google Scholar](#)
- [Index Copernicus](#)
- [BASE - Bielefeld Academic Search Engine](#)
- [Higher Education Journals in Engineering](#)
- [Open Academic Journals Index](#)
- [ResearchBib](#)
- [Cosmos Impact Factor](#)
- Engineering village (Pending)
- DRJI (Pending)
- CiteFactor (Pending)
- Science Library Index (Pending)

Publishing House name/address:

University of Oradea Editing House

Universitatea din Oradea, Universitatii Str., No. 1, 410087, Oradea, Bihor, Romania

- ISSN: 2067-5534 (print)
- Tel.: 00-40-259-408 (232) / (171)
- Fax: 00-40-259-408406
- Place of publishing: Oradea, Romania
- Year of the foundation of publication in domain of power engineering: 1976
- Releasing frequency: 4 / year
- Language: English

CONTENTS

SUSTAINABLE DEVELOPMENT AND ENERGY EFFICIENCY

SPECIFIC ASPECTS IN THE DESIGN OF HYBRID SYSTEMS POWERING THE TELECOMMUNICATIONS TOWERS BUNDA S.....	6
OPTIMIZATION OF A PROTOTYPE BIOMASS SYSTEM BENDEA G., ROȘCA M., ALBUȚ-DANA D., BLAGA A., MEIANU D., MOLDOVAN V., RANCOV N., RENCŠIK O.....	13
DESIGN AND SIMULATION OF A MICROCONTROLLER-BASED DEVICE FOR SPEED COMPENSATION IN WIND TURBINE IN MINNA, NIGER STATE, NIGERIA IBRAHIM A. G., OYEDUM O. D., KINDAMA N.	18
IMPROVEMENT OF STOCHASTIC MODELLING SKILLS FOR A SUSTAINABLE EDUCATION IN ENGINEERING SIPOS D., BENDEA C., KOCSIS I.	25

HARNESSING SOLAR ENERGY

APPRAISAL OF PHOTOVOLTAIC CELL TECHNOLOGIES AND SEASONAL PERFORMANCE AND OPERATIONAL VIABILITY: A STUDY IN DURBAN, SOUTH AFRICA EBHOTA W., TABAKOV P.....	34
SOLAR PHOTOVOLTAIC GENERATED ELECTRICITY IN NIGERIA TODAY AND IN THE NEAR-TIME TOWOJU O. A.....	53
FUZZY LOGIC-BASED ENERGY MANAGEMENT CONTROLLER FOR A HYBRID SOLAR WATER PUMPING SYSTEM MOYO R. T., TABAKOV P. Y.....	59