

---

## Editorial

---

### Zhenling Liu

Henan University of Technology,  
No. 100, Lianhua Street, Zhongyuan District,  
Zhengzhou City, Henan Province, 450008, China  
Email: zlluhut@gmail.com

**Biographical notes:** Zhenling Liu is an expert in the field of energy economics and sustainable development. He is serving as the leading guest editor for the *International Journal of Powertrains*. He contributes to the advancement of research in this specialised journal. With expertise in energy-economy-environment systems, his contributions significantly contribute to the understanding and development of powertrain technologies and their impact on sustainable transportation.

---

We are delighted to present this special issue of our journal, which focuses on the crucial role of ‘green energy and power systems’ in promoting ‘sustainable development’. This collection of articles brings together diverse research contributions that shed light on innovative approaches, methodologies, and applications in the field of renewable energy and power systems, and their impact on achieving sustainable development goals. The highlights of this issue are as follows:

The article titled ‘Coordination control for output voltage of optical-storage independent microgrid based on adaptive optimisation’ addresses the vital aspect of microgrid control and optimisation, contributing to the stability and reliability of distributed energy systems. The authors introduce novel adaptive optimisation techniques to effectively manage the output voltage of microgrids.

In the article ‘Principle, method and application of electronic power system protection’, valuable insights are provided into the principles and methods of electronic power system protection. This article explores the design and implementation of protection systems, ensuring the safe and reliable operation of power grids.

‘Application of gradient boosting decision tree algorithm in operation quality evaluation of electric energy metering device in electric power company’ focuses on evaluating the operation quality of electric energy metering devices. The authors employ the gradient boosting decision tree algorithm to ensure accurate and reliable energy metering, benefiting electric power companies and consumers.

‘The matching model of thermal energy supply and demand in power generation park with new energy and municipal solid waste’ presents a matching model for thermal energy supply and demand in power generation parks, incorporating new energy sources and municipal solid waste. The research explores efficient strategies to optimise energy utilisation, thereby promoting sustainable development in power generation systems.

In the article ‘Design of impulse grounding resistance measurement system for distribution network based on wavelet packet optimal algorithm’, the authors address the design of a measurement system for impulse grounding resistance in distribution networks. They propose the use of a wavelet packet optimal algorithm, which contributes

to accurate grounding resistance measurement and enhances the safety and reliability of distribution networks.

‘Construction of SF<sub>6</sub> emission estimation model in power equipment’ focuses on constructing an estimation model for SF<sub>6</sub> emissions in power equipment. This research advances our understanding and management of greenhouse gas emissions, promoting environmentally friendly practices in the power sector.

‘Optimisation of straw logistics supply chain in biomass power generation project’ explores the optimisation of the straw logistics supply chain in biomass power generation projects. The authors present strategies for efficient utilisation of biomass resources, fostering sustainable and renewable energy generation.

This special issue highlights the significant role of green energy and power systems in driving sustainable development. The selected articles contribute to the knowledge base by presenting novel research findings, methodologies, and practical applications in the field. We extend our appreciation to the authors for their valuable contributions and to the reviewers for their diligent evaluation. We believe that the insights shared in this special issue will inspire further research, collaboration, and innovation in the pursuit of a sustainable and environmentally conscious energy future.