Energy Safety Science and Technology
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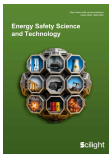

Editorial

Energy Safety Science and Technology: An International Energy Safety Communication Platform

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1. Introduction

Energy safety has expanded from traditional resource assurance to include environmental, economic, and social stability across multiple dimensions. This expansion reflects the changing international landscape, with challenges such as climate change and cybersecurity now playing a significant role [1,2]. The fragility of traditional energy supply is accelerating its shift toward sustainable energy. Today, energy safety encompasses multiple dimensions, primarily focusing on supply stability, structure rationality, and the safety use of energy [3,4]. Challenges such as imbalanced energy structure, low utilization efficiency, technological transformation bottlenecks, and high transportation safety risks persist. Additionally, environmental pollution from traditional energy and safety accidents due to fragile infrastructure remain significant concerns. Therefore, efforts should be accelerated to transform the energy structure, enhance energy utilization efficiency, and promote low-carbon, environmentally friendly economic and safety development. Additionally, energy technology innovation and infrastructure construction should be expedited. Comprehensive measures must also be implemented to establish a robust energy supply guarantee and emergency response system, optimize the energy structure, improve technological capabilities, strengthen strategic reserves, and foster international cooperation. These actions aim to develop a clean, low-carbon, safe and efficient energy system.

2. Importance of Energy Safety

Amidst the accelerating transformation of the global energy structure, new energy technologies, such as battery, solar power, hydrogen, and energy storage systems, are advancing rapidly. However, a fundamental challenge remains: safety. Whether it involves the extraction and utilization of traditional fossil fuels or the research and development, storage, and transportation of new energy sources, safety is the cornerstone of the energy system stability and the key to successful technological implementation.

Currently, research in energy safety and technology is often dispersed across comprehensive journals like energy, chemical engineering, and process control, or published in specialized journals focused on specific energy types, such as fuel, hydrogen, and nuclear energy. This decentralization poses a challenge to the systematic discussion of this interdisciplinary key issue.

3. Journal Description

Energy Safety Science and Technology (*ESST*) is a new multidisciplinary international journal launched by Scilight Press. It aims to serve as a global peer-reviewed platform for energy safety and an authoritative source for analyses, reviews and evaluations related to energy. The journal publishes original research papers, reviews, case studies, and short communications, focusing on areas including but not limited to the following:

- Batteries Safety
- Hydrogen Safety
- Chemicals and Chemical Process Safety
- Oil/Gas Safety
- Coal Mining and Utilization Safety
- Energy Storage System Safety and Risk Management
- Smart Grid and Energy Cybersecurity Protection
- Nuclear Energy Safety and Radioactive Material Management
- Energy Chemical Process Safety and Emergency Management
- Building Energy System Safety and Efficiency Optimization
- Energy Policy and Global Security Governance
- Energy System Resilience Under Extreme Conditions
- AI-Powered Energy Safety and Digital Twin Technology and Application

The journal was initiated by Professor Zhirong Wang (the head of the New Energy Safety Research Team at the College of Emergency Management, Nanjing Tech University), and co-edited by Professor Zhirong Wang and Professor Qingsong Wang from the University of Science and Technology of China. Professor Jennifer Wen, a Fellow of the Royal Academy of Engineering and an authoritative expert in the field of international energy safety, serves as Honorary Editor in Chief. Professor Michael Zhengmeng Hou, Academician of the German Academy of Geosciences and Geotechnical Engineering, is another Honorary Editor in Chief in the field of hydrogen storage safety and nuclear waste repository facilities and safety. Professor Chi-Min Shu from Yunlin University of Science and Technology in Taiwan, Professor Hetang Wang from China University of Mining and Technology, Professor Depeng Kong from China University of Petroleum (East China), Associate Professor Jihao Shi from China University of Petroleum (Beijing), Associate Professor Wenxin Mei from University of Science and Technology of China, Professor Xinyan Huang from Hong Kong Polytechnic University, and Professor Yongjun Ye from South China University serve as executive editors.

This journal serves as a premier platform for scientific and technological research in energy safety, spanning critical domains including oil and gas, coal, batteries and hydrogen fuel cells, hydrogen energy, chemical energy, and nuclear energy. Its scope encompasses safety aspects of energy materials, processes, equipment, and infrastructure, along with storage and transportation facilities. Additionally, it addresses personnel safety behaviors, safe operational protocols and emergency response mechanisms, and artificial intelligence-driven technologies in energy safety and intelligent systems.

This journal is an Open Access (OA) publication, ensuring that all published papers are freely available for download, reading, and citation. This model maximizes the dissemination and exchange of knowledge while fostering the embrace of original and pioneering fundamental research. The journal welcomes high-quality research results across all areas of energy safety related disciplines, addressing diverse energy safety challenges.

4. Types of Submissions

ESST publishes original research articles, including communications, technical notes, and full papers, alongside review manuscripts. Additionally, the journal accepts related commentary and perspectives, literature reviews, and standards derived from the research work.

In conclusion, we are confident that the authors, editorial board members, reviewers, the Scilight Press team, and the young editorial board members worldwide will collectively position *Energy Safety Science and Technology* as a leading venue for scientific research.

Conflicts of Interest

The authors declare no conflicts of interest.

Use of AI and AI-Assisted Technologies

No AI tools were utilized for this paper.

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