



an Open Access Journal by MDPI

## Advances in Natural Gas Hydrate Exploitation, Hydrate Technology, Carbon Capture and Storage

Guest Editors:

**Dr. Kun Ge**

College of Power and Energy  
Engineering, Harbin Engineering  
University, Harbin 150001, China

**Dr. Jiaqi Wang**

College of Power and Energy  
Engineering, Harbin Engineering  
University, Harbin 150001, China

**Dr. Lunxiang Zhang**

School of Energy and Power  
Engineering, Dalian University of  
Technology, Dalian 116024,  
China

Deadline for manuscript  
submissions:

**30 June 2025**

### Message from the Guest Editors

This Special Issue, entitled “Advances in Natural Gas Hydrate Exploitation, Hydrate Technology, Carbon Capture, and Storage”, seeks contributions including basic and applied research, experimental studies, and simulation studies for hydrate-related technologies in the fields of natural gas hydrate exploitation, gas separation, solution concentration, cold storage, desalination, carbon capture, and storage, etc. Papers related to hydrate reaction devices and processes in hydrate-based utilization technologies will also be included. We welcome researchers to submit both original research articles and review papers to this Special Issue. Topics include, but are not limited to, the following:

1. Formation, dissociation, and exploitation of natural gas hydrate;
2. Hydrate-based utilization technology in separation processes and gas storage;
3. Hydrate-based desalination technology;
4. Hydrate-based utilization technology in cold storage with various media and a new hydrate cold storage system;
5. The development of high-efficiency hydrate reaction equipment and continuous hydrate processes;
6. Hydrate-based carbon capture and storage technology;
7. Other cutting-edge applications.



[mdpi.com/si/182787](https://mdpi.com/si/182787)

# Special Issue



an Open Access Journal by MDPI

## Editor-in-Chief

### Prof. Dr. Giancarlo Cravotto

Department of Drug Science and  
Technology, University of Turin,  
Via P. Giuria 9, 10125 Turin, Italy

## Message from the Editor-in-Chief

You are invited to contribute either a research article or a comprehensive review for consideration and publication in *Processes* (ISSN 2227-9717). *Processes* is published in open access format – research articles, reviews, and other content are released on the internet immediately after acceptance. The scientific community and the general public have unlimited, free access to the content. As an open access journal, *Processes* is supported by the authors and their institutes through the payment of article processing charges (APCs) for accepted papers. We would be pleased to welcome you as one of our authors.

## Author Benefits

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), Ei Compendex, Inspec, AGRIS, and other databases.

**Journal Rank:** JCR - Q2 (*Engineering, Chemical*) / CiteScore - Q2 (*Chemical Engineering (miscellaneous)*)

## Contact Us

---

Processes Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/processes](http://mdpi.com/journal/processes)  
[processes@mdpi.com](mailto:processes@mdpi.com)  
[X@Processes\\_MDPI](https://twitter.com/Processes_MDPI)