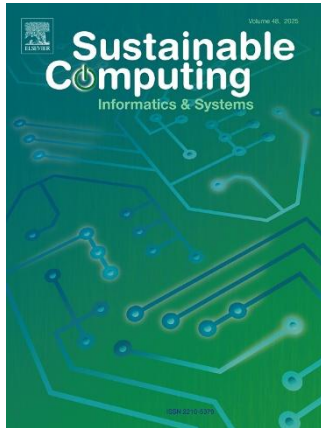


## CALL FOR PAPERS

### **Sustainable Computing: Informatics and Systems**



**Special Issue Title:** Carbon-Conscious Optimization and Advanced Control Strategies in Sustainable Computing Systems

**Web site:** <https://www.sciencedirect.com/journal/sustainable-computing-informatics-and-systems>

#### **Summary**

Computing systems, ranging from cloud data centers to edge computing systems, have been experiencing explosive growth and ever-increasing complexity triggered by artificial intelligence (AI) and big data. Although these emerging trends may provide significant benefits in various aspects of human lives and communities, they may, on the other hand, lead to an increase in energy consumption of computing systems, which would eventually result in contributing to substantial amounts of increase with respect to carbon emissions. Carbon-optimization and control techniques address the integration of environmentally-informed decisions, such as carbon footprint considerations, into design and control decisions of computing systems so that efficient and sustainable usage of computing resources can be achieved. Carbon-aware computing is largely relevant to the topics of sustainable computing and energy-aware resource management of sustainable computing.

Accordingly, the current Special Issue encourages research contributions that can improve techniques for **carbon footprint estimation and mitigation in computational processing and system designs** through optimization approaches, control theories, mathematical models and data analytical solutions. The Special Issue, therefore, aims at identifying solutions that can lead to greater efficiency while emphasizing applicable approaches that consider carbon intensity, renewable power incorporation as well as system operations. Such research interests will range from algorithm development to applications related to renewable power scheduling and efficient system operations toward optimizing computational processes, handling strategic challenges, generating tactical solutions and providing implementable future directions.

Featuring selected papers from ICAME'26 (<https://icame.balikesir.edu.tr>), this Special Issue also invites submissions that align with the journal's aim and scope.

The topics of interest that the special issue primarily focusses on are:

- Carbon-conscious scheduling and resource allocation in cloud, edge and distributed systems
- Optimization models aiming to minimize carbon footprint and performance costs
- Mathematical modeling of the carbon cost of computing tasks
- Algorithms for minimizing energy and heat consumption while considering carbon sources
- Machine learning for carbon prediction and proactive optimization in computing systems
- Effective control strategies for dynamic power and carbon management
- Physics-informed machine learning for efficient use of computational resources
- Bio-inspired scheduling algorithms for low carbon computing

All other topics outside these primary focussed areas will be considered strictly on a case-by-case basis, and only where a strong and explicit connection to carbon-aware computing and sustainable computational optimization is demonstrated.

Date CFP published online: August 15, 2026  
Date of expected first submission: November 1, 2026  
Manuscript submission deadline: February 15, 2027  
Date first review round completed: June 1, 2027  
Date revised manuscripts due: November 15, 2027  
Date completion of the review and revision process (final notification): December 15, 2027

The papers should be prepared conforming to the [Author Guidelines](#) of *Sustainable Computing: Informatics and Systems (SUSCOM)* and carry the basic standards of the journal. When submitting your manuscript please select the article type “VSI: CAOC”.

The papers submitted must be original and should not have been previously published nor be currently under consideration for publication elsewhere. All submissions will go through a rigorous peer-reviewing process based on the high standards of *Sustainable Computing: Informatics and Systems (SUSCOM)*. In particular, extended submissions are expected to include a very high level of novelty, typically corresponding to at least 80% new or significantly revised content. Minor revisions, cosmetic changes, or limited additions will not be considered sufficient for journal publication.

In addition, submissions will be evaluated primarily with respect to their alignment with the scope of SUSCOM, and secondly according to their relevance to the specific theme and central pillars of the proposed special issue. Papers that fall outside the journal scope or do not demonstrate a strong connection to the special issue theme may be rejected without external review.

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