

Editorial

Introduction to Bioresource Circularity & Carbon Neutrality: An Editorial

Sonil Nanda

Department of Engineering, Faculty of Agriculture, Dalhousie University, Truro, Nova Scotia B2N 5E3, Canada;
sonil.nanda@dal.ca

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I am excited to introduce *Bioresource Circularity & Carbon Neutrality (BCCN)*, a multidisciplinary, peer-reviewed journal committed to promoting scientific excellence and innovative transformations at the intersection of sustainable bioresource use, circular economy practices, environmental protection, and climate action. As communities face the interconnected issues of resource depletion, environmental deterioration, and climate change, the demand for cohesive, scalable, and scientifically validated solutions has become increasingly critical.

We are entering a pivotal era in which sustainability has evolved from a goal into a necessity. The rising need for food, energy, water, and materials, combined with the increasing pressure to cut greenhouse gas emissions, is prompting governments, industries, and communities to reconsider traditional production and consumption models. Moving from a linear economy based on resource extraction, consumption, and waste disposal to a regenerative and circular bioeconomy offers a promising way to align economic development with environmental accountability. In this context, *BCCN* serves as a platform for knowledge sharing and innovation that supports the sustainable management of biological resources while advancing global carbon neutrality objectives. The journal encourages interdisciplinary research that transforms biomass, waste, and residual materials into valuable products, energy carriers, and environmental solutions. We invite submissions that advance our understanding of how circular resource systems can boost resource efficiency, minimize environmental impacts, and support climate mitigation and adaptation.

The journal primarily focuses on the circular use of bioresources. We welcome original research articles, reviews, perspectives, technical notes, and policy analyses on biomass valorization, biorefinery systems, and waste-to-value strategies that explore the potential of agricultural, forestry, aquatic, municipal, industrial, and other biogenic waste products and byproducts. We pay special attention to innovative methods for creating bio-based fuels, chemicals, materials, and functional items, as well as designing circular biomaterials that extend resource lifecycles and reduce reliance on fossil-fuel-derived alternatives. Through these initiatives, bioresources can drive sustainable industrial change and resource circularity.

Achieving carbon neutrality and advancing low-carbon technologies are central to the journal's mission. To reach net-zero emissions, it is essential to significantly lower greenhouse gas emissions and implement effective carbon-removal methods. *BCCN* promotes research into carbon capture, utilization, and storage technologies, including biological, chemical, and hybrid systems that integrate renewable carbon sources into industrial and environmental applications. We particularly acknowledge the growing importance of biochar, hydrochar, activated carbon, and similar carbon-rich materials for carbon sequestration, pollution mitigation, and enhanced climate resilience. We strongly encourage submissions that explore negative-emission technologies, carbon farming, nature-based solutions, and bioresource-enabled pathways for decarbonization across various industrial sectors.

Recognizing that technological innovation must be supported by well-established evaluation frameworks, the journal strongly emphasizes environmental sustainability and systems analysis. Quantitative evaluations such as lifecycle assessment, techno-economic analysis, sustainability metrics, and circular-economy modeling offer essential insights into the environmental, economic, and social impacts of emerging technologies. Research on



emissions accounting, climate impact assessment, systems optimization, and sustainability metrics is crucial to ensure proposed solutions deliver real, long-term benefits and support evidence-based decision-making.

Another vital aspect of the journal is environmental remediation using materials derived from bioresources. Developments in biomass conversion and materials engineering are opening new avenues for creating high-performance sorbents, catalysts, and functional materials that can tackle urgent environmental issues. *BCCN* welcomes research on bioresource-derived materials aimed at water purification, soil restoration, air pollution control, and ecosystem rehabilitation. We are especially interested in innovative nanostructured and advanced biobased materials that combine environmental treatment with resource recovery, renewable energy production, and carbon management. Beyond scientific and technological progress, achieving circularity and carbon neutrality requires supportive institutional and societal frameworks. Accordingly, the journal invites research on the policy, governance, and socio-economic aspects of sustainable transitions. Areas of interest include policies supporting the circular bioeconomy, national and international climate initiatives, regulatory frameworks, sustainability standards, and mechanisms that encourage the adoption of low-carbon technologies.

BCCN aims to serve as an international platform where researchers, engineers, environmental experts, policymakers, and industry leaders can share insights, offer innovations, and develop comprehensive solutions. By promoting interdisciplinary discussion, *BCCN* seeks to close gaps between basic science, technological advances, practical implementation, and policy formulation. As an open-access publication, *BCCN* also focuses on ensuring scientific knowledge is available to everyone. Open access not only expands the reach of scientific findings but also enables stakeholders from academia, government, industries, and civil society to turn knowledge into action.

The effectiveness of *BCCN* will ultimately depend on the strength, diversity, and engagement of its academic community. I sincerely thank the Editorial Board members, reviewers, authors, and readers whose knowledge and dedication will help guide the journal's future. Their contributions will play a crucial role in positioning the journal as a premier platform for promoting research that fosters environmental sustainability, resource circularity, and climate neutrality. On behalf of the *BCCN* editorial team, I enthusiastically encourage researchers and professionals worldwide to submit their work and join us in cultivating a dynamic intellectual community focused on developing sustainable and regenerative solutions for the future. Together, we can advance the science, technologies, policies, and practices essential for achieving a circular bioeconomy and a carbon-neutral planet. As Editor-in-Chief, I see *Bioresource Circularity & Carbon Neutrality* as more than just a scientific journal. It drives innovation, cooperation, and transformational thinking at the crossroads of bioresources, circular systems, and climate action. We are eager to support a global community that is not only addressing environmental challenges but also actively influencing the pathways toward a more resilient and sustainable future.

Conflicts of Interest

The author declares no conflict of interest.

Use of AI and AI-Assisted Technologies

No AI tools were utilized for this paper.