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Editorial

Editorial: Advancing Green Technology and Innovation for a Low-Carbon Future

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ABSTRACT

The accelerating impacts of climate change, resource depletion, and rapid urbanisation demand urgent and transformative responses grounded in technological innovation and sustainable practice. Green Technology & Innovation (GTI) serves as an international, peer-reviewed platform for advancing research and applied solutions that support the global transition toward low-carbon, resilient, and environmentally responsible systems. This editorial outlines the journal's scope, interdisciplinary orientation, and commitment to fostering impactful research that bridges engineering innovation, policy relevance, and real-world implementation.

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1. INTRODUCTION

Global efforts to mitigate climate change and promote sustainable development increasingly depend on advances in green technologies and innovative engineering solutions. From renewable energy systems and energy-efficient buildings to circular economy models and climate-resilient infrastructure, technological innovation plays a central role in shaping a sustainable future. At the same time, these challenges are complex and interconnected, requiring collaboration across disciplines, sectors, and geographic contexts.

Green Technology & Innovation is established to address this need by providing a dedicated scholarly

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forum for high-quality research and applied studies that contribute to the development, evaluation, and implementation of sustainable technologies. The journal recognises that effective solutions must combine technical excellence with environmental responsibility, economic viability, and social relevance.

2. SCOPE AND INTERDISCIPLINARY FOCUS

GTI publishes original research articles, reviews, and case studies that advance knowledge across a broad range of green technology and sustainability-related fields. While the journal maintains a strong foundation in engineering and applied sciences, it actively encourages interdisciplinary contributions that integrate technological innovation with planning, policy, and socio-economic analysis.

Key areas of interest include, but are not limited to:

- Renewable energy technologies, including solar, wind, geothermal, and biomass systems
- Energy storage, conversion, and smart grid technologies
- Low-carbon and zero-energy buildings
- Sustainable urban development and green infrastructure
- Circular economy approaches and climate-resilient design
- Energy efficiency in buildings and industrial systems
- Water efficiency, waste management, and resource recovery
- Carbon capture, utilisation, and sequestration
- Sustainable transport systems
- Life cycle assessment and socio-economic evaluation of green technologies

By welcoming both traditional and emerging approaches, the journal seeks to support innovation across the full lifecycle of sustainable technologies—from concept and modelling to deployment and performance assessment.

3. EDITORIAL PRINCIPLES AND PUBLISHING APPROACH

Green Technology & Innovation is committed to rigorous peer review, research integrity, and transparency. Submitted manuscripts are evaluated based on technical quality, originality, methodological soundness, and relevance to sustainable development challenges. Particular emphasis is placed on work that demonstrates clear implications for real-world application or policy development.

As an open access journal, GTI aims to ensure that published research is accessible to a wide audience, including researchers, engineers, industry practitioners, and decision-makers. Contributions that align with the United Nations Sustainable Development Goals (SDGs) are especially encouraged, reflecting the journal's global outlook and commitment to inclusive and equitable development.

4. LOOKING AHEAD

This editorial sets the direction for Green Technology & Innovation as a platform for advancing research and dialogue at the forefront of sustainable technology. Future issues will feature peer-reviewed contributions that explore emerging innovations, assess system-level impacts, and critically examine pathways toward a low-carbon and sustainable future.

The editorial team invites researchers and practitioners worldwide to contribute their work and to engage in collaborative efforts that advance green technologies and innovative solutions for the benefit of society and the environment.