Introducing Cambridge Materials

The urgent global challenges of climate change, resource depletion, health inequities, and energy security underscore the need for a multidisciplinary research approach that supports sustainable development. Addressing these issues aligns closely with the United Nations Sustainable Development Goals (SDGs), particularly those that focus on ensuring access to clean energy (SDG 7), promoting good health and well-being (SDG 3), fostering industry innovation and infrastructure (SDG 9), ensuring responsible consumption and production (SDG 12), and taking action to combat climate change (SDG 13). Existing, and more traditional, academic publishing often segregates scientific, technological, and social research. To meet the SDGs, cross-disciplinary journals dedicated to meeting these challenges are essential. The *Cambridge Materials* journals suite will publish high-quality research that integrates material science innovations with environmental, life cycle, economic, social, and policy considerations, thereby bridging knowledge gaps and supporting impactful solutions.

The journal suite will focus on the development, deployment, and societal impact of sustainable materials, serving as an authoritative platform for groundbreaking research, while also facilitating policy dialogue, fostering social awareness, and promoting responsible innovation to meet global targets.

Cambridge Materials will…

1. **Promote cross-disciplinary collaboration for the SDGs**: Recognizing that these challenges are multifaceted, the journals will emphasize research that spans material science, engineering, social sciences, and policy. This interdisciplinary platform will encourage new partnerships that are vital for achieving SDGs related to energy (SDG 7), health (SDG 3), industry innovation (SDG 9), responsible consumption (SDG 12), and climate action (SDG 13).

2. **Highlight high-impact research in sustainable materials**: The journals will prioritize studies on renewable, recyclable, or biodegradable materials, materials for green energy, materials for water purification, and innovations in medical materials. By emphasizing translation potential, the journals will also support the broader adoption of these materials in diverse contexts.

3. **Enhance accessibility and public engagement**: By adopting open research practices, including the open access model, the journals will ensure that research is widely accessible, maximizing its reach and supporting collaborative efforts across academia, industry, and governmental bodies.

4. **Provide a platform for trustworthy, high-quality, interdisciplinary research:** Our ability to achieve the SDGs depends on rigorous, trustworthy peer-reviewed research that meets the highest standards of quality. The proposed journal suite will maintain a stringent peer-review process, ensuring that published research is innovative,

impactful, and relevant. Open data and open peer review policies will underscore the reliability of the research.

While some journals focus on specific aspects of material science, energy, or health, few integrate the social, policy, and economic perspectives essential for achieving true impact and informing the policy agenda. Existing materials journals often lack the multidisciplinary scope necessary to tackle complex sustainable development issues. The proposed journal suite will bridge these gaps, creating a holistic view of how materials can support a range of goals and improve our lives.

Cambridge Materials will include four journals

Three Executive Editors-in-Chief will lead the Executive Editorial Board:

- Professor David Haddleton, University of Warwick, UK
- Professor Jason Robinson, University of Cambridge, UK
- Professor Yadong Yin, University of California, Riverside, USA

Each of the *Cambridge Materials* journals will be led by an Editor-in-Chief:

- *Cambridge Materials: Water* – Dr Seth Darling, Argonne National Laboratory, USA
- *Cambridge Materials: Health* – Professor Vincent Rotello, UMass Amherst, USA
- *Cambridge Materials: Circularity* – Professor Veena Sahajwalla, UNSW, Australia
- *Cambridge Materials: Energy* – Professor Tierui Zhang, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, China

Journal scopes

Each journal will align with the objectives of the series and, while the journals as a whole are multidisciplinary, individual articles are not required to be multidisciplinary. Submissions may focus within a specific discipline, provided the work clearly contributes to the broader goals of each journal.

Cambridge Materials: Health

Cambridge Materials: Health will focus on research on biomaterials, medical device innovations, and health-related applications of materials science, with an emphasis on accessibility, ethics, and public health. The journal aligns with multiple United Nations Sustainable Development Goals (SDGs), including:

- SDG 3 – Good Health and Well-being
- SDG 6 – Clean Water and Sanitation
- SDG 9 – Industry, Innovation, and Infrastructure
- SDG 12 – Responsible Consumption and Production
- SDG 13 – Climate Action
- SDG 17 – Partnerships for the Goals

The scope will cover materials research into:

- Materials and devices for biomedical applications, including drug and gene delivery
- Biointerfaces and membranes
- Nanomedicine and nanotechnology
- Tissue engineering and regenerative medicine
- Biofabrication
- Devices for healthcare applications and personalised medicine
- Materials for imaging
- Materials in vaccines
- Sustainability of healthcare materials
- Regulation of new materials for healthcare applications

> "Cambridge Materials: Health *will provide an integrated platform for health-related materials. I am excited by the fact that the journal will be a "peer flagship" journal, highlighting the importance of the research. I'm also looking forward to providing a community, building through incorporation of policy and social studies materials."*
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> **Professor Vincent Rotello**

Cambridge Materials: Water

Cambridge Materials: Water will focus on cutting-edge studies on materials for water purification, filtration, desalination, and waste treatment. This journal will emphasize innovations that address environmental impact, resource efficiency, and socio-economic feasibility. The journal aligns with multiple United Nations Sustainable Development Goals (SDGs), including:

- SDG 3 – Good Health and Well-being
- SDG 6 – Clean Water and Sanitation
- SDG 9 – Industry, Innovation, and Infrastructure
- SDG 11 – Sustainable Cities and Communities
- SDG 12 – Responsible Consumption and Production
- SDG 13 – Climate Action
- SDG 17 – Partnerships for the Goals

The scope will cover materials research into:

- Water treatment
- Water purification
- Water remediation
- Water sanitation
- Water desalination
- Resource recovery (materials and nutrients) from water
- Resource recovery (energy) from water

- Sensing in water

> *"So many of the challenges we face in water, whether it's addressing persistent contaminants like PFAS, mitigation of ubiquitous fouling, or opportunities to recover valuable resources from seawater or wastewater, depend on innovations in materials. Membranes, sorbents, sensors, catalysts, electrodes, and other materials-based technologies are the foundation of solutions to these challenges. Research is these domains is spread across many different journals today, making it difficult for researchers to stay abreast of the latest advances.* Cambridge Materials: Water *is an opportunity to bring this entire community together to accelerate progress on one of the most pressing and universal of society's sustainability goals."*
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> **Dr Seth Darling**

Cambridge Materials: Energy

Cambridge Materials: Energy will focus on advanced materials for renewable energy technologies, energy storage solutions, and efficiency improvements, with studies that also address social and economic impacts. The journal aligns with multiple United Nations Sustainable Development Goals (SDGs), including:

- SDG 7 – Affordable and Clean Energy
- SDG 9 – Industry, Innovation, and Infrastructure
- SDG 11 – Sustainable Cities and Communities
- SDG 12 – Responsible Consumption and Production
- SDG 13 – Climate Action
- SDG 17 – Partnerships for the Goals

The scope will cover materials research into:

- Photovoltaics
- Batteries and supercapacitors
- Fuel cells
- Hydrogen generation and storage
- Thermoelectrics
- Photo(thermo)catalysis
- Electrocatalysis
- Solar fuels and solar power
- Nuclear energy
- Geothermal energy
- Bioenergy

"The launch of Cambridge Materials: Energy *by Cambridge University Press marks a significant milestone for the scientific community, providing a dedicated platform at the intersection of materials science and energy research - two pivotal fields in addressing global challenges such as climate change and energy sustainability. This journal aims to drive interdisciplinary collaboration and innovation in cutting-edge areas like advanced energy storage systems, renewable energy materials, and sustainable energy solutions. Leveraging Cambridge University Press's reputation for rigorous peer review and its commitment to accessibility through potential open-access policies, the journal will ensure the dissemination of impactful, high-quality research to a global audience. It will also serve as a hub for emerging fields, including perovskite solar cells, hydrogen production, storage, and utilization, next-generation energy generators, and advanced energy storage technologies. By fostering the exchange of breakthroughs,* Cambridge Materials: Energy *is poised to shape the future of sustainable materials and energy technologies, offering the research community a vital space to collaborate and innovate."*

Professor Tierui Zhang

Cambridge Materials: Circularity

Cambridge Materials: Circularity will be an interdisciplinary journal combining materials science, social science, environmentally sustainable technologies, and policy studies, highlighting research on responsible production and re-manufacturing, climate resilience, and waste and recycling innovation. The journal aligns with multiple United Nations Sustainable Development Goals (SDGs), including:

- SDG 9 – Industry, Innovation, and Infrastructure
- SDG 12 – Responsible Consumption and Production
- SDG 13 – Climate Action
- SDG 7 – Affordable and Clean Energy
- SDG 11 – Sustainable Cities and Communities
- SDG 6 – Clean Water and Sanitation
- SDG 17 – Partnerships for the Goals

The scope will cover materials research into:

- Circularity – Material flows for closed-loop systems through rethinking and redesigning the innovative technologies
- Design – Eco-friendly design principles
- Recyclability – Engineering products for efficient end-of-life recovery
- Remanufacturing – Manufacturing green products using waste as a feedstock
- Renewable Materials – Recovering materials from end-of-life products using principles of chemistry, biology, and physics to enable sustainable, science-driven solutions
- Green Products – Designing and labelling products made from recycled materials

- Innovative Technologies – Fit-for-purpose, aligning recycling and remanufacturing, decentralising production
- Material Supply Chains – Creating resilient, transparent, and circular supply chains for sustainable material sourcing, processing, and remanufacturing
- Responsibility – Implementing Extended Producer Responsibility (EPR) policies
- Policy – Legislative reforms to support circular materials transitions, including regulatory frameworks, economic instruments, and community-based governance
- Life Cycle Assessment (LCA) – Evaluating environmental impact across the product's life span
- Collaborative Economies – Fostering collaboration between research, industry, government, and local communities for value creation for enhance resource efficiency
- Waste Valorisation – Converting various forms of waste into sustainable materials through advanced technology
- Sustainability and Bio-based Materials – Developing and promoting materials derived from bio-based resources, designed for minimal environmental impact and long-term ecological balance
- Engineering Integration and Translation – Bridging research with practical implementation through engineering design, systems integration, and scalable solutions
- Artificial Intelligence and Machine Learning – Leveraging AI and ML to optimize material recovery, circular supply chains, predictive modelling, and smart design for sustainability
- Social Science Integration – Exploring behavioural, economic, and cultural dimensions of materials use, waste systems, and the adoption of circular practices

"I am delighted to take on the role of Editor-in-Chief for the new journal Cambridge Materials: Circularity *as part of efforts to raise the profile of the importance of research and the development of technologies to keep our materials in circulation for as long as possible and out of waste streams and harmful disposal. All end-of-life products—whether electronics, vehicles, batteries, textiles, or solar panels—must be seen not as waste, but as untapped resources rich in embedded value. This effort is a crucial part of global decarbonisation efforts and will help ensure the materials needed for future electrification expansion are sustainably used. I truly believe that circularity begins not at the end, but at the point of creation—and this journal will help reimagine how we design, recover, and remanufacture materials for a better future."*

Professor Veena Sahajwalla

Key features of *Cambridge Materials*

Themed collections on SDG milestones

We will organize special issues on topics such as climate resilience, green manufacturing, and public health materials to support targeted SDG initiatives. We will invite policymakers to write informative articles and opinion pieces to stimulate discussion. Articles from across the

Cambridge Materials portfolio and the wider Cambridge portfolio can be included for maximum visibility and impact.

Emphasis on SDG-focused research

Each journal will include sections dedicated to social impact, and policy relevance. An impact statement in each article will highlight the relevance of the research to addressing global challenges and the translational considerations required to enable successful scaling, integration or implementation of new materials and systems.

Open research and global accessibility

By adopting an open access model, the journals will maximize the reach of SDG-aligned research, encouraging international collaboration and public engagement to address shared sustainability challenges. We anticipate the majority of articles will be covered by our transformative agreements with authors' institutions and a generous waiver policy will support authors who do not have access to publishing funds.
To improve transparency and encourage collaboration, we will require that data supporting each article is openly available.

High-quality, rigorous and trustworthy

Each journal will maintain high-quality editorial standards, with a diverse board that includes experts in material science, social sciences, and policy, ensuring that published research meets the highest standards of relevance. To further support the transparency and integrity that are at the heart of open research, the journals will offer open peer review to encourage constructive dialogue and inspire collaborations.

Excellent author service

The Editors-in-Chief, Associate Editors and Editorial Board members will be complemented by professional publishing staff. This combined team will ensure authors receive prompt publications times as well as timely and informative communications. Authors will be supported at every stage of the process, particularly for the important open research elements with: advice on depositing and reference data; providing information on Cambridge's far-reaching transformative agreement programme; providing information for the Cambridge Open Equity Initiative and waiver policies.

We will also support authors to demonstrate the impact of their published research through impact summaries and article promotions and will investigate the implementation of article-level metrics on Cambridge Core.

A not-for-profit University Press

These journals will benefit from the reputation for quality and trustworthiness that Cambridge University Press invokes, as a department of the University of Cambridge and a not-for-profit publisher.