Cambridge Prisms: Carbon Technologies

www.cambridge.org/cat

Introducing *Cambridge Prisms: Carbon Technologies*

Cao-Thang Dinh[1]* and F. Pelayo García de Arquer[2]*

[1]Department of Chemical Engineering, Queen's University, Kingston, ON, Canada and [2]ICFO–Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology, Barcelona, Spain

Editorial

Cite this article: Dinh C-T and García de Arquer FP (2025). Introducing *Cambridge Prisms: Carbon Technologies*. *Cambridge Prisms: Carbon Technologies*, **1**, e2, 1–2
https://doi.org/10.1017/cat.2025.10002

Received: 31 March 2025
Revised: 31 March 2025
Accepted: 31 March 2025

Corresponding authors:
Cao-Thang Dinh and F. Pelayo García de Arquer;
Emails: caothang.dinh@queensu.ca;
pelayo.garciadearquer@icfo.eu

Chief Editors of Carbon Technologies

To abate climate change and enable sustainable societies, we need a fast and profound transformation of our industries and material and energy sources that can sustain global decarbonization. This entails the development and deployment of new science and disruptive technologies across many sectors, as well as the remapping of existing supply chains. Salient examples of these are carbon capture, storage and utilization technologies, here referred to as *Carbon Technologies*.

Intense fundamental and applied research, as well as engineering in these technologies, is paramount to achieve a timely decarbonization.[1] Achieving faster innovation cycles will also be crucial[2] to meeting global target emissions in 2050.[3] To this end, we believe in the importance of aligning research efforts toward the economic, environmental and societal viability of these technologies – a cumbersome challenge where every little count.

Scientific progress is a global endeavor built upon the collective contributions of researchers worldwide. This advancement is traditionally driven by the exchange of ideas through conferences and peer-reviewed publications, where scientific and technical findings undergo rigorous scrutiny, refinement and validation. These publications should not only consolidate knowledge but also serve as reliable foundations and catalysts for future discoveries.

In this cycle, scientific journals play an important role, and there are numerous of them. Why then *yet*, another journal? After all, there may be already plenty of journals where you could try to publish research.

We believe, however, that journals can be lighthouses, and we believe that such a lighthouse is especially needed in the field of carbon technologies. One where bridging the gap between fundamental and applied research toward scalable and reliable solutions is both urgent and essential.

As such, we are excited to embark on this adventure *with you*. Our journal aims to bridge the gap between exciting lab-scale discoveries and pragmatic, applied impact where it is most needed. This brings a focus on aspects that are crucial in the path to achieve innovation, such as reliability, stability, scalability, policy and social acceptance – among others – which are often elusive in other journals. *The vision and mission of Carbon Technologies is to contribute nurturing works that offer a clear and quantifiable advance in these areas.*

This means that we will be hosting transversal and multidisciplinary research. The scope of Carbon technologies seeks to enact progress in the following areas.

Carbon capture: including progress in conventional methods (e.g., physical and chemical), but also emerging geological, biological and photo-electrochemical approaches.

Utilization and recycling: covering the transformation of captured carbon vectors into chemicals, fuels and materials manufacturing.

Transportation and storage: covering a variety of storage media, including soil and mineral, ocean storage, coal beds, as well as deep aquifers.

Large-scale implementation: covering aspects related to plants and prototypes, reliability and scalability, risk assessment, integration, as well as monitoring, verification and validation.

Impact and sustainability: covering aspects related to energy consumption, carbon footprint, economic impacts, as well as biodiversity.

Societal impact and policy: covering public-private partnership, governance and equity, public awareness and perceptions, guidance and incentives as well as international collaborations.

These topics are articulated through an editorial board comprising emerging and consolidated experts (scientists, engineers and innovators) in these transversal disciplines.

We are looking forward to working with you, pushing the boundaries of carbon technologies toward sustainable society.

Open peer review. To view the open peer review materials for this article, please visit https://doi.org/10.1017/cat.2025.10002.

Author contribution. Both authors contributed equally to this work.

Financial support. FPGA is grateful for the support from CEX2019-000910-S (MCIN/AEI/10.13039/501100011033), Fundació Cellex, Fundació Mir-Puig and Generalitat de Catalunya through CERCA.

Competing interests. No conflict of interests.

References

1. Outlook. https://www.irena.org/Energy-Transition/Outlook.
2. Clean energy innovation needs faster progress – Clean Energy Innovation – Analysis – IEA. https://www.iea.org/reports/clean-energy-innovation/clean-energy-innovation-needs-faster-progress.
3. The Paris Agreement – Publication | UNFCCC. https://unfccc.int/documents/184656.

https://doi.org/10.1017/cat.2025.10002 Published online by Cambridge University Press