



Recent Advances in Chemical Looping Combustion

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Message from the Guest Editors

Chemical looping (CL) processes refer to technologies able to convert energy whilst reducing carbon dioxide (CO₂) emissions. Although the technological principles are well-developed, practical and extensive adoption of CL at the industrial scale is hindered by a number of technical and economic challenges that current research efforts are trying to address. Among those challenges, the development of efficient, reliable, and cost-effective metal oxygen carriers, including both synthetic metal oxides and natural ores, is undoubtedly one of most relevant areas of investigation.

The redox process, at the core of any CL technology, has been shown to be relevant to a number of additional applications, such as energy storage, steam reforming, and olefin production. By presenting some of the latest research developments in the field of CL processes, we hope that additional research will flourish, contributing to the advancement of this exciting technology.





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