

## Special Issue

# Application of Supercritical Carbon Dioxide Power Cycles for Thermal Energy Storage

### Message from the Guest Editors

High efficiency, flexibility, and competitive capital costs make supercritical CO<sub>2</sub> (sCO<sub>2</sub>) systems a promising technology for renewable power generation in a low carbon energy scenario. Recently, innovative supercritical systems have been studied showing promising superior techno-economic features than steam cycles or ORC, particularly at high temperatures. Currently, our first experimental experiences are aiming to explore sCO<sub>2</sub> Brayton power plants and their coupling with power systems with low carbon heat sources, such as waste heat, concentrated solar energy, and geothermal. Application of Supercritical Carbon Dioxide Power Cycles for Thermal Energy Storage is a Special Issue for those who would like to publish original papers about technologies, models, and methodologies that could strengthen sCO<sub>2</sub> power cycles development. This Special Issue aims at presenting important results of work in sCO<sub>2</sub> advanced energy systems and their application for energy storage purpose. Works can be applied research, development of new procedures, energy systems (at cycle innovation and components level), original application of existing knowledge, or new design and modelling approaches.

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### Guest Editors

Dr. Rafael Guédez  
Dr. Silvia Trevisan  
Dr. Stefano Barberis

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### Deadline for manuscript submissions

closed (30 April 2024)



## Applied Sciences

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### Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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### Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo  
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