



## Materials and Devices for Electrochemical Energy Storage and Conversion

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Deadline for manuscript  
submissions:

**closed (15 August 2023)**

### Message from the Guest Editor

Dear Colleagues,

EU energy policies indicate the achievement of neutrality in greenhouse gas emissions by 2050 as a long-term strategy. The production of electricity from renewable energy sources is, therefore, a key factor when it comes to heating, transport, and industry; therefore, one has to imagine either the direct use of electricity or the indirect use through the production of e-fuels by electrolysis (e.g., e-hydrogen, methane)

Power-to-X technologies make it possible to transform electricity into synthetic gases (hydrogen, methane, or other gases) and liquids. Hydrogen produced with carbon-free electricity, combined with carbon dioxide (CO<sub>2</sub>) from sustainable biomass or direct air capture, can be a zero-carbon alternative to natural gas or oil.

This Special Issue deals with the development of materials and devices for electrochemical energy storage and conversion (electrolysis cells, co-electrolysis cells, photoelectrolysis cells, fuel cells, batteries, etc.).

