Special Issue

Climate Changes and Energy Markets

Message from the Guest Editor

Since the Paris Agreement, decarbonisation strategies have been in preparation. The aim is to achieve deep emission reductions, where the goal is to reach zero or even negative CO2 emissions by 2050. Electricity shall become a carbon-free carrier to reduce emissions in otherwise inflexible sectors, notably in transport and heat uses. It is likely that the power sector will also produce carbon-free fuels, to replace fossils eventually. The volume of power generation may increase considerably. The dispatchable carbon-free sources, such as nuclear and carbon capture and storage, have limitations in many countries. Therefore, the challenge for the power sector is to integrate large amounts of variable renewables while preserving reliability. Highly dispersed generation, prosumers, aggregators of renewables, highly interconnected multiple-country markets, grid expansion, batteries and interplay with solar PV and electric cars, chemical storage through power-to-X, business models for producing the clean fuels, and tariff setting methods are among the relevant issues.

Guest Editor

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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