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Eco-Efficiency of the Transition from Coal Mining to Green Energy

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Deadline for manuscript submissions:
closed (31 December 2022)

Message from the Guest Editors

This Special Issue is devoted to the current challenges and the latest developments in widely understood eco-efficient transition from traditional coal mining industry to the industry based on green energy. Papers dealing with engineering, process integration, eco-efficiency, and environmental issues related to the transformations aiming at repurposing of carbon intensive coal-fired power plants into less polluting gas-fired or biomass-fired power plants, in particular papers addressing the question to what extent the replacement of coal with natural gas and/or biomass is environmentally sound. The papers devoted to the green electricity generation in systems based on PV and wind power, as well as utilization of surplus green electricity in water electrolysis to provide hydrogen for carbon dioxide conversion into value-added products (Power-to-X technologies); thermochemical conversion of biomass/biowaste/sewage sludge, as well as methane pyrolysis into hydrogen and carbon. Additionally, the papers focused on repurposing of end-of-life coal mines by deploying emerging renewable energy and circular economy technologies to promote transition to green energy are encouraged.

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Message from the Editor-in-Chief

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