
Editorial

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Biographical notes: Arif Hepbasli has dealt with energy-related studies for 41 years, of which ten years were spent in industry while the remainder by working in different universities. Some of his research covers energy and exergy-based analyses and assessments of thermal systems, energy/exergy efficiency and management and sustainable energy technologies. He is the Certified Industrial Manager and has authored and co-authored more than 670 conference and journal papers. He has chaired/co-chaired many national and international conferences, symposia, workshops and technical meetings. He has served as a consultant in cases involving his research area and is also a member of the editorial board in various prestigious international journals.

The number of exergy-based analysis and assessment studies has recently significantly increased due to better understanding of their benefits compared to energetic ones. In this regard, novel exergy-based definitions, terms, performance indicators and systems have been developed and proposed by different investigators. Through the use of exergetic methods and tools, potential improvements in components or processes along with the whole system can be clearly identified. Exergy is considered a way to sustainability while it plays a big role in developing sustainable energy technologies.

This special issue consists of selected papers from the TUBA World Conference on Energy Science and Technology (TUBA WCEST-2021), which was held online virtually between 8 and 12 August 2021. Turkish Academy of Sciences (TUBA) aims at promoting and supporting science and scientists with projects, research activities, scientific meetings, and reveals books and reports with working groups in an interdisciplinary manner. We selected over 14 papers, of which 7 were included in this special issue based on a rigorous peer-reviewing process, with the title ‘The role of exergy in energy science and technology’. The event covered 29 plenary/keynote speakers, 27 invited speakers and over 121 general speakers in various areas of energy science and technology for bringing/connecting internationally renowned researchers and scientists, leading policymakers and strategists, and society presidents and committee chairs. Two panel discussion sessions on ‘Energy, environment and economy’ and ‘Energy and education’ were also done by the leading experts.

Finally, I would like to take this opportunity to express my sincere appreciation to the plenary/keynote and invited speakers, executive organising committee, track and session chairs, reviewers, all contributing authors, the complete team of the TUBA WCEST-2021, and the editorial team of Inderscience. Special thanks are to Conference General Chair Prof. Dr. Muzaffer Seker (President of TUBA) and TUBA Conference Chair Prof. Dr. Ibrahim Dincer (Chair of Energy Working Group at TUBA) for their continued support and kind efforts.