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## Editorial

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**Biographical notes:** Yusuf Bicer is an Assistant Professor of the Division of Sustainable Development in College of Science and Engineering at Hamad Bin Khalifa University in Doha, Qatar. His research area focuses on solar energy utilisation in various processes, clean fuel production, and the development of renewable-based integrated energy systems. He received his PhD in Mechanical Engineering from the University of Ontario Institute of Technology in Oshawa, Canada. He completed his BS in Control Engineering in 2012 and Master's in Energy Science and Technology in 2014 at the Istanbul Technical University, Turkey.

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Energy is at the heart of many disciplines ranging from environment, water to food. We all know that efficient energy conversion leads to a reduction in emissions and costs. The ultimate target of intensive research efforts is to achieve sustainable development through energy and exergy conservation. Several aspects of energy are considered jointly including resources, society, technology, environment and economy, to propose a sustainable transition from fossil fuels to clean and renewable energy. This special issue on 'Exergetic solutions for better environment' contains 17 papers, which were selected from the 12th International Exergy, Energy, and Environment Symposium (IEEEES-12), virtually organised during 22–26 March 2020 by Hamad Bin Khalifa University, Doha, Qatar. This version of the IEEEES series has been marked to be the first virtual symposium under COVID-19 circumstances.

This conference was a multi-disciplinary international conference in the areas of energetic and exergetic sustainability. IEEEES-12 aimed to provide a forum for the exchange of technical information, dissemination of high-quality research results, presentation of new policy and scientific developments, and promoting future priorities for better environmental, energetic, technical and social sustainability. Distinguished professors worldwide delivered numerous keynote and invited talks to present the recent advances on the topics of energy-climate change-sustainability triangle, hydrogen and natural gas, photovoltaics, renewable energy and desalination. After the successful completion of the conference, selected papers were asked to be extended and submitted to this journal. After a rigorous peer-review process, they were accepted for publication. In this special issue, these selected papers have been included to highlight the relationship of exergy with the following topics: parabolic trough collectors, geothermal energy, thermal energy storage, heat pumps, multigeneration systems, furnace and dryers, zero energy buildings, steelmaking, dual fuel engines, cascade refrigeration, natural circulation loops,

gas-to-liquids, phase change materials, extrusion production lines, automobile air conditioning systems, coal-fired power plants and clinker production.

I would like to take this opportunity to warmly thank the symposium founding chair of IEEEES-12 and the Editor-in-Chief of *IJEX*, Prof. Dr. Ibrahim Dincer, the editorial team of *Inderscience*, keynote and invited speakers, all contributing authors, reviewers, organising committee members, international scientific committee members, national and international sponsors for their efforts that have made this special issue a true success.