Editorial

Yusuf Bicer

Division of Sustainable Development (DSD),
College of Science and Engineering (CSE),
Hamad Bin Khalifa University (HBKU),
Qatar Foundation (QF),
Education City, Doha 34110, Qatar
Email: ybicer@hbku.edu.qa

Biographical notes: Yusuf Bicer is an Assistant Professor of the Division of Sustainable Development in the 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 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 (2012) and Master's in Energy Science and Technology (2014) at Istanbul Technical University, Turkey.

Humankind has recently experienced the severe consequences of global warming, which have negatively affected the lives of many due to which the research to mitigate global warming has attained more urgency. In order to secure the environment for a more sustainable future, environmentally benign solutions are essential for implementation. This special issue on 'Environmentally-benign solutions' contains 17 papers, which were selected from the 12th International Exergy, Energy, and Environment Symposium (IEEES-12), which was virtually organised during 22–26 March 2020 by Hamad Bin Khalifa University, Doha, Qatar. This version of the IEEES 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 environmental and energetic sustainability. IEEES-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 around the world 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 successfully completing 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 global warming with the following topics: CO_2 capture, emission reduction in road transportation, smart grids for global warming mitigation, solar heating and cooking, water aquifers, decarbonatisation in residential buildings, renewable energy penetration, climate innovation, carbon productivity in the construction sector, life cycle assessment, biochar for plant growth, green roofs in hot regions, and zero-emission electric military vehicles.

We would like to take this opportunity to warmly thank the symposium founding chair of IEEES-12 and the Editor-in-Chief of *IJGW*, Professor 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.