Since energy is identified by many as one of humanity’s most significant problems, clean energy solutions are recognized as the only option to achieve a more sustainable future. The prerequisite of this is to develop novel energy systems and implement them accordingly for practical applications.

The second volume of this edited book entitled Progress in Clean Energy focuses on novel systems and their applications and contains 76 uniquely selected papers out of the conference papers presented in the 13th International Conference on Clean Energy (ICCE-2014), which was held in Istanbul, Turkey, on June 8–12, 2014. This distinctive event was organized not only to bring all the researchers, scientists, policy makers, and engineers conducting research on the clean energy field together, but also to honor Dr. Veziroglu’s 90th birthday in Istanbul, which is also his birthplace. This conference provided a forum for the exchange of latest technical information, the dissemination of the high-quality research results on the issues, the presentation of the new developments in the area of clean energy, and the debate and shaping of future directions and priorities for better environment, sustainable development, and energy security. The recent research findings in the clean energy topics including solar, wind, hydropower, nuclear, and hydrogen energy technologies, fuel cells, biomass and biofuels, clean fossil fuels, carbon sequestration and carbon tax, energy storage and energy conservation, environmental impact and remediation, and sustainable development and energy management were presented and discussed in this conference.

There is diverse coverage of clean energy topics in this volume, ranging from battery technologies to biomass and biofuels, from clean coal technologies to renewable energies, and many more to serve as a sustainable source of knowledge and information for researchers, scientists, engineers, practitioners, etc. The clean energy topics are linked to many areas, including energy and environment policies, energy conversion technologies, energy management and conservation, energy saving, energy security, renewable and sustainable energy technologies, emission reduction, sustainable development, pollution control and measures, policy
development, global energy stability and sustainability, carbon tax, and waste management.

We hope that the second volume of this book will provide a unique source of clean energy systems and applications with a prime focus on novel energy systems and their implementation. We sincerely appreciate the help and assistance provided by various individuals and conference organizing committee members who deserve a clear acknowledgement.

Oshawa, ON, Canada
Izmir, Turkey
Isparta, Turkey
Izmir, Turkey

Ibrahim Dincer
C. Ozgur Colpan
Onder Kizilkan
M. Akif Ezan