100% Renewable: strategies, technologies and challenges for a fossil free future

Editorial Preface

In the last 10 years, the share of renewable sources in the energy mix of several countries is increased with a steady pace. This led to a revolution in conceiving energy conversion and diffusion in comparison to a fossil fuel-based system. Nowadays, thinking to a full-renewable-based system is no more just a dream. Nevertheless, the transition to this future implies several criticalities both from the technical and economic point of view.

100RES 2020 conference was the opportunity to discuss these topics, have an insight to new frontiers of engineering research, share new ideas and promote the cooperation between people operating in these fields.

100RES 2020 was organized by the University of Pisa in cooperation with the international journal Applied Energy and the Applied Energy Innovation Institute (AEii). The conference was held on October 29-30, 2020 in virtual mode. Selected best papers from the conference were considered for publication in a special issue of Applied Energy (Elsevier).

Main topics were (but not limited to):

- Renewable energies
- Hybrid generation
- Flexibility of Power plants
- Power to heat, power to gas and power to fuel
- Thermal energy storage
- Power to X to power
- Integration of energy grids and Smart grids
- Hydrogen and fuel cell
- Sustainable mobility
- Social, economic and policy issues
- Renewable energy in buildings

This issue of E3S Web of Conferences includes all the papers presented at the conference.
The Guest Editors:

Proff. Umberto Desideri and Lorenzo Ferrari
University of Pisa

Prof. Jinyue Yan
Editor-in-chief of Applied Energy