Renewable Energy from the Oceans

From wave, tidal and gradient systems to offshore wind and solar

There are many ways to harness the renewable and emissions-free energy available from the Earth's oceans. The technologies include wave energy, tidal and current energy, and energy from thermal and salinity gradients. In addition, offshore wind energy and marine (floating) solar arrays offer a possibility to exploit vast resources that are far larger than those available onshore. The potential capacities range from many hundreds of gigwatts to terawatts of generation. These technologies could contribute a significant part of the global electricity demand; they are particularly suitable for providing sustainable power to marine regions and island communities and nations.

This book brings together contributions from international experts with academic and industry backgrounds to provide a systematic overview of ocean energy technologies, their readiness and modelling, as well as installation and grid connection technologies.

About the Editors

Domenico P. Coiro is a full professor at Department of Industrial Engineering at University of Naples "Federico II", Italy. He is author of several patents in the field of renewable energy and more than 100 papers published in international journals and conferences. He has worked in the field of ocean energy since 1998 and has coordinated the design, development, and full-scale prototype deployment and test of devices based on horizontal and on vertical axis hydro turbines. He is the founder and president of the non-profit public/private research consortium SEAPOWER which develops devices for ocean (tidal and wave) and wind energy.

Tonio Sant is a full professor in the Department of Mechanical Engineering at the University of Malta. His lecturing topics include Fluid Mechanics, Renewable Energy and Maritime Hydrodynamics. He is the author of more than 125 papers published in journals and conferences. His research works focus on the fields of rotor aerodynamics, wind energy and energy storage. Tonio has coordinated a number of research projects in renewable energy, with the latest involving the development of a patented offshore floating energy storage concept FLASC.

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Edited by
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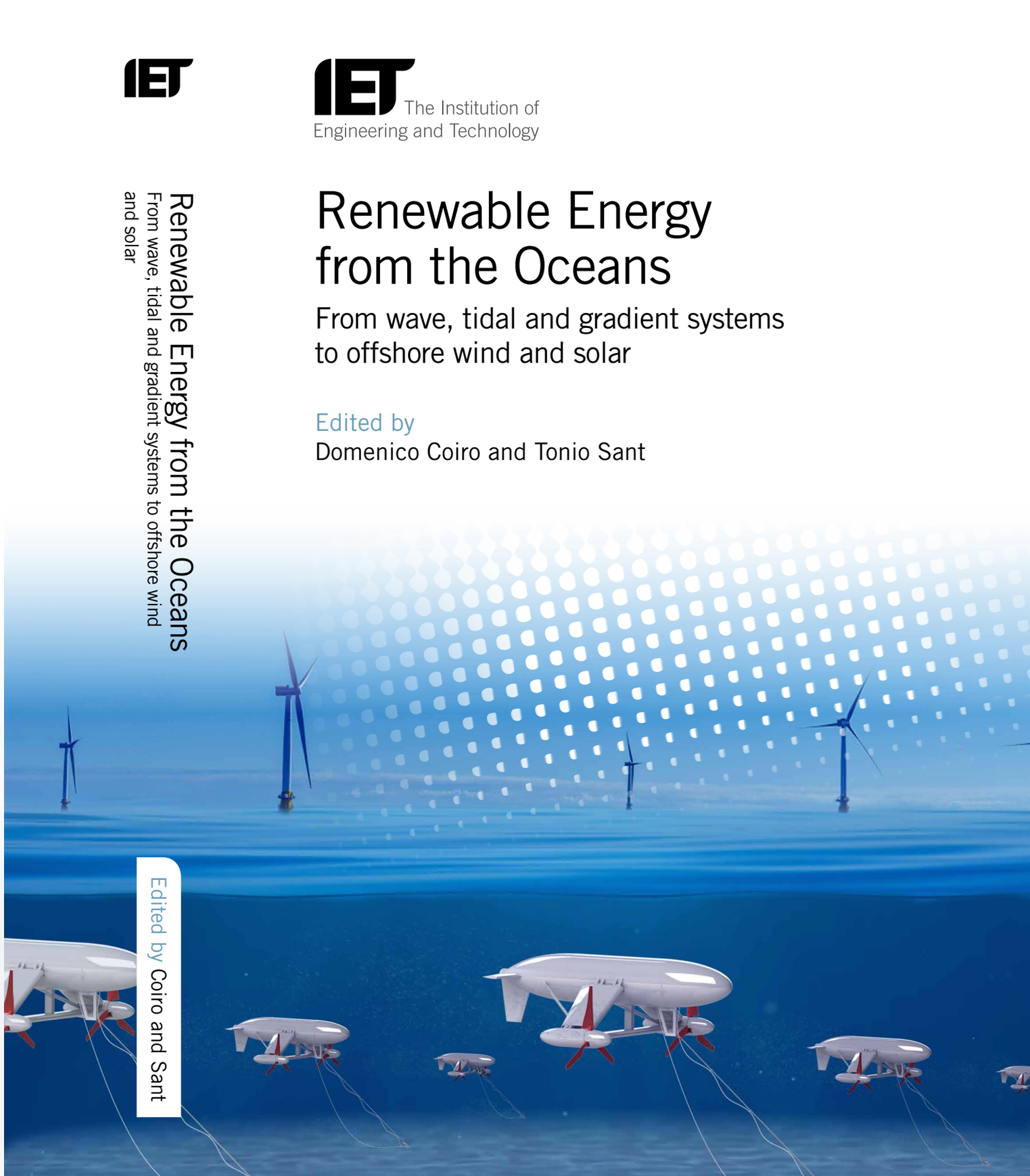

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