Onshore and Offshore Wind Energy. An Introduction

Description:
A highly accessible and authoritative account of wind energy’s scientific background, current technology, and international status, with an emphasis on large turbines and wind farms, both onshore and offshore.

Topics covered include:
- a brief history of wind energy
- the nature of the wind
- turbine aerodynamics, mechanics, and electrics
- wind farms
- offshore opportunities and challenges
- grid integration of wind energy
- economic and environmental aspects

Whilst intellectually rigorous, this is not an academic treatise. Key equations are fully discussed, providing essential theoretical background. The text is supported by copious illustrations and about 50 inspiring full-colour photographs from around the world.

This book is aimed at a wide readership including professionals, policy makers and employees in the energy sector in need of a basic appreciation of the underlying principles of wind energy or a quick update. Its style and level will also appeal to second and third year undergraduate and postgraduate students of renewable and wind energy, energy systems and electrical/electronic engineering. It also gives a concise account of the technology for the large and growing number of people who are interested in onshore and offshore wind farms and the contribution they are making to carbon-free electricity generation in the 21st century.

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