

1. Record Nr.	UNINA9910828288003321
Autore	Lynn Paul A
Titolo	Onshore and offshore wind energy : an introduction // Paul A. Lynn
Pubbl/distr/stampa	Chichester, West Sussex ; ; Hoboken, NJ, : Wiley, c2012
ISBN	1-119-95461-4 1-119-95460-6 1-283-29531-8 9786613295316 1-119-96142-4
Edizione	[1st ed.]
Descrizione fisica	xii, 223 p
Classificazione	TEC031000
Disciplina	621.31/2136
Soggetti	Wind power Offshore electric power plants Wind energy conversion systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- Onshore and Offshore Wind Energy: An Introduction -- Contents -- Preface -- Acknowledgements -- 1: Introduction -- 1.1 Wind energy and Planet Earth -- 1.2 Winds of the world -- 1.3 From windmills to wind turbines -- 1.4 Power, energy and performance -- 1.5 Coming up to date -- References -- 2: Capturing the wind -- 2.1 Wind speed and power -- 2.2 Wild wind -- 2.2.1 Introductory -- 2.2.2 Wind statistics -- 2.2.3 Mapping and forecasting -- 2.3 Predicting turbine output -- References -- 3: Wind turbines -- 3.1 Turbine types and sizes -- 3.2 Aerodynamics -- 3.2.1 Rotor efficiency and the Betz Limit -- 3.2.2 Lift and drag -- 3.2.3 Rotor speed -- 3.2.4 Rotor blades -- 3.2.4.1 Choosing airfoils -- 3.2.4.2 Stall and pitch control -- 3.3 Mechanics -- 3.3.1 Gearboxes -- 3.3.2 Towers -- 3.3.3 Vibration and fatigue -- 3.4 Electrics -- 3.4.1 AC electricity -- 3.4.2 Generators -- 3.4.2.1 Introductory -- 3.4.2.2 Synchronous generators -- 3.4.2.3 Asynchronous generators -- 3.4.2.3.1 Squirrel-cage and wound-rotor induction machines -- 3.4.2.3.2 Doubly-fed induction generators -- 3.5 Turbine control -- 3.6 Onshore wind farms -- 3.6.1 Introductory -- 3.6.2 Siting and spacing -- 3.6.3 Monitoring and control --

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Sommario/riassunto

"This book uses academic content and rigor to introduce all relevant topics, from global wind resource and historical background, through to modern electricity generation and distribution, including the topical subject area of offshore systems"--
