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Nota di contenuto	Introduction -- Operational Environment of Offshore Wind Turbines -- Offshore wind turbine design technology -- Offshore wind turbine foundation structure -- Construction of offshore wind turbine foundation structure -- Offshore Wind Turbine Maintenance and Operation -- Impacts of offshore wind power on the oceans -- Offshore Wind Turbine Standards and Certification.
Sommario/riassunto	This book provides a comprehensive overview of the development and challenges of offshore wind power generation. It emphasizes the significance of wind energy as a crucial element in China's energy transformation and its contribution to achieving the country's carbon peak and carbon neutrality targets. The book begins by introducing the current status of offshore wind power, highlighting its global expansion and China's leading position in installed capacity. It explores the complexities and unique environmental conditions associated with offshore wind farms, including the challenging construction and maintenance processes. The authors address the limitations of offshore wind resources, such as lower average wind speeds and extreme wind conditions, as well as the reliability issues of key components, resulting

in higher electricity costs. With a focus on offshore wind turbine technology, the book covers various aspects, including design, structural foundations, construction techniques, operation, and maintenance. It delves into the coupling effects of wind and waves in the offshore environment and discusses the geological considerations specific to offshore wind farms. The book also touches upon industry standards, certifications, and the influence of offshore wind farms on marine ecosystems. This book serves as a valuable reference for engineering students specializing in offshore wind turbine technology and graduate researchers exploring this field. Moreover, it provides practical insights for professionals working in the wind energy industry. Selected sections of the book are also suitable for general readers interested in gaining knowledge about offshore wind power.
