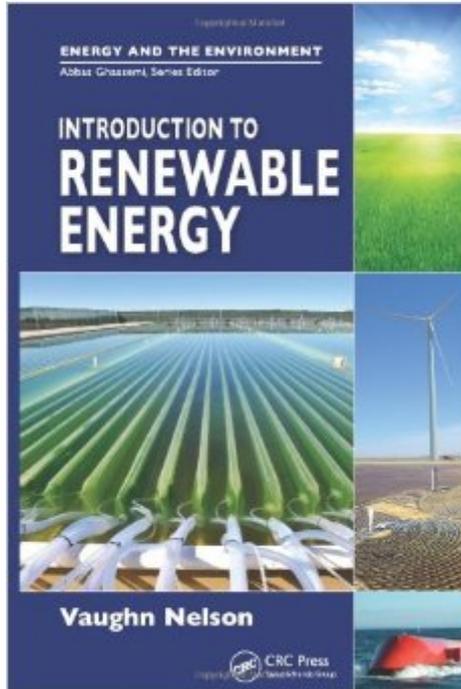


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# Introduction To Renewable Energy (Energy And The Environment)



## Synopsis

As the world population grows and places more demand on limited fossil fuels, renewable energy becomes more relevant as part of the solution to the impending energy dilemma. Renewable energy is now included in national policies, with goals for it to be a significant percentage of generated energy within the coming decades. A comprehensive overview, *Introduction to Renewable Energy* explores how we can use the sun, wind, biomass, geothermal resources, and water to generate more sustainable energy. Taking a multidisciplinary approach, the book integrates economic, social, environmental, policy, and engineering issues related to renewable energy. It explains the fundamentals of energy, including the transfer of energy, as well as the limitations of natural resources. Starting with solar power, the text illustrates how energy from the sun is transferred and stored; used for heating, cooling, and lighting; collected and concentrated; and converted into electricity. A chapter describes residential power usage— including underground and off-grid homes— and houses that are designed to use energy more efficiently or to be completely self-sufficient. Other chapters cover wind power; bioenergy, including biofuel; and geothermal heat pumps; as well as hydro, tidal, and ocean energy. Describing storage as a billion-dollar idea, the book discusses the challenges of storing energy and gives an overview of technologies from flywheels to batteries. It also examines institutional issues such as environmental regulations, incentives, infrastructure, and social costs and benefits. Emphasizing the concept of life-cycle cost, the book analyzes the costs associated with different sources of energy. With recommendations for further reading, formulas, case studies, and extensive use of figures and diagrams, this textbook is suitable for undergraduates in Renewable Energy courses as well as for non-specialists seeking an introduction to renewable energy.

**Pedagogical Features:** End-of-chapter problems  
Numerous case studies  
More than 150 figures and illustrations  
A solutions manual is available upon qualifying course adoption

## Book Information

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## Customer Reviews

This book was purchased for the same Master's program as Marshal Joslin's. I found the book to be lacking in the same areas as he did but I will go one step further in saying that the book makes assumptions about the reader having not only high level math but also physics and engineering background. It does not remind the reader of meanings of acronyms nor explain concepts that may be foreign such as flywheels, etc. The author also presents his opinions on choices that have, in my estimation, no place in a book used as a text and the statements such as "...China makes the best thermos jugs in the world." seem weirdly out of place in a book covering renewable energy. Overall this book is best suited for a student with an engineering/physics background looking to further their knowledge into renewables but not for the neophyte looking for a true "Introduction to Renewable Energy".

Purchased because required for Masters course. The book does not explain the equations sufficiently and the P.E. teaching our course admitted it does not thoroughly cover them as well as she wished. As far as general information for Renewable Energy it is sufficient.

Great book super informative!

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