

1. Principles of renewable energy
2. Solar radiation characteristics and impacts: including the greenhouse effect
3. Solar water heating
4. Other solar thermal applications
5. Photovoltaic (PV) power technology
6. Hydropower
7. Wind resource
8. Wind power technology
9. Biomass resources from photosynthesis
10. Bioenergy technologies
11. Wave power
12. Tidal-current and tidal-range power
13. Ocean gradient energy: OTEC and osmotic power
14. Geothermal energy
15. Energy systems: integration, distribution and storage
16. Solar-buildings and efficient energy use; including transportation, manufacture and homes
17. Institutional and economic factors

Review 1. Electrical power for renewables

Review 2. Essentials of fluid dynamics

Review 3. Heat transfer

Review 4. Solid-state physics for photovoltaics

*Appendices*

*App A Units and conversions*

*App B Data and fundamental constants*

*App C Some heat transfer formulas*

*Answers to the Exercises at the end of chapters and reviews*

*Short answers to selected Problems at end of chapters*