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Sommario/riassunto	Global demand for low cost, efficient and sustainable energy production is ever increasing. Driven by recent discoveries and innovation in the science and technology of materials, applications based on functional materials are becoming increasingly important. Functional materials for sustainable energy applications provides an essential guide to the development and application of these materials in sustainable energy production.Part one reviews functional materials for solar power, including silicon-based, thin-film, and dye sensitized photovoltaic solar cells, thermophotovoltaic devic