

Energy for Sustainability is the first undergraduate textbook on renewable energy and energy efficiency with a unique focus on the community scale. Written by two of the foremost experts in the field, it is a pedagogically complete treatment of energy sources and uses. It examines the full range of issues—from generating technologies to land use planning—in making the transition to sustainable energy. The book begins by providing a historical perspective on energy use by human civilizations and then covers energy fundamentals and trends; buildings and energy; sustainable electricity; sustainable transportation and land use; and energy policy and planning. Included in these topical areas are in-depth discussions of all of the most promising sources of renewable energy, including solar photovoltaic systems, wind turbines, and biofuels. In addition, the authors offer a thorough presentation of “green” building design, the impact of land use and transportation patterns on energy use, and the policies needed to transform energy markets at the local, state, and national levels. Throughout, the authors first provide the necessary theory and then demonstrate how it can be applied, utilizing cutting-edge practices and technologies, and the most current available data. Since the dawn of the industrial age, the explosive growth in economic productivity has been fueled by oil, coal, and natural gas. World energy use nearly doubled between 1975 and 2005. China’s energy use has been doubling every decade. The implications for the environment are staggering. One way or another, our reliance on fossil fuels will have to end. Energy for Sustainability evaluates the alternatives and helps students understand how, with good planning and policy decisions, renewable energy and efficiency can support world demands at costs we can afford—economically, environmentally, and socially.

This book guides concerned citizens and business leaders to take on the climate crisis, detailing five key practices for effective sustainability leadership.

This book brings together concepts from the building, environmental, behavioural and health sciences to provide an interdisciplinary understanding of office and workplace design. Today, with changes in the world of work and the relentless surge in technology, offices have emerged as the repositories of organizational symbolism, denoted by the spatial design of offices, physical settings and the built environment (architecture, urban locale). Drawing on Euclidian geometry that quantifies space as the distance between two or more points, a body of knowledge on office buildings, the concept of office and office space, and the interrelationships of spatial and behavioural attributes in office design are elucidated. Building and office work-related illnesses, namely sick building syndrome and ailments arising from the indoor environment, and the menace of musculoskeletal disorders are the alarming manifestations that critically affect employee satisfaction, morale and work outcomes. With a focus on office ergonomics, the book brings the discussion on the fundamentals of work design, with emphasis on computer workstation users. Strategic guidance of lighting systems and visual performance in workplaces are directed for better application of ergonomics and improvement in office indoor environment. It discusses the profiles of bioclimatic, indoor air quality, ventilation intervention, lighting and acoustic characteristics in office buildings. Emphasis has been given to the energy performance of buildings, and contemporary perspectives of building sustainability, such as green office building assessment schemes, and national and international building-related standards and codes. Intended for students and professionals from ergonomics, architecture, interior design, as well as construction engineers, health care professionals, and office planners, the book brings a unified overview of the health, safety and environment issues associated with the design of office buildings.

The New Sustainability Advantage shows how the benefits of the "triple bottom line" can increase a typical company's profits by fifty-one to eighty-one percent within five years, depending on the company's size and industry sector, while avoiding risks that could jeopardize its financial well-being. Fully revised and updated, this tenth anniversary edition clearly demonstrates that, by focusing on seven powerful yet easy to grasp sustainability strategies, businesses can: Increase revenue Improve productivity Reduce expenses Decrease risks Expressed in clear business language and presented in an appealing, graphically rich format, this practical guide and the accompanying online Sustainability Advantage Simulator Dashboard enables executives to enter their own data and quickly identify the high-leverage benefit areas for their organization. More detailed downloadable spreadsheets help them drill down into specific areas of interest and fine-tune the assumptions to their specific situation. An indispensable tool for both sustainability champions and senior management, The New Sustainability Advantage proves that the quantified business case for sustainability is more compelling than ever before. Bob Willard gave up an award-winning successful career in senior management at IBM to devote himself full-time to building corporate commitment to sustainability. Widely in demand as a speaker, he has delivered hundreds of presentations demonstrating the business case for sustainability to companies, consultants, academics, and NGOs worldwide. Bob is the author of The Sustainability Champion's Guidebook, The Next Sustainability Wave, and the original edition of The Sustainability Advantage.

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