

Energy systems and sustainability : power for a sustainable future

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Abstrak

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ABSTRACT

Interdisciplinary in its approach and global in its perspective, Energy Systems and Sustainability: Power for a Sustainable Future, Second Edition, provides a contemporary exploration of the economic, social, environmental, and policy issues raised by current systems of energy use. Emphasizing the important issue of sustainability, it analyzes the historical evolution of the world's energy systems, the principles underlying their use, and their present status and future prospects. Beginning with a survey of basic energy concepts, the book describes the magnitude and patterns of human energy needs at various levels. It moves on to an overview of the fossil and nuclear-fuelled energy that, together with hydroelectric power and traditional biofuels, supply most of the world's commercial energy needs. Sections on economics describe the basic methods through which the monetary costs of energy are calculated, also considering the "external" costs of energy production. Finally, the book looks at the sustainability issues associated with both fossil- and nuclear-fuel use--and considers the technological advancements and social developments that might solve these problems. Providing a truly interdisciplinary approach, Energy Systems and Sustainability: Power for a Sustainable Future, Second Edition, is ideal for undergraduate engineering students and undergraduates studying policy making.