

Green Energy and Technology

Durmuş Kaya
Fatma Çanka Kılıç
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Energy Management and Energy Efficiency in Industry

Practical Examples

 Springer

Green Energy and Technology

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We have dedicated this book to the memory of our valuable colleague, Prof. Dr. Durmuş Kaya, who always believed in our ability to be successful in the academic arena. He was a beloved father, an excellent scientist, and a wonderful friend. We will never forget you. Rest in peace.

Prof. Dr. Fatma Çanka Kılıç and Prof. Dr. Hasan Hüseyin Öztürk

Preface

Countries that are targeting sustainable development are evaluated according to their energy development levels, measured based on energy consumption per capita and energy intensity values. The high-energy consumption per capita means both the vitality of the economic activities in the country and the high level of prosperity. Most of the countries in the world, especially which are still in the fast development phase, industrialization activities, efforts to reach new technologies, increase of living standards, and fast increasing population cause more energy consumption with each passing year.

The studies to assure the sustainability in energy, reduce the external energy dependence on foreign countries, and the struggle with climate change are some of the reasons to increase the importance of efficient use of energy and energy resources all over the world. These studies have given rise to an important development of consciousness about applying environmentally friendly policies and methods in energy production, resource diversification, and consumption. To increase the energy efficiency by preventing the wastage has been a very important policy for all the countries in the world. Ensuring the energy supply security and being sustainable in energy policies are not easy topics, which need to be handled carefully. In addition, the dependency on the outside energy resources makes the situation even more difficult. For these reasons, energy efficiency has gained a special importance in today's energy world.

While energy savings is an important concept, the energy efficiency, which is our main topic, is different and wider. Energy efficiency is the use of energy with a high efficiency and saving the energy without sacrificing the quality of our lives, needs, and productions. Today, it is accepted all over the world that energy saving is the result of the using energy in an efficient manner, which can also be accepted as the fastest, cheapest, and cleanest energy source. As for the developing countries, the energy that can be saved by increasing the energy efficiency is a domestic and clean energy source, which is cheaper than the others and needs to be applied in first row of the energy studies. The increase in energy demands and costs has made energy-saving compulsory.

It is obvious that the efficient use of energy is so important not only for all the countries in the world, but also especially for the countries, which have to import a significant part of their energy needs and have the power plants that produce electricity by using fossil fuels.

Energy efficiency is an answer to some vital problems such as gradually diminishing fossil fuels, insecurity against nuclear power installations, meeting energy demands insufficiently by the alternative energy sources, increasing pollution of the environment, and climate changes. In addition, energy efficiency is the most important component of sustainable development and competitiveness. In developed countries, energy efficiency means the least costly energy, resulting in efficient use.

This book, prepared by considering various sources, aims to support and guide everyone who is interested in energy management and energy efficiency.

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Prof. Dr. Fatma Çanka Kılıç
Prof. Dr. Hasan Hüseyin Öztürk

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Prof. Dr. Durmuş Kaya
Prof. Dr. Fatma Çanka Kılıç
Prof. Dr. Hasan Hüseyin Öztürk

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