Introduction

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Sustainable development is the fundamental key-issue for future generations and deals with:

- preserving natural resources
- preserving the environment
- granting social, economic and industrial development.

Dramatic social and economic growth of the most crowded countries of the world, mainly, but not only China and India, addresses serious questions for the future. The legitimate request from the people of the *third-world* and developing countries to achieve the same degree of development and social and economic wealth as the OECD countries must be satisfied in the near future. However, this huge growth goes together with an ever increasing request for energy and together with ever increasing environmental pollution. If these opposite aspects are not wisely put together the world would be on a brink of a precipice.

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The major critical impacts related to this growth are the greenhouse effect together with the climate changes, the reduction of the fossil fuel reservoirs and the pollution of soil, water and air. Sustainable development is therefore the road to gain economic prosperity without consuming the world resources and destroying the environment where we live.

To achieve the final goal of sustainability a combined effort between technology innovation, energy efficiency and management must be provided: Technology should supply new methods to reduce the environmental pollution, energy transformations should operate more efficiently by using also more and more renewable energy resources, and finally the management through normative actions and organisational restructuring must rationalise all these different aspects and should promote the actions towards a real sustainability. From a managerial economic point of view major transformations are occurring in the market and competition factors. Thus, the demand and supply of the market are changing, so many public and private industries, and institutions are reorganising their strategies and goals to face up with the global challenges.

This special issue is a collection of selected papers that address this general topic. In particular, energy aspects are investigated paying attention to: The use of alternative resources, the improvement of the overall energy and environmental efficiencies focusing on the economical aspects and the historical trends of energy consumptions related to the world development.

From a technological point of view, the papers focus on: Recycling techniques to reduce the environmental impact of industrialised countries, the environmental protection of air, water and soil by using both passive methods, such as barriers to pollutants, and active ones as treatments of wastes or reduction of emissions.

Important issues are also addressed in terms of management of environmental and energy aspects of the industrial supply chains and of normative features related to the automotive emissions regulation.

The analysis of global problems requires the seeking of solutions mainly on a local scale that must however cope with worldwide problems, as well pointed out by the famous words: "Think globally, act locally".