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Building Energy Conservation and Technology

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Building energy conservation has drawn increasing attention and undergone significant growth and development over the past few years. The fact that the building sector accounts for about 25% of the total energy consumption in developing countries, and about 40% in developed ones, indicates the important role building energy conservation plays in global energy security and greenhouse gas (GHG) emission reduction in the future. Comprehensive research is required concerning technological advancement, increasing social-awareness and the changing lifestyles of citizens.

This special issue, Building Energy Conservation and Technology, contains contributions from prominent professors and researchers showcasing the latest results in the field. The first three papers are based on the energy consumption data in China and the comparison of these data with those of other countries, involving comparative analysis of energy use and case study in the building sector, as well as energy and environment in Chinese rural housing. The second part of this special issue consists of key technologies in the field, including applications in three aspects. For public building, current research progresses of the ground-coupled heat pump, liquid desiccant air-conditioning devices and systems and indirect evaporative chiller are contained. Absorption heat exchange with CHP system is implemented in the district heating system. And in the realm of rural energy conservation, there are research and development of new rammed earth house, Chinese kang and green cave dwellings. Last but not least, regarding to the practices of energy saving in the library of Shandong Transportation College, in Lhasa Railway Station and rural residential buildings in Daping Village, Sichuan Province, these case-studies are included. The aim of this special issue is to provide a broad view of the current state-of-the-art as well as the prospects in the field.

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