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A Short Overview on the Role of Nanotechnology in Different Sectors of Energy System

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Advanced Manufacturing in Biological, Petroleum, and Nanotechnology Processing

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Abstract

Globally, with respect to the advancement in technologies developed in the energy sector, a good comprehension of the economic situation is the real challenge to having sustainable energy. Though technologies are available, they are usually very expensive or not adequately recognized by the industrial players. Sustainability of the advancement in energy development has globally gained great attention. Nanotechnologies make available a very good prospect of improving the efficiency of energy across all sectors of industry in a sustainable way. These technologies economically influence renewable energy production by using novel technological approaches and enhanced production technologies. The advances of nanotechnology may perhaps influence every part of the value-added chain in the energy sector. Therefore, employing nanomaterials in technologies for energy system sustainability will remain a significant field of academic and researcher, even at the commercial level. In this review, the role of nanotechnology for four sustainable sources of energy together with energy distribution and also for different energy usage was discussed. Hence, this review looked at the possible prospect of utilizing nanoscale materials, such as nanoparticles and nanofluids, to stimulate sustainable developments and practices for energy systems.

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