

## ACHIEVING SUSTAINABLE DEVELOPMENT GOALS THROUGH NANOTECHNOLOGY IN POLYMER AND TEXTILE

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### ABSTRACT

One of the greatest challenges facing society in the twenty-first century is providing better living standards to all people while minimizing the impact of human activities on the global environment and climate as the world population increases. This paper discusses copiously on achieving sustainable development goals through the utilization of nanotechnology in polymer and textile. It examines recent advances and opportunities of utilizing nanotechnology to address global challenges in water purification, clean energy technologies, agriculture, greenhouse gases management, materials supply and utilization, green manufacturing and textile. In addition to the technical challenges listed above, societal perspectives and an outlook of the role of nanotechnology in the convergence of knowledge, technology and society for achieving sustainable development are also discussed. Nanotechnology has emerged as a general platform with economical and ecological advantages that could provide acceptable solutions to the global sustainability challenges facing society.

**Keywords:** Nanotechnology, nanomaterials, nanoscale, polymer, sustainable development and textile.