

Advancements in Materials Technology for Accomplishing Sustainable Development Goals

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New products and materials innovations are rapidly owned by fast developing industries and smart startups. Automation in industry has taken out many jobs but has given opportunities for diversification [1]. Evolution of the new technologies helps in improvement of global economy [2]. Sustainable developments aim for self-reliance and technically acceptable [3]. Sustainability may be understood as such development which meets the needs of the present without compromising the ability of future generations to meet their own needs. It is well understood that earlier development consumes vast quantity of natural resources without caring of negative impact on environment upon which they depend [4].

Outcomes of the various studies indicate that an estimated \$94 trillion USD of investment in infrastructure projects is required globally by 2040 [5]. This implies a massive opportunity to stimulate economic prosperity, reduce poverty and raise standards in health, education, and gender equality. However, infrastructure projects are having unfortunate consequences over environment and society. It is required to have good planning to get optimum solution to ensure balanced sustainable development to

counter the threats of climate change and other global goals. Sustainability in social safety can be definitely achieved by UN' Sustainable Development Goals [6,7].

[International Association of Advanced Materials'](#) Sustainable Development Agenda for 2030 dedicates to addressing Materials Research and Innovation to address Sustainable Development Needs [8]. The advanced materials have emerged as important players in environmental sustainability for example assessment of habilitation strategies, zero-energy infrastructures, materials utilization, new innovations, green practices, etc. [8,9]. The consequence of this approach is that certain negative impacts on sustainability can be postponed to next generations technologies. Physical properties of various materials affect the prolonged durability and sustainability performance. The properties include porosity, pore size distribution, permeability and their effects on moisture movement and thermal conductivity. Identification, awareness testing and proper understanding of material technology based upon their physical and chemical performance can enhance one's appreciation for thorough assessment towards sustainable products.



The Advancement of Materials in Energy and Environmental Design (AMEED), which is intended as way to ease the process of implementing sustainability [10, 11]. AMEED encourages the integration of design and energy sources having phenomenal net-zero-energy and zero-carbons-emissions. The social sustainability indicators that assess the mass infrastructure projects may be categorized into four broad categories: construction and community; health, safety, and risk; livability; and neighborhood characteristics. All these may be utilized to create work plan for sustainable development initiatives [12]. The steps employed in this study were to develop a set of social sustainability and safety initiatives by focusing women centric development projects. Hence, sustainable resource planning, training and supervision may be used to achieve UN' global sustainable goals 2030.

Keywords

Sustainability, materials, technological advancement, sustainable developments.

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