The Role of Renewable Energy in Achieving Sustainable Energy Goals

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Abstract: *The global energy transition is being driven by the urgency to address climate change, reduce energy poverty, and create a more sustainable energy system. Renewable energy, with its potential to provide affordable, clean, and abundant power, plays a central role in achieving these objectives. Renewable energy sources, such as solar, wind, hydropower, geothermal, and biomass, are integral to meeting the United Nations Sustainable Development Goal 7 (SDG 7), which calls for universal access to modern, reliable, and sustainable energy. This paper explores the current state of renewable energy, its technological advancements, and the challenges that need to be overcome for large-scale deployment, with a focus on how renewable energy can contribute to achieving global sustainability targets. The transition to renewable energy is pivotal in addressing climate change, promoting economic growth, and ensuring sustainable development. In 2024, renewable energy sources accounted for 92.5% of new electricity generation globally, with China contributing nearly 64% of this capacity, primarily through solar installations. Despite this progress, the global renewable energy capacity reached 4,448 GW, falling short of the 11.2 TW target set for 2030, indicating the need for accelerated efforts to meet sustainable energy goals.*

Keywords: Renewable Energy; Sustainable Development Goals (SDGs)