

The Potential of Clean Energy Technologies in Combating Climate Change

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Abstract: *This study examines how solar, wind, hydro, and bioenergy may reduce greenhouse gas emissions and the role of renewable energy in climate change. As global carbon emissions reach record highs, renewable energy technology may decrease environmental impacts and support sustainable development. Renewable energy sources reduce carbon emissions, air pollution, and dependency on non-renewable resources. This paper examines how decreasing prices, efficiency, and scalability have accelerated global adoption of renewable technology. Renewable energy implementation is complicated by unpredictable supply, storage limits, and high upfront costs. Policy initiatives, government incentives, and international cooperation are needed to overcome these challenges. Renewable energy creates employment and diversifies the economy, particularly in poor countries vulnerable to climate change, according to the report. This comprehensive report emphasizes renewable energy's potential to transform global climate action and calls for constant investment, research, and policy alignment. The paper's conclusion emphasizes the need for continued innovation and collaboration to expand renewable energy to support a low-carbon future and resilient ecosystems.*

Keywords: bioenergy.