

The Role of Renewable Energy

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Introduction

The transition to renewable energy sources has become an urgent global priority due to the growing environmental concerns and the pressing need to address climate change. Three categories of energy sources have been established: nuclear, renewable, and fossil fuels. Renewable energy sources, also known as alternative sources of energy, are those resources that can be utilized repeatedly to produce energy, such as solar energy, wind energy, biomass energy, and geothermal energy, among others (Panwar et al., 2011). Renewable energy is crucial for promoting economic growth, energy justice, and reducing environmental degradation (Adams & Acheampong, 2019). Hence, this editorial seeks to raise awareness of the importance of renewable energy in reducing greenhouse gas emissions, mitigating the effects of climate change and urge governments and corporations to invest in its development and adoption.

Adverse Effects of Conventional Energy Resources

Global energy consumption is largely dominated by non-renewable sources such as coal-fired power plants. Despite numerous efforts to reduce the reliance on fossil fuels through substitution with renewable sources, fossil fuels are still responsible for most global electricity production (Qazi et al., 2019). Concerns regarding environmental safety and resource sustainability are raised by the significant carbon emissions and resource depletion caused by these conventional energy resources (Opeyemi, 2021). The rapid growth in energy consumption during the last decades has raised fears of exhausting the planet's resources in the near future. Unfortunately, as a result of industrialization and population growth, humans have become largely dependent on non-renewable resources (Alrikabi, 2014). Furthermore, the United Nations argues that energy consumption is responsible for about 60% of total global greenhouse gas (GHG) emissions and is the leading cause of climate change (Güney, 2019). Currently, China is the world's most significant contributor to CO₂ emissions (Liang et al., 2018). As the levels of GHGs in the atmosphere are rising at a hazardous rate, reducing carbon intensity is crucial in the fight against global warming.



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Benefits of Renewable Energy

Renewable energy offers a sustainable alternative that substantially reduces carbon dioxide and other greenhouse gas emissions. Renewable energy technologies have developed significantly in recent years, becoming more efficient, cost-effective, and accessible. These technologies provide clean and abundant energy without the harmful emissions associated with fossil fuels. The rapid development of renewable energy capacity is advantageous for several reasons, including economic growth and job creation; reduction of carbon emissions and air pollution; extension of energy access; and enhancement of energy security (Qazi et al., 2019).

Environmental and Health Benefits

Moreover, renewable energy is environmentally friendly and can play a pivotal role in mitigating climate change and its adverse impacts. Renewable energy technologies are clean sources of energy that have a much lower environmental impact than conventional energy technologies (Alrikabi, 2014). The extended use of renewable resources will help decrease pollution to the lowest level for sustainable development. In other words, sustainable growth necessitates long-term prospective action, and renewable energy sources appear to be one of the most popular and practical approaches in this regard (Güney, 2019). In addition, clean energy can reduce respiratory ailments and lead to a healthier ecosystem.

Economic Growth and Energy Security

Renewable energy investments contribute to economic growth and create employment opportunities as money is spent on materials and labour to maintain the facilities rather than on importing non-renewable energy resources. As a result, countries grow less dependent on foreign imports and become more self-sufficient (Alrikabi, 2014). Furthermore, clean energy will help reduce energy crises by playing a crucial role in meeting future electricity demands. Due to renewable energy development, electricity access will grow in developing states where it was previously scarce or unavailable (Adams & Acheampong, 2019).

Urgent Need For Action

The environment, which has been polluted by fossil fuel consumption, must be urgently protected in order for future generations to be able to use the resources for their own needs. The energy demand is growing, and therefore, it is essential to introduce processes to meet the requirements of the increasing world population and to prevent energy crises (Qazi et al., 2019).

Corporations

Corporations also have a vital role in driving the renewable energy transition. Being pressured by competitors, investors, customers or sustainability advocates, corporations have emerged as the largest buyers of clean energy (O'Shaughnessy et al., 2021). By adopting clean energy strategies, businesses can reduce their carbon footprint, enhance brand reputation, and demonstrate environmental stewardship. Investing in renewable energy not only aligns with corporate social responsibility goals but can also deliver long-term cost savings by reducing reliance on volatile fossil fuel prices. Corporate renewable energy demand is projected to continue to grow rapidly (O'Shaughnessy et al., 2021).

Governments

Governments are crucial in facilitating the transition to non-conventional energy resources. As the interest in renewable energy increases, many countries have already established regulations regarding global warming and energy security (Güney, 2019). However, the transition is not happening fast enough. Although it is determined that a successful transformation is technically feasible, it will necessitate an immediate introduction of policies and fundamental political changes toward concerted and coordinated efforts to integrate global concerns, such as climate change, into local and national policy priorities (such as health and pollution, energy access, and energy security) (Gielen et al., 2019). Thus, an integrated policy design will be required to find affordable "win-win" solutions that may simultaneously achieve numerous goals. Moreover, the adoption of renewable energy technology is accelerated by policies like feed-in tariffs, tax incentives, and renewable portfolio standards. Governments must prioritize long-term energy planning and build solid frameworks supporting sustainable practices.

Conclusion

The transition to renewable energy is no longer a mere option but a pressing necessity. The benefits of renewable energy, including greenhouse gas emissions reduction, climate change mitigation, improved public health, economic growth, and energy security, make it an indispensable component of our sustainable future. Governments and corporations must embrace this imperative and prioritize investment in developing and adopting renewable energy technologies. By doing so, we can collectively forge a path toward a cleaner, healthier, and more resilient planet for future generations.

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