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Potential of Untapped Renewable Energy Resources in Pakistan: Current Status and Future Prospects †

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Abstract: Energy is very essential indicator for the sustainable development and economic growth of any country. Pakistan is heavily relying on imported fossil fuels; their excessive use contributes to environmental pollution. According to National Electric Power Regulatory Authority, Pakistan is producing 63% of its electricity from fossil fuels. The world is now shifting towards renewable energy sources such as biomass, wind energy, solar energy, ocean energy, hydropower, and geothermal energy. As of now, Pakistan fulfills 5.4% of its energy demand from renewable energy sources including biomass, wind, and sun and 25% from hydropower. Due to economic and political challenges, the country is facing a severe energy deficit (7000 MW). By 2030, Pakistan plans to fulfill 30% of its energy demand from renewable sources. The untapped potential of energy from renewable sources in Pakistan is nearly 60,000 MW from hydropower, 40,000 MW from Sun, 346,000 MW from wind. To address the escalating energy demands and bridge the energy deficit, Pakistan must intensify its efforts in harnessing renewable energy resources.

Keywords: sustainability; power generation; fossil fuel; renewable energy resources; electricity; Pakistan

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1. Introduction

Energy is mean ability to work. Energy is a very important indicator for the sustainable development o and economic growth of any country. Energy is very important role for eradicate poverty, improve human welfare and raise living standards.

Many regions of the world have no proper energy supplies, which limits economic progress, but other areas of environmental degradation from energy used inhibits sustainable progress.

2. Purpose

The main purpose of the study to determine the potential of untapped renewable energy resources in Pakistan: current status and future prospects.

The purpose of the study is to examine the opportunities that are provided by renewable energy resources and the role of government performed in the process of policy development.

3. Methods

Now the world has shifted towards renewable energy sources such as biomass, wind energy, solar energy, ocean energy, hydropower, and geothermal energy.

Pakistan is using wind, solar, biomass and hydropower for renewable energy.

This study has presented by determinate qualitative data from many of sources, including government annual performance reports, review papers, research works, journals, books, publications, and newspapers.

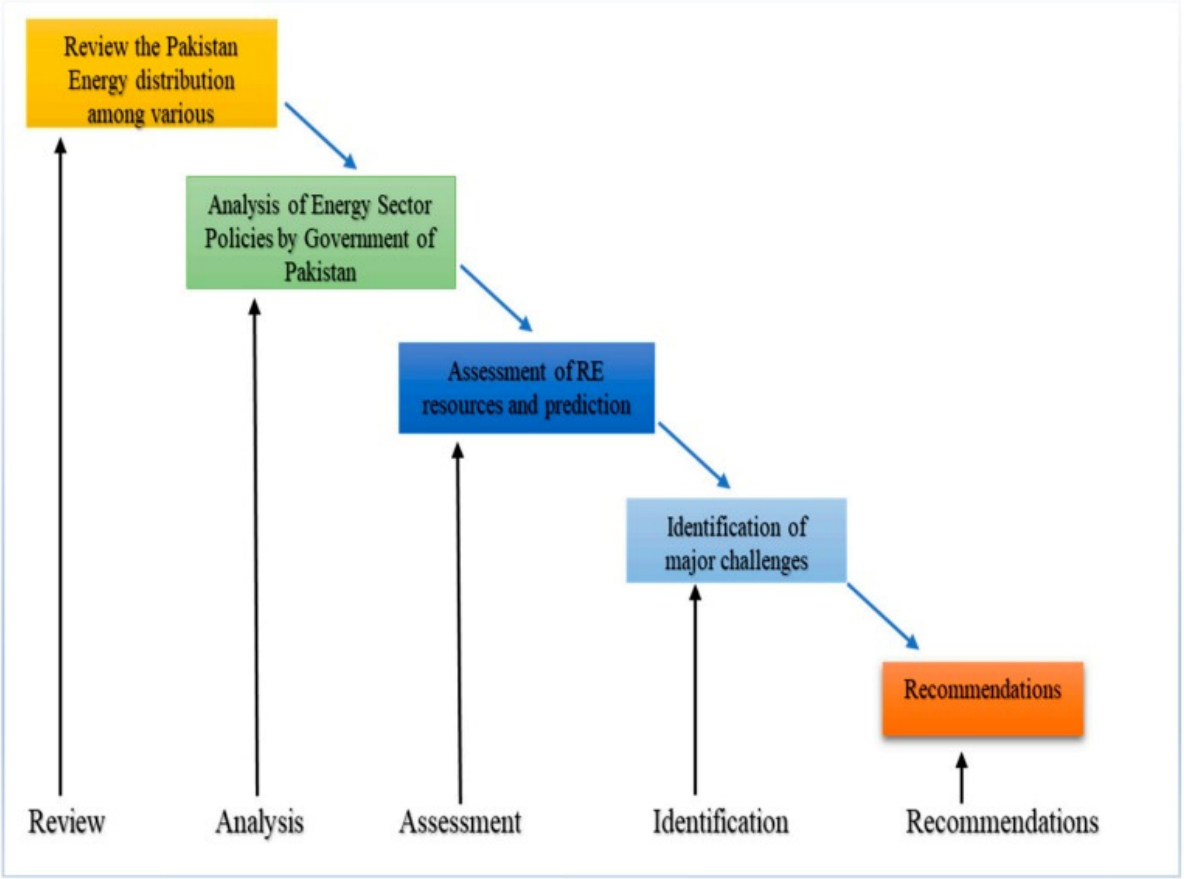

Figure 1.

4. Results

Pakistan fulfills 5.4% of its energy demand from renewable energy sources including biomass, wind, and sun and 25% from hydropower. By 2030, Pakistan plans to fulfill 30% of its energy demand from renewable sources. The untapped potential of energy from renewable sources in Pakistan is nearly 60,000 MW from hydropower, 40,000 MW from Sun, 346,000 MW from wind.

5. Conclusions

The base on study large amount of untapped renewable resources in Pakistan for current and future prospects.

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