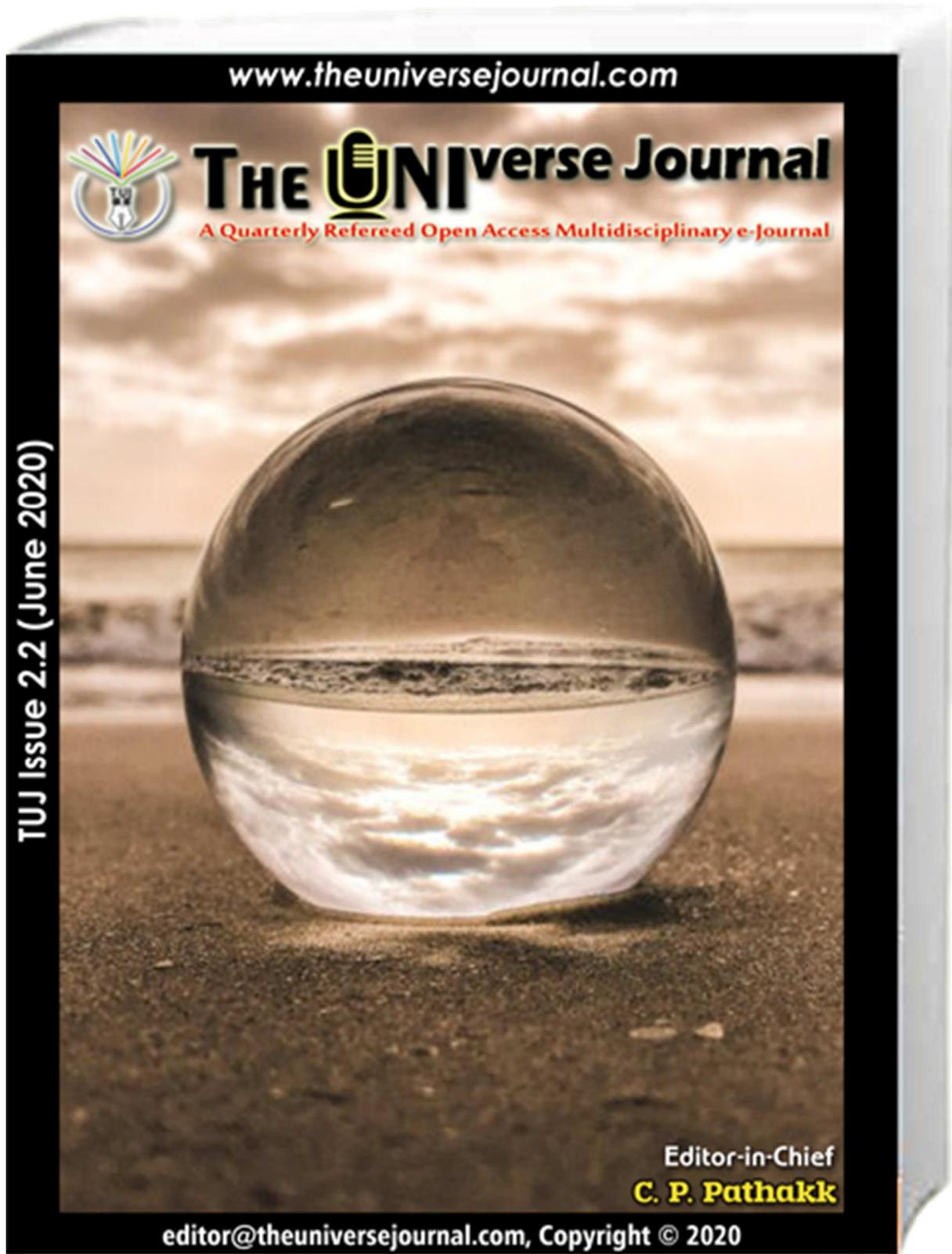


The UNiverse Journal
(A Quarterly Refereed Open Access Multidisciplinary e-Journal)



“Renewable Energy in sustainable future”

Riya Gulati
LL.M(IPR&IT)
Paralegal at Law Offices of
Caro Kinsella,
Youth Ambassador for the
ONE Campaign, Ireland.

Introduction

In the middle of the global environmental crisis, renewable energy takes pivotal stage as it has the potential to tackle with the problems related to pervasive climate change and assorted pollution. Renewable energy is steadily supplanting ‘dirty’ fossil fuels in the power sector, offering the benefit of lower carbon emissions and other pollutants. Nowadays, the green energy has become increasingly more modish and economical around the globe that offers a promise of a clean energy future. But not all the energy sources hawked as ‘renewable’ are advantageous to the environment as biomass and large hydroelectric dams create onerous compromises when contemplating the reverberation on climate change and wildlife.

Overview of Renewable energy

Renewable energy is a kind of clean energy that is provided by natural sources present in the nature. A renewable resource is a natural resource which will replenish to substitute the part exhausted by usage and consumption, either through natural reproduction or other recrudescing processes in a finite time period. Renewable resources are part of earth’s natural environment and the largest components of its ecosphere. The main forms of renewable energy are solar, wind, hydro, biofuel and geothermal.

Clean energy has far more to commend it than just being green. The growing sector has created jobs, made electric grids more resilient, helped in lowering energy bills and expanded energy access in developing nations. All these considerations have contributed to a renewable energy renaissance in the recent years, with wind and solar setting new records for electricity generation.

Reliance on renewable resources

Over the past years, humankind have heavily relied on oil, gas, coal and other fossil fuels to power everything from light bulbs to automotive to industries. Fossil fuels are engrafted in nearly everything we do and as a ramification, the greenhouse gases released from the burning of these fuels have reached historically at elevated levels.

Also, the non-renewable resources are only available in paltry amounts, usually found in specific parts of the planet and take a prolong time to renew. The usage of renewable energy, in specific, was due to the need to limit the dependency on the fossil fuels, which for a long time since the inception of the 21st century was used for domestic purposes and power-industries which has resulted in environmental degradation, pollution and global warming. Renewable energy provided a solution to this problem as they are not only inexhaustible but also have less adverse effects on the environment. The eco-friendly renewable energy has displaced the conventional fuels in power generation, heating, transportation and rural (off-grid) energy services.

Benefits of renewable energy

- It can combat climate change and offers numerous health and environmental benefits.
- It is a reliable source of power as it will never run out.
- It helps in diversifying energy supply and reducing reliance on imported fuels.
- It is cost effective as the maintenance requirements are lower.
- It creates employment opportunities and leads to economic development.

Drawbacks of renewable energy:

- It is difficult for renewable energy sources to generate power on the same large scales as fossil fuels. It offers low-efficiency levels.
- It poses geographic limitations as renewable energy are location-specific.
- Both solar and wind energy are intermittent, that is, they will only generate energy only when the sun is shining, or wind is blowing.
- Most forms of renewable energy require storage capabilities.
- While one can save money by using renewable energy, the technologies are usually more expensive upfront than conventional energy generations.

Solutions to the renewable energy crisis

The best way to escape from the problems is to identify and solve them. Indeed, we cannot totally rely on the renewable energy sources due to their downsides, but we can wisely limit our reliance on non-renewable resources by adopting the following paths for the sustainable energy future:

- Installation of rooftop photovoltaic (PV) solar systems, using alternative vehicles (electric vehicles), removing policy and regulatory gaps, providing interest-free loans for the purchase of renewable energy equipment, shouldering responsibility on the policy makers to swipe to renewable energy and raising public awareness.

Conclusion:

When it comes to renewable energy, the advantages outweigh the disadvantages. Renewable energy is increasingly preferred due to their extensive merits including the attribute of renewability, efficiency, affordability, low environmental pollution and creation of employment opportunities. Admonishing for renewables or using them in homes, can escalate the transition toward a clean energy future. Undeniably, the renewable energy has substantial potential to manage the energy crises, climate change, environmental degradation and at the same time it has the tendency to meet the future energy needs.

“Renewables should be like the Manhattan Project and the Apollo Project- the government should put tens of billions of dollars into R&D”- Bill Gates

References:

- 1) [Barton; (2004) Energy storage and its use with intermittent renewable energy // IEEE transactions on energy conversion, Vol. 19, Issue 2 pp.441-448]
- 2) [Christopher Koroneos; (2003) Exergy analysis of renewable energy sources // Renewable energy, Vol.28, Issue 2 pp.295-310]
- 3) [Donald L. Klass; (1998) Biomass for renewable energy, fuels, and chemicals // Elsevier]
- 4) [Godfrey Boyle; (2004) Renewable energy // Open University]
- 5) [Gordon Walker; (2008) Community renewable energy: What should it mean? // Energy policy, Vol. 36, Issue 2 pp.497-500]
- 6) [Harijan; (2008) Renewable energy for managing energy crisis in Pakistan // Springer pp.449-455]
- 7) [Henrik Lund; (2007) Renewable energy strategies for sustainable development // Energy, Vol. 32, Issue 6 pp.912-919]
- 8) Ibrahim Dincer; (2000) Renewable energy and sustainable development: a crucial review // Renewable and sustainable energy reviews, Vol. 4, Issue 2 pp.157-175]
- 9) [John A Turner; (1999) A realizable renewable energy future // Science pp.687-689]
- 10) [John Twidell; (2015) Renewable energy resources // Routledge]
- 11) [Lora Shinn; (2018) Renewable Energy: The Clean Facts // NRDC pp. 1]
- 12) [Richa Kothari; (2010) Waste-to-energy: A way from renewable energy sources to sustainable development // Renewable and Sustainable Energy Reviews pp.3164-3170]
- 13) [Surendra Kothari; (2011) Role of renewable energy sources in environmental protection: A review // Renewable & sustainable energy reviews pp. 1513-1524]
- 14) [Stanley R. Bull; (2001) Renewable energy today and tomorrow // Proceedings of the IEEE pp.1216-1226]
- 15) [Thomas B. Johanson; (1993) Renewable energy: sources for fuels and electricity // osti.gov]