Abstract

As it is known that the sun is an unlimited source of energy, in today's world the solar energy has a different application on the basis of its conversion and usage. The major focus of this paper is on how to convert the solar energy i.e. the methods through which it can be implemented and employed. There arises a standard question which is “why solar energy?” and the answer to this is mentioned earlier that it is an unlimited source of energy. So during the daytime, an ample amount of energy could be stored and can be converted into electrical or thermal energy through the exploitation of the methods discussed below. This paper also sheds a light on the current scenario of the utilization and the need for solar energy in India. Furthermore, the paper also focuses on the various applications of it in the day to day life and their advantages. A small reflection on the topic Space-Based Solar Power [SBSP] has been put down in which it is discussed how the solar energy can be converted and utilized in space with its advantages and a relative comparison on how it is better as compared to the same conversion done on earth and also some of its disadvantages mentioning why is it not currently possible.
References

1. Sheikh, N. (2008). Efficient utilization of solar energy for domestic applications. 2008 Second International Conference on Electrical Engineering.
2. Mousavi, S., Safavi, S., Naderlou, A., Shahmohammadi, H., Moshfegh, S., Tashakkori, P. and Shamipour, R. (2018). Important solar parameters in installing solar cells: Case study of Zanjan city in Iran. 2018 5th International Conference on Renewable Energy: Generation and Applications (ICREGA).
3. Raval, R. and Choubey, S. (2017). Calculation and modeling of hybrid power generation system using solar energy. 2017 International Conference on Intelligent Sustainable Systems (ICISS).
4. Sun, Honghang & Zhi, Qiang & Wang, Yibo & Yao, Qiang & Su, Jun. (2014). China's solar photovoltaic industry development: The status quo, problems and approaches. Applied Energy. 118. 221–230. 10.1016/j.apenergy.2013.12.032.
5. Dimroth, F., Baur, C., Bett, A., Kostler, W., Meusel, M. and Strobl, G. (2006). Thin 5-Junction Solar Cells with Improved Radiation Hardness. 2006 IEEE 4th World Conference on Photovoltaic Energy Conference.
6. Patel, S. and Rao, K. (2016). Social acceptance of solar energy technology in India. 2016 International Conference on Energy Efficient Technologies for Sustainability (ICEETS).
7. Vidanalage, I. and Raahemifar, K. (2016). Tilt angle optimization for maximum solar power generation of a solar power plant with mirrors. 2016 IEEE Electrical Power and Energy Conference (EPEC).
8. Swarnkar, N. and Gidwani, L. (2017). Economic and financial assessment of integrated solar and wind energy system in Rajasthan, India. 2017 International Conference on Computation of Power, Energy Information and Communication (ICCPEIC).
9. Thomas, J., Ashok, S. and Jose, T. (2011). A hybrid pricing strategy for solar energy. International Conference on Sustainable Energy and Intelligent Systems (SEISCON 2011).
10. Darshana, M., Karnataki, K., Shankar, G. and Sheela, K. (2015). A practical implementation of energy harvesting, monitoring and analysis system for solar photo voltaic terrestrial vehicles in Indian scenarios: A case of pilot implementation in the Indian Railways. 2015 IEEE International WIE Conference on Electrical and Computer Engineering (WIECON-ECE).
11. Thorat Ashwini, Prof. Katariya S. S., Solar Power Satellite. IOSR Journal of Electronics and Communication Engineering (IOSR-JECE) ISSN: 2278-2834, ISBN: 2278-8735, PP: 59-64
12. Richardson, L. (2018). The 5 Most Common Uses of Solar Energy in 2018 | EnergySage. [Online] Solar News. Available at: https://news.energysage.com/most-common-solar-energy-uses/
13. Eai.in. (2018). Solar Energy in India | Solar policy of India, Solar companies, Capital incentives - EAI.in. [Online] Available at: http://www.eai.in/ref/ae/sol/sol.html

Index Terms

Computer Science Information Sciences
Keywords

Solar, PV cells, T panels, Space-Based Solar Power, Energy harvesting.