A CRITICAL REVIEW ON SOLAR TREE: A FUTURE SOURCE OF ENERGY

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ABSTRACT

Solar Energy is accepted as a key resource for the future of the world. The utilization of solar energy could cover a significant part of the energy demand in the countries. One of the most popular example of utilized solar energy that is solar tree. In this paper illustrates the various review about the solar tree and development of Solar Tree for domestic application considering the average requirement of small Indian house. Therefore, in this paper, an attempt has been taken to summarize the past and current research in the field of solar tree technology. The main objective of this paper is to present the review about the solar tree.

Keywords: Solar panel. Battery, LED light.

INTRODUCTION

As conventional energy sources are depleting day by day world is moving towards renewable energy sources. We require large amount energy as the world's population is high.As the population is high the energy utilizations will also be high. Thus, we need non-conventional energy sources which are pollution free and easily available like solar energy. Many non-conventional energy equipment are invented like solar panels, wind mills which produce large amount of energy with high efficiency. But these equipment require large amount of space so, we need to invent a new equipment which requires less space and produce high amount of energy. This problem can be solved by the installation of SOLAR TREE. The tree like structure which contains solar panel as leaves is called as a Solar Tree. Solar Tree can be defined as the tree which generates the renewable energy sources and also the electricity. In these trees the solar panels are arranged in Fibonacci sequence for producing more energy. This sequence also helps in designing the solar tree with the less requirement of land. As these trees require less space these can be easily installed. These are required in the usage of street lightning, home supplies and in industries. It is very easy to capture solar radiations and by using photovoltaic cells it is converted into electrical energy. This SOLAR TREE also pollution free which protects the environment. The only problem with the solar energy is it requires more space. Thus SOLAR TREE is invented to produce more amount of energy with less space.

LITERATURE SURVEY

C. Bhuvaneswari, R. Rajeswari in 2013 published the paper that is Idea to Design a Solar Tree Using Nanowire Solar Cells. In this paper they introduced the new solar technology how trees convert solar energy into energy. In the solar tree solar panels are arranged as leaves. When they are exposed to sun solar energy is absorbed. By this arrangement we introduce a new idea to design a solar tree using nanowire solar cell. In this nano wire is used in which the nano particles concentrate the sunlight upto 15 times more than the normal sunlight intensity. This gives the higher efficiency. [2]

Monish Gupta in 2015 analyzed that the panels of solar tree generate 20% more energy than the flat panels as the panels are not fully exposed to sunlight where as in solar tree all the panels are exposed to sunlight and can generate 50% more electricity. Dr. Suwarna Torgal in 2016 published the paper of Concept of Solar Power Tree. As the energy sources are depleting all are shifting to nonconventional energy sources. In that energy from the sun is the best alternative among the renewable energy sources. The unconventional energy sources are the best option for future energy requirements. For this purpose the solar tree is very efficient to capture large amount of solar energy by utilising a small area of valuable land.[3]

Deepak M. Patil, Santosh R. Madiwal in 2016 published the paper that is Design and Development of Solar. In this paper they worked on flat or roof top mountings of PV systems which require large area. As there is scarcity of land solar power tree is the better alternative to flat mounting of PV systems. This concept is useful to fulfill the energy demand of the people saving of land and this should be implemented to provide electricity without the problem of power cut. These systems can be mounted on the terraceand cost is also equal to same capacity of PV systems.[4]

Dr. Suwarna Torgal: She is publishing the paper that is Concept of Solar Power Tree in International Advanced Research Journal in Science, Engineering and Technology Vol. 3, Issue 4, April 2016. Demand for energy is increasing with each period, to fulfill the required demand we must have to concentrate on utilizing non-conventional sources of energy. Energy from the Sun is the best alternatives among the renewable energy sources. . It is free, inexhaustible, nonpolluting, eco-friendly and continuous source of energy. The paper detailed Solar Power Tree that generate large amount of energy by capturing very small land area throughout the year. Silicon-crystalline Photo-Voltaic (SPV) mounted on tall pole which direct convert solar energy in to electrical energy by means of the photo voltaic effect. In the world, oil is running out and it is estimated that 80% of the world's supply will be consumed in our lifetimes. Coal supplies appear to be very large but this stock is also stock out if rapidly uses. Nuclear power having a dangerous aspect. Thus unconventional energy sources such as geothermal, ocean tides, wind and sun is best option to meet future energy requirements. Cultivable land is the greatest crisis of the earth rather it is already a burning crisis in major countries, the cultivable land is god of the farmers, if used for other than agriculture, it will be unpredictable loss to the society. Therefore Solar Power Tree is very efficient to capture large amount of solar energy by utilizing a very small surface area of valuable land[5]

CONCLUSION

In this paper we add the review about solar tree by studying the various research papers. As we know that temperature range in our region large as assumption range so it can be used to generate the electricity in large quantity. Mostly in remote area where the electricity yet not reach.it fulfill the energy consumption need and extra and extra energy provided to grid.

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