

LUMEN POWER PRODUCTION

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ABSTRACT

The electronic gadgets consume lot of time in charging and costs significantly. Electrical energy is the basic unavoidable need of the human race. The Thirst for the need of energy is keep on increasing with the development of technologies and so various methods of producing electrical energy are evolved which are conventional as well as non-conventional. Our Project is to make use of the lumen to produce it as an electrical energy in almost efficient way. The light from the projector is being projected on the white screen, here the white screen is being replaced by the white solar panel. The image is being projected as well as the power is generated in the solar photovoltaic cell arrays in the panel on this mean time, the amount of power produced varies with respect to the total average wave lengths of the light projected. The amount of energy being produced ad stored is displayed in the digital meter provided above the screen.

I. INTRODUCTION

The people witness advancements in the field of science and technology every day. This is due to their dependency on the electronic gadgets to do their day-to-day works. This increases the need of electricity and also improved efficiency of the charging device in use. Though portable devices are taking sky-rocketing development and upgrades every day, the major issues are going unnoticed by others. One of such issues is the consumption of electricity which is produced from the nonrenewable resources leading to depletion of natural resources and on the other side loss of time that is caused due to various factors like charging these devices, maintaining them and spent most of the time in making it work efficiently rather than use it.

This can be reduced by using a solar panel and it is projected on a solar panel screen. Due to the projecting of light on the screen, current is produced. On the back side of the screen, a charging regulator, an inverter and also a battery is attached.

II. METHODOLOGY

The Electrical power is consumed by the led projector and being projected as light energy in the form of luminous flux as per the law the light energy is again converted into electrical power by energizing the PN junction silicon diodes in the solar panel then it is stored in the form of DC. Later it is provided as a source of DC supply as well as AC supply with the help of an inverter. The amount of power produced and stored is being displayed by a digital voltmeter and the n number of projectors in an institution can be synced together to provide an optimal domestic power supply.

a) Conversion

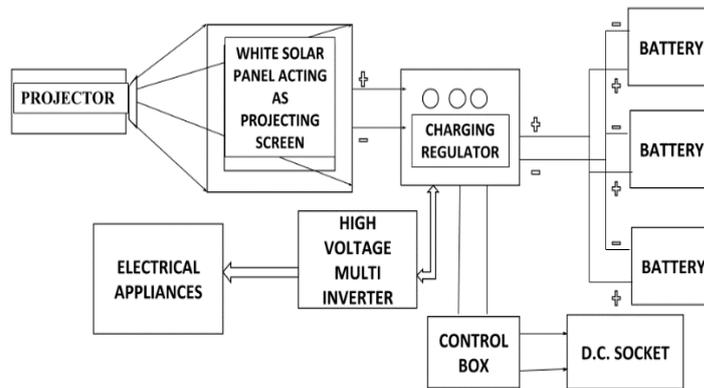
Here the electrical power is consumed by the led projector and being projected as light energy in the form of luminous flux, as per the law the light energy is again converted into electrical power by energizing the PN junction silicon diodes in the solar panel then its stored in the for DC and later provided as a source of DC supply as well all an AC supply with the help of an inverter.

b) Storage

The amount/range of power production varies with respect to amount of lumen provided by the light and the ratings of the solar panel used, in order to not to affect the picture quality a white solar panel is used as the screen here, the power produced is then sent into a charging regulator where the power is stored in the form of DC in the batteries provided

III. MODELING AND ANALYSIS

BLOCK DIAGRAM



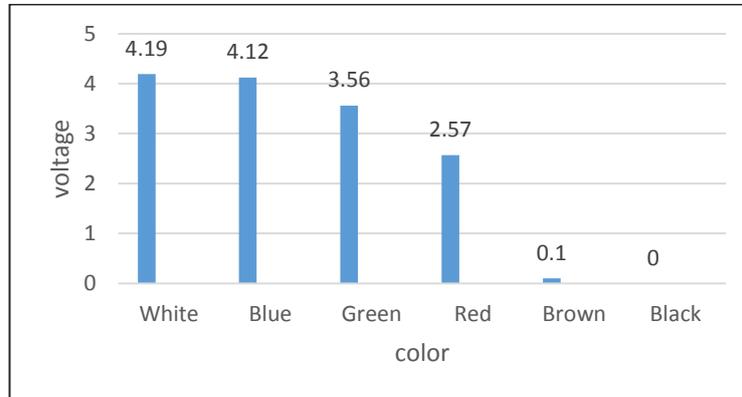
IV. RESULTS AND DISCUSSION

Thus the electrical energy production through a renewable method is done as the lumen flux from the metal halide lamps are being converted into energy by using white solar panel and the output DC power is then converted into AC by using the multistage inverter such that almost pure sine wave can be obtained.

Table-1: Color And Its Output Voltages

Color	Voltage (V)
white	4.91
blue	4.12
green	3.56
red	2.57
brown	0.1
black	0

Table-2: Graph Between Color And Voltage



V. CONCLUSION

Thus the need for energy which is already available in many forms are being converted into electrical power and this methods to a one of the best method to produce energy from our day to day activities without disturbing the actual work being done.

VI. REFERENCES

- <https://ieeexplore.ieee.org/document/8068655>
- <https://ieeexplore.ieee.org/document/8300980>