



4th National Conference on Advances in Engineering and Applied Science
Organized by : Anjuman College of Engineering and Technology (ACET) Nagpur,
Maharashtra, India, In association with
International Journal of Scientific Research in Science and Technology



Solar Panel Support System in Moveable Cabin

Prof. M. Shakebuddin, Aaqiquddin Farooqi, Shoeb Akhtar, Mohammad Anas, Usama Faiyaz,
Sufiyan Ansari, Mohammad Azhar, Saad Javed, Tauseef Ansari

Mechanical Engineering, Anjuman College of Engineering and Technology, Nagpur, Maharashtra, India

ABSTRACT

This paper presents a new design concept for an inexpensive solar panel support system on top of flat roof cabin in sunny region. The design aims to reduce cost of such system while mitigating the unique challenges in sunny region such as heat, and dust by introducing a moveable design concept with manual system. The system also includes a basic mechanical bearing mechanism to improve the performance of the circuit while minimizing the overhead in terms of cost and power consumption. We discuss the benefits of our design and how it meets the challenges in sunny regions.

Keywords : Moveable Cabin, Solar Panel

I. INTRODUCTION

It is design of a cabin operated by solar energy panel. In this the roof of the cabin is made by solar panels which can be adjusted as required depending upon the weather condition. Inside the cabin the fans and lights are provided which totally operates on Solar Energy. The cabin is made portable and can be handled as per requirement with the help of wheels. Folding table is also provided inside the cabin as per space requirement.

II. METHODS AND MATERIAL

In many countries solar panel has seen a increased in adoption. Due to this power resources can be doubled and achieved to a new level. The huge initial investment cost is definitely one of the primary source which affect the adoption of solar power system. The return on investment of solar panel, without government incentives, is often in the range of 10+ years. The risk associated with the solar power

system is also quite high compare to other investment method. This is because the system must be placed in an open area which can be subjected to theft and other natural elements. In fact, theft is probably the primary concern that people in the sunny region consider before deploying such an expensive

III. RESULTS AND DISCUSSION

Solar Panels, Light, Fans, Folding Table Built in Type Panel Build, Site Offices, Cabin Door Size 6.5 ft x 2.5 ft Panel Thickness 9 mm Dimensions (Feet) 6ft x 8ft

IV. CONCLUSION

An affordable mechanical single-axis sun tracking support system is proposed. The design addresses unique challenges associated with sunny regions, including dust particles and security. Proposed system is very affordable as compared to commercial products. The unit is simple to understand and install on any flat rooftops. The equation that will determine how the tracking system tracks the sun is also

provided. The system remains to be tested to determine the reliability and the functionality in practice. The efficiency of the unit as compared to a fixed-mount unit should be investigated as well. Nevertheless, our proposed design concept should be viable and significantly affordable to other commercial products. Countries from sunny regions can benefit from this design.

V. REFERENCES

- [1]. Solar Server. (2013), "PVX spot market price index solarPV modules", (accessed 25 November 2013). Hankins, M. (Why renewable energy is Missing in modern days.)
- [2]. Bonta, Dave, and Stephen Snyder. The new solar home. Layton, UT, Gibbs Smith, c2009.
- [3]. Toepfer, Craig. The hybrid electric home: clean, efficient, profitable. Atglen, PA, Schiffer Pub.