

# Mobile Solar Lighting Tower

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## 1. Introduction

The objective of this project is to improve a Mobile Solar Lighting Tower that was designed and implemented to be used in construction sites. Usually such lightning tower use diesel generators to power the equipment existing on sites. The operation of the diesel generators is expensive due to fuel consumption. Also the CO2 emission and the pollution when using diesel generators are very high. The objective of this project is to come up with a cost effective solution on the long run and being environment friendly.

## 2. Over view of my research

The main idea of how the system is going to work

- Study the basics of building a solar system (components structure and functions)
- Study the characteristic and design of the existing system (IV characteristics, efficiency ... etc.)
- Suggest some improvements:
  1. Changing the angle of the solar panels.
  2. Adding sensors.
  3. Cooling fans in the battery bank.
  4. User interface.

## 5. Design and implement the improvements.

## 3. Current outcomes

How the system works?

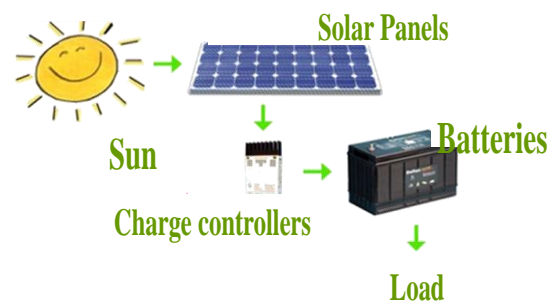


Fig.1 Overview of the system



Fig.2 Mobile solar lighting tower

## 5. Conclusion

The objective of the project is to understand the solar system and learn how it works, what are the main features that have large effect on it and try to control these feature in order to have the desired output, also to be able to improve it.

## Reference

- 1) <http://www.solarpanel.co.za/solar-power-calculator.htm> (2018-10)
- 2) [http://www.smsolar.net/power\\_master\\_products.html](http://www.smsolar.net/power_master_products.html) (2018-11)
- 3) [http://www.smsolar.net/solar\\_panels.html](http://www.smsolar.net/solar_panels.html) (2018-11)