

# SOLAR ENERGY CONTROLLER

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## ABSTRACT

This project named *Solar Energy Controller* which the devices that use to prevent battery from damage in solar power system. Other than that, this project used voltage divider rule to measure the voltage levels instead of voltage sensor that expensive so this is one of the reason why it is inexpensive. Moreover, the size of this project is compactable because the battery is placed inside the box which means user friendly and the circuit connection made were connected to Arduino Mega where it helps the circuit to working without fail. Many solar power systems user did not realized about the importance of this controller and most of them faced battery damage problems because lack of knowledge. So, *Solar Energy Controller* is one step to the solution of their problems and this project was succeeded where the managed to prevent battery from damaged.

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## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 INTRODUCTION**

Now days, electricity demand become higher on Earth and most of fossil fuels are rapidly decreases. Almost 80% fossil fuels contribute in this world as primary energy and this energy production give the negative impact on environment. Greenhouse gas (GHG) emissions are one of the factors that leading the climate change which is affected by non-renewable energy production and human activities. To reduce the air pollution, government start involving in renewable energy such as solar energy, wind power, hydro power, geothermal energy, bio energy. Based on all renewable energy, solar energy is the most effective electrical energy production because it is affordable and free environment. It takes only 1.2 years to recouped the energy spent for manufacture and installation of the solar system compared to fuel [1].