

## ABSTRACT

Nowadays, the function of agricultural land in Indonesia has been converted into many functions such as housing, the industrial sector, and so on. In addition to the agricultural sector, problems also occur in the conventional energy sector which is getting more and more steps, for that we are competing to switch to using rock energy. it was made a hydroponic garden by utilizing solar cells as a renewable energy generator, with the use of IoT to monitor plants and the energy obtained can be done from anywhere.

The purpose of this research is how to use hydroponics using solar energy can also monitor hydroponic plants and the energy obtained, can also help conventional farmers who do not have a PLN electricity source.

From the results of this study, it was found that the use of solar cells as an energy source is feasible to use, because the energy obtained is greater than the energy expended with the power obtained of 32.52 watts when placing solar cells outside the hydroponic garden.

**Keywords : Solar panels, IOT, Hydroponics, Renewable energy, PLN**