

PKM Application of Solar Power Generation Technology (PLTS) to Rice Field Water Pumps to Increase Productivity of Agricultural Products Manunggal Farmer Group Patran Madurejo Prambanan Sleman Yogyakarta

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ABSTRACT

Wealth of energy resources, especially the new and renewable energy sources (EBT) that we have, needs to be considered for use as alternative energy, replacing and reducing the role of fuel oil in energy consumption in Indonesia in meeting the 2030 Sustainable Development Goals (SDGs). Every year the basic electricity tariff will increase as a result of increasing electricity consumption. Based on the Decree of the Minister of Energy and Mineral Resources Number 143K/20/MEM/2019 concerning the National Electricity General Plan for 2019 to 2038, ESDM projects that the average growth in national electricity demand will reach 6.9 percent per year. There is no development and innovation as an alternative to other energy uses. According to research conducted by the analysis of rice field pumps using gasoline, the results showed that the use of fossil fuel water pumps, in this case gasoline, lies in the cost aspect. So far, farmer groups in Margarejo are still using fossil fuels to pump water to their rice fields. So that from the results of observations and interviews with the head of the Margarejo village farmer group, it is necessary to have a technology to replace fossil fuels, namely Solar Power Plants (PLTS). PLTS is used as an energy source to drive water pumps. The second problem is that rice crop failure often occurs due to rice stem borer pests. The solution to this problem is to make 2 paddy pest trap light technologies. The lights will be installed with an energy source produced by the PLTS. It is hoped that this solution can increase the productivity of the rice harvest.

Kata Kunci: PLTS; Water pump; insect trap lights; Harvest productivity.