**Perencanaan Tekno Ekonomi Instalasi Plts pada Usaha Nafisa Mebel di Kampung Mebel Dusun Pasinan Desa Karangbendo Kabupaten Lumajang** (Techno-Economic Planning for the Installation of Plts at the Furniture Nafisa Business in the Furniture Village, Pasinan Hamlet, Karangbendo Village, Lumajang Regency) as chief counselor Mochammad Nuruddin, S.T., M.Si

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## *ABSTRACT*

PLTS plan by utilizing the roof of a furniture business place to supply the electricity needed for furniture production. This planning must also be considered carefully whether the PLTS planning is profitable in the future or not. So we need a study of techno-economics. Based on the results of research and data processing that has been carried out to meet the electrical energy needs of the furniture Nafisa business of 7.10 kWh/day with an optimum capacity of 1.757 kWp and peak power of 2.196 kWp, an area of 13.55 m^2 is required for solar panels. monocrystalline and 14.35 m^2 for polycrystalline solar panels with the required number of modules as many as 9 units for both types of modules. While the inverter selected is a 2200 watt grid tie inverter with the Solana brand. And the total power that can be generated is 9.071 kWh/day or 3,310.91 kWh/year for monocrystalline solar modules and 9.067 kWh/day or 3,309.45 kWh/year for polycrystalline solar modules. Both types of modules can meet the electricity needs of the furniture industry. Based on the value of the annual cash flow, the NPV of Rp. 13,903,342.57 for monocrystalline solar modules and Rp. 16,945,202.54 for polycrystalline solar modules, which means that this PLTS plan is feasible because the NPV is worth more than 0. And the result of the benefit-cost ratio is 1.36 for monocrystalline solar modules and 1.48 for polycrystalline solar modules, which means PLTS planning This is feasible because the benefit-cost ratio is worth more than 1. While the time required for return on investment (DPP) is 4 years 8 months for monocrystalline solar modules and 3 years 6 months for polycrystalline solar modules.

*Key word*: *PLTS, monocrystalline, polycrystalline*