

**Techno-Economic Analysis of PLTS Rooftop Off-grid Smart Home System
Design Using PVsyst Software Software**
Mochammad Nuruddin, S.T., M.Si. (Thesis Supervisor)

Zainur Ridho

Study Program of Renewable Energy Engineering
Departement of Engineering

ABSTRACT

One of the New Renewable Energy (EBT), namely PLTS, PLTS utilizes energy from solar radiation, which is absorbed using solar panel modules. One of the PLTS systems is off-grid PLTS. This system can be applied to homes to meet electricity for household electronic goods, PLTS at home can also be called rooftop PLTS. The electricity production produced by off-grid PLTS is used to meet the electrical energy needs of household electronic goods of 10,952 KWh/day. This PLTS design uses PVsyst software, the results of the software simulation to meet daily energy needs, require 6 450WP panels and 6 12V 200Ah batteries. The output of electrical energy production is 3875.8 Kwh/year. The results of the economic analysis on the PLTS rooftop off-grid smart home system design is said to be feasible on the npv (net present value) and pp (payback period) methods.

Keywords : OFF-GRID, PVsyst, PP, NPV