

## The Design and Construction of the PV-Wind Autonomous System for Greenhouse Plantations in Central Thailand

**Authors :** Napat Watjanatepin, Wikorn Wong-Satiean

**Abstract :** The objective of this research is to design and construct the PV-Wind hybrid autonomous system for the greenhouse plantation, and analyze the technical performance of the PV-Wind energy system. This design depends on the water consumption in the greenhouse by using 24 of the fogging mist each with the capability of 24 liter/min. The operating time is 4 times per day, each round for 15 min. The fogging system is being driven by water pump with AC motor rating 0.5 hp. The load energy consumed is around 1.125 kWh/d. The designing results of the PV-Wind hybrid energy system is that sufficient energy could be generated by this system. The results of this study can be applied as a technical data reference for other areas in the central part of Thailand.

**Keywords :** PV-Wind hybrid autonomous system, greenhouse plantation, fogging system, central part of Thailand

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