Photovoltaic power system simulation for small industry area

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ABSTRACT
In this paper, modeling and simulation of 1MW grid connected PV system is simulated using National Renewable Energy Laboratory's (NREL) HOMER software, and the optimum system is analyzed to see the economic feasibility of the system in a small industry area in Malacca, Malaysia. The system is expected to foresee reduced grid energy consumption. Emphasis is also placed on reduction of green house gases emission. HOMER will simulate the system and perform optimization of system according to the available usage data and the available renewable energy (sun radiation) data. The lifecycle and cost of each system modules will also affect the optimization duly. In addition, HOMER also performs optimizations according to different assumption of uncertain factors to gauge the effect of sensitivity list.

KEYWORDS
PV; Solar power; Grid Connected; Renewable Energy; HOMER simulation

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