

Paper Title	A Study of operational optimization of a SOFC-PEFC combines system with photovoltaic power generation		عنوان البحث
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Abstract

This study optimizes the operation planning of a photovoltaic systems and two types of fuel cell to supply energy to a demand side. The operation plan of a solid-oxide fuel cell (SOFC) and a proton-exchange membrane fuel cell (PEFC) is developed. The proposed system consists of a SOFC-PEFC combined system and a photovoltaic system (PV) as the energy supply to 30 residences in a city. The operation plan of the system has three cases: without PV power, with 50% and with 100% of PV output power. The power generation efficiency is investigated for different load patterns: average load pattern, compressed load pattern and extended load pattern. This paper reported that the power generation efficiencies of the proposed system at different load patterns are 27% to 48%.