동적전기수요량 변화를 고려한 태양-풍력 통합
신재생에너지의 이중목적함수기반 최적설계

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Renewable energy are widely used as a promising energy sources to substitute of fossil fuel to mitigation energy crisis and protect the environment. This study is analysis a combine system of solar and wind power with battery bank using energy-efficient mathematical methodology to meet a dynamic electricity load. The power losses of the components in the system were considered. The optimal size of renewable energy system was determined with bi-objectives, including minimize the total annual cost of hybrid renewable energy system and minimize the total GHG emission from all power sources (renewable energy source and conventional source). The optimal size of hybrid renewable energy system is integral 89 PV panels and 6 wind turbines. The corresponding TAC is 39,748 $ and the renewable energy system can cover 55.4 % of power needed by the dynamic load.