

Multi-criteria decision making on strategic selection of wind farms

李欣怡, Hsing Hung Chen, He-Yau Kang

Industrial Engineering and System Management

Management

amylee@chu.edu.tw

Abstract

With maturity of advanced technologies and urgent requirement for maintaining a healthy environment with reasonable price, China is moving toward a trend of generating electricity from renewable wind resources. How to select a suitable wind farm becomes an important focus for stakeholders. This paper first briefly introduces wind farm and then develops its critical success criteria. A new multi-criteria decision-making (MCDM) model, based on the analytic hierarchy process (AHP) associated with benefits, opportunities, costs and risks (BOCR), is proposed to help select a suitable wind farm project. Multiple factors that affect the success of wind farm operations are analyzed by taking into account experts' opinions, and a performance ranking of the wind farms is generated.

Keyword : Analytic hierarchy process (AHP); Benefits, opportunities, costs and risks (BOCR); Wind farms.