ZEKI AYAĞ

Kadir Has University, Turkey

EVALUATING SOLAR POWER PLANT LOCATION ALTERNATIVES THROUGH A MULTIPLE-CRITERIA DECISION MAKING METHOD

Abstract:

Nowadays, as one of the most important renewable energy sources; solar energy is the most readily available source of energy and demanded due to the fact that it is non-polluting and helps in reducing the greenhouse effect. Of course, a plant called solar power plant is need to utilize the solar energy that is free from the sun light. As the result of this, we meet a critical problem on how the solar power plant location is determined in the presence of many location alternatives and evaluation criteria. Clearly, it is found that the problem is a multiple-criteria decision making (MCDM) problem which is solved a MCDM method with a set of alternatives in terms of a list of evaluation criteria. In this paper, the solar power plant location problem is solved by using analytic hierarchy process (AHP) to reach the most satisfying alternative amongst the others. A numerical example is also presented to show the applicability of the proposed methodology in the case of Turkey.

Keywords:

Solar energy; multiple-criteria decision making; analytic hierarchy process

JEL Classification: C44