

FUZZY AHP GROUP DECISION ANALYSIS AND ITS APPLICATION FOR THE EVALUATION OF ENERGY SOURCES

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ABSTRACT

The following study focuses on the evaluation of a multi criteria decision problem by use of fuzzy logic. We will demonstrate the methodological considerations concerning group decision and fuzziness on the basis of a specific problem: the search for energy alternatives and a proper evaluation of these alternatives (in comparison to existing ones). This issue will be of increasing importance within the next years and decades. We will show using a numerical example how the evaluation process could be improved by use of fuzzy logic and Saaty's analytic hierarchy process (Saaty, 1980), in order to come close to reality and human cognitive behavior.

Keywords: fuzzy logic, fuzzy AHP, energy, group decision